



## BEERO OO BARWAAQEE SOOMAALIYA (BBS) IRRIGATION PROJECT

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### ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT

*Revitalizing Irrigation Infrastructure and Climate-Smart Agriculture in Somalia*

**BEERO OO BARWAAQEE SOOMAALIYA (BBS) PROJECT**

#### **GALMUDUG STATE**

**Xerale, Cadado, Wisil, Hobyo, Galkacyo South & Dhusamareeb Districts**

|                           |                                                                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>FINANCED BY</b>        | African Development Bank (AfDB)                                                                                                                                                      |
| <b>AFDB CATEGORY</b>      | Category 2                                                                                                                                                                           |
| <b>PROPONENT</b>          | Ministry of Agriculture and Irrigation (MoAI), Federal Republic of Somalia                                                                                                           |
| <b>REPORT DATE</b>        | July 2026                                                                                                                                                                            |
| <b>FIELD VERIFICATION</b> | December 2025 – January 2026                                                                                                                                                         |
| <b>PROJECT SITES</b>      | 13 sites — Xerale District (3 sites), Cadado District (6 sites), Wisil District (1 site), Hobyo District (1 site), Galkacyo South District (1 site) & Dhusamareeb District (1 site). |

# DECLARATION PAGE

This Environmental and Social Impact Assessment (ESIA) Report has been prepared for the Beero oo Barwaaqee Soomaaliya (BBS) Irrigation Project in Galmudug State, covering project sites in Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb Districts, 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<br>Director General (DG) | MoAI / FGS    |  |



## ABBREVIATIONS

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

# EXECUTIVE SUMMARY

## Project at a Glance

| Item                              | Summary                                                                                                                                                             |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project</b>                    | Beero oo Barwaaqee Soomaaliya (BBS) Irrigation Project – Galmudug Component                                                                                         |
| <b>Proponent / Borrower</b>       | Ministry of Agriculture and Irrigation (MoAI), Federal Republic of Somalia                                                                                          |
| <b>Financier</b>                  | African Development Bank (AfDB)                                                                                                                                     |
| <b>AfDB E&amp;S Category</b>      | Category 2                                                                                                                                                          |
| <b>Geographic Scope</b>           | 13 sites across Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb Districts                                                                              |
| <b>Infrastructure</b>             | 6 boreholes; 6 water catchments; 1 dug well                                                                                                                         |
| <b>Applicable AfDB Safeguards</b> | OS1, OS2, OS3, OS4, OS7 and OS10; precautionary controls under OS5, OS6 and OS8; OS9 not applicable                                                                 |
| <b>Field Verification</b>         | December 2025 – January 2026                                                                                                                                        |
| <b>Implementation Period</b>      | Four-year project period; district/site works phased by readiness, season and security                                                                              |
| <b>Safeguards Budget</b>          | USD 214,349 over four years as the controlling indicative ESMP planning envelope; contractor ESHS costs are additional and shall be priced 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 Galmudug component addresses acute water insecurity in central Somalia, where pastoral and agro-pastoral communities depend on boreholes, shallow/dug wells and seasonal water catchments in an arid to semi-arid environment with no permanent rivers. Recurrent drought, extreme heat, low and variable recharge, catchment sedimentation, infrastructure deterioration and weak maintenance capacity make water availability a controlling livelihood and resilience issue.

The Galmudug ESIA covers 13 sites across six districts. The controlling scope comprises six boreholes, six water catchments and one dug well and is applied consistently throughout this report.

## 2. Purpose, Scope and Approach of the ESIA

The ESIA supports environmental and social decision-making by AfDB, MoAI, Galmudug State institutions, district administrations and affected communities. It identifies and evaluates risks and impacts, applies the mitigation hierarchy, defines design and management measures, establishes pre-construction hold points, and translates the assessment into the Environmental and Social Management Plan (ESMP). The assessment covers pre-construction and mobilisation, construction/rehabilitation, commissioning and handover, operation and maintenance, and demobilisation/reinstatement of temporary works.

The assessment draws on the project site register, environmental and social screening, field verification, stakeholder consultation, available engineering and project information, SWALIM and other secondary baseline data, and the project climate, gender/social-inclusion, GRM and monitoring instruments. Impact significance is evaluated using magnitude, duration, geographic extent, receptor sensitivity, reversibility and likelihood, with Negligible, Minor, Moderate and Major

ratings. Site-specific parameters that depend on hydrogeology, final design, security or contractor method are assigned to binding C-ESMP, pre-construction or commissioning hold points.

### 3. Project Components and Locations

| District       | Sites | Infrastructure                       | Sites / Villages                                                                                              |
|----------------|-------|--------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Xerale         | 3     | 2 boreholes; 1 catchment             | Hugdugaag (borehole); Huurshe (borehole); Mirkeyley (water catchment)                                         |
| Cadado         | 6     | 1 borehole; 4 catchments; 1 dug well | Gudheys (dug well); Hulkujir, Laas Wardheer, Qoryacade and Biyo-Guduud (water catchments); Gudheys (borehole) |
| Wisil          | 1     | 1 water catchment                    | Balicas                                                                                                       |
| Hobyó          | 1     | 1 borehole                           | Digaagaw                                                                                                      |
| Galkacyo South | 1     | 1 borehole                           | Farah Geedi                                                                                                   |
| Dhusamareeb    | 1     | 1 borehole                           | Iidow                                                                                                         |

Borehole works may include drilling of new sources or rehabilitation of existing boreholes, well development, pump and solar equipment, wellhead protection, kiosks and livestock troughs, subject to hydrogeological and design confirmation. Catchment works include desilting/reshaping, embankment and bund repair, liner installation where technically justified, silt control, inlet/outlet and spillway improvements, troughs and reinstatement. The Gudheys dug well requires cleaning/desilting, lining/coping repair, pump/hand-pump works where approved, wellhead protection, fencing, drainage and pre/post rehabilitation water-quality verification.

### 4. AfDB Environmental and Social Categorization and Operational Safeguards

The Galmudug component is classified as an AfDB Category 2 operation. The applicable safeguards are determined by the actual risk pathways of dryland groundwater, catchment and dug-well interventions and by the social, security and climate context.

| Operational Safeguard                                    | Status     | Galmudug Relevance                                                                                                                       |
|----------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------|
| OS1 – Assessment and Management of E&S Risks and Impacts | Applicable | Overall ESIA/ESMP, site readiness, technical studies, cumulative groundwater/climate risk, associated facilities and change management.  |
| OS2 – Labour and Working Conditions                      | Applicable | Worker terms, age verification, Workers' GRM, heat, drilling, excavation, lifting, plant/electrical and remote-work OHS.                 |
| OS3 – Resource Efficiency and Pollution Prevention       | Applicable | Groundwater sustainability, water quality, fuel/chemical/drilling waste, erosion/sediment, construction water, waste and O&M monitoring. |
| OS4 – Community Health, Safety and Security              | Applicable | Open excavations, drilling/traffic, water-supply continuity, SEA/SH, security, emergency response and UXO/ERW precautions.               |

| Operational Safeguard                                    | Status         | Galmudug Relevance                                                                                                                                 |
|----------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| OS5 – Land Acquisition / Restrictions / Resettlement     | Precautionary  | Temporary access, pastoral routes, reinstatement and replacement-cost compensation; stop-work if screened displacement assumptions are exceeded.   |
| OS6 – Biodiversity and Living Natural Resources          | Precautionary  | Minimum footprint and vegetation clearing in modified rangeland; support-site screening and reinstatement.                                         |
| OS7 – Vulnerable Groups                                  | Applicable     | Women/female-headed households, IDPs, minority clans, poor pastoral households, youth and persons with disabilities; inclusive WUA and engagement. |
| OS8 – Cultural Heritage                                  | Precautionary  | Chance Finds Procedure for drilling, excavation and earthworks.                                                                                    |
| OS9 – Financial Intermediaries                           | Not applicable | No financial-intermediary structure.                                                                                                               |
| OS10 – Stakeholder Engagement and Information Disclosure | Applicable     | Six-district consultation/disclosure, GRM, differentiated engagement and transparent water-access governance.                                      |

## 5. Policy, Legal and Institutional Framework

The project is governed by the Federal Republic of Somalia legal and policy framework relevant to environmental assessment, water resources, climate, labour, public health, agriculture, gender and land/access; Galmudug State and district administrative arrangements; relevant international conventions; and the AfDB ISS 2023. Limited state-level environmental enforcement, sparse groundwater monitoring, non-standardised formal grievance systems and constrained safeguards capacity are addressed through the project ESMP, C-ESMP, specialist technical support and AfDB requirements.

Implementation responsibilities are shared among the MoAI PIU, Galmudug State agriculture and water institutions, six district administrations, contractors, the Supervision Consultant, the Galmudug E&S Officer, CLO/focal arrangements and WUAs/community water committees. Technical groundwater and water-quality oversight and sufficient field safeguards mobility are particularly important because the sites are dispersed across six districts and some areas are affected by fluctuating security conditions.

## 6. Analysis of Alternatives and Design Rationale

The alternatives analysis considers the no-project option, location and siting, technology/design choices, construction scheduling/work-front arrangements and environmental/social risk avoidance. The no-project option would leave communities dependent on deteriorated or non-functional boreholes, sedimented catchments and an impaired dug well, perpetuating dry-season water stress, livestock losses and household vulnerability.

| Design / Planning Issue | Alternatives                         | Preferred Rationale                                                                                                                               |
|-------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Pumping energy          | Diesel-only vs solar-powered pumping | Solar preferred where included in final engineering design because it reduces fuel dependency, recurrent cost and pollution risk in remote areas. |

| Design / Planning Issue  | Alternatives                                                | Preferred Rationale                                                                                                                                                     |
|--------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Borehole depth / aquifer | Fixed assumed depth vs hydrogeology-led design              | Hydrogeological investigation controls final depth, aquifer target, sustainable yield and pump sizing; regional 60–120 m values are not treated as site specifications. |
| Catchment lining         | Compacted soil vs geomembrane where infiltration warrants   | Use lining only where condition/design assessment demonstrates need and benefit.                                                                                        |
| Water distribution       | Direct wellhead draw vs controlled kiosk/trough arrangement | Controlled distribution separates human/livestock access and reduces wellhead contamination where included in design.                                                   |
| Catchment desilting      | Mechanical only vs combined mechanical/manual               | Combined approach may reduce structural damage and increase local employment, subject to approved method and safety controls.                                           |
| Construction timing      | Peak rains vs drier work windows                            | Earthworks outside peak Gu/Deyr rainfall preferred where practicable to reduce erosion and compaction problems.                                                         |

## 7. Environmental and Social Baseline

### 7.1 Environmental Setting

Galmudug is an arid to semi-arid dryland environment with no permanent rivers in the project area. Water supply depends on groundwater and short-duration seasonal runoff captured in catchments. Rainfall is low and highly variable, potential evapotranspiration greatly exceeds rainfall, dry-season temperatures regularly exceed 35°C, and recurrent multi-year droughts create chronic stress on pastoral and agro-pastoral livelihoods. Soils include clay/lime-rich and sandy materials that can be hard/cracking when dry, highly erodible where vegetation is depleted, and difficult to compact under wet conditions.

Groundwater occurs in variable fractured and sedimentary aquifers. Yield, depth and quality are spatially variable, and salinity can be significant in some formations. Existing boreholes fail through pump breakdown, borehole deterioration and inadequate maintenance; catchments lose effective storage through sedimentation and structural deterioration. The Climate Risk Assessment rates drought, heat/evaporation and groundwater stress as Very High and flash flooding as High, making sustainable abstraction and climate-resilient catchment design central to the assessment.

### 7.2 Social, Livelihood and Vulnerability Context

Livelihoods are predominantly pastoral and agro-pastoral, with limited rainfed cultivation, petty trade, remittances and district-centre wage activity. Seasonal mobility means that water-point demand changes considerably during dry periods as pastoralists converge on functioning sources. Around district centres, peri-urban growth and IDP populations increase water demand and competition.

Vulnerable groups identified in the ESIA include poor pastoral households, female-headed households, IDPs, minority-clan households, persons with disabilities and unemployed youth. Women and girls bear the primary household water-collection burden but remain under-represented in customary water governance. Minority clans and IDPs may have weaker bargaining power over communal water access. Youth have strong expectations for project employment, which can become a conflict pathway if recruitment is perceived as unfair.

### 7.3 Baseline Limitations

The most important data gaps are site-specific aquifer yield/recharge/salinity, consistent long-term groundwater monitoring, detailed community-level socioeconomic data and some remote-site/security information. These gaps do not prevent identification of the material risk pathways, but they prevent assumption-based design. The ESIA therefore requires pre-works hydrogeological assessments and baseline water quality for boreholes, condition assessments for all six catchments and the dug well, site-specific security confirmation, and adaptive monitoring after commissioning.

### 8. Stakeholder Engagement and Key Issues Raised

The stakeholder consultation record reports twelve sessions across Galmudug with approximately 175 participants and approximately 51% women's participation overall, including dedicated women-only focus groups. Engagement included federal and Galmudug State institutions, district administrations and traditional leaders, farming and pastoral households, women, youth, IDPs/returnees, water-management committees, NGOs and civil society.

| Issue                                   | ESIA / ESMP Response                                                                                                                        |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Water equity and clan-based access      | Inclusive WUA/community structures, public non-discriminatory access rules, IDP/minority representation and GRM.                            |
| Women's participation and safety        | At least 30% women in WUA membership and leadership; women-only consultation; female CLO/focal arrangement; safe access and SEA/SH pathway. |
| Local employment and youth expectations | Transparent recruitment; ESMP target $\geq 80\%$ unskilled local and $\geq 20\%$ youth; employment grievance access.                        |
| Maintenance sustainability              | WUA O&M training, manuals/tools, PIU follow-up and catchment/borehole monitoring.                                                           |
| Water access during construction        | Advance notice, alternative water source/tanker where needed, rapid restoration and water-quality confirmation.                             |
| Environmental protection                | Fuel/chemical controls, wellhead protection, drilling-waste management, erosion/sediment controls and reinstatement.                        |
| Security and UXO/ERW                    | Pre-mobilisation security assessment/clearance, SMP as required, flexible sequencing and excavation clearance on uncertain ground.          |
| Transparency / communication            | Site-level disclosure, Somali/oral communication, project information and functioning GRM.                                                  |

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

| Risk / Impact                                             | Applicability     | Pre-Mitigation | Residual       | Key Control / Qualification                                                                                          |
|-----------------------------------------------------------|-------------------|----------------|----------------|----------------------------------------------------------------------------------------------------------------------|
| Soil erosion / land degradation at catchment earthworks   | Catchments        | Moderate       | Minor          | Footprint control, sediment/erosion measures, seasonal scheduling, rapid compaction/stabilisation and reinstatement. |
| Water contamination at borehole / dug-well sites          | Groundwater sites | Moderate–Major | Minor–Moderate | Source protection, fuel/chemical containment, drilling-waste controls, pre/post water-quality testing.               |
| Worker OHS – heat, drilling, excavation, plant/electrical | All construction  | Major          | Minor–Moderate | Approved OHS plan, competent heat regime, PPE, task controls, first aid/emergency response and supervision.          |

| Risk / Impact                                         | Applicability            | Pre-Mitigation                   | Residual                | Key Control / Qualification                                                                        |
|-------------------------------------------------------|--------------------------|----------------------------------|-------------------------|----------------------------------------------------------------------------------------------------|
| Community safety around excavations/work zones        | All construction         | Moderate–Major                   | Minor–Moderate          | Barriers/signage, secure excavations, traffic controls, community notification and safe access.    |
| Temporary water-access disruption                     | Rehabilitation sites     | Moderate                         | Minor                   | Advance plan, alternative source/tanker, minimise outage and confirm quality before potable use.   |
| SEA/SH from worker-community interaction              | All construction         | Moderate                         | Minor–Moderate          | Code of Conduct, induction, confidential channel, female focal/CLO and survivor-centred referrals. |
| Social conflict / employment grievances               | All sites                | Moderate                         | Minor–Moderate          | Transparent recruitment, local preference, conflict-sensitive engagement and GRM.                  |
| Groundwater over-abstraction                          | Six boreholes O&M        | Moderate–Major                   | Moderate                | Hydrogeology-led sustainable yield, pumping controls, SWL/yield logs and adaptive reduction.       |
| Inequitable water access / elite capture              | All O&M                  | Moderate–Major                   | Moderate                | Inclusive WUA, public access rules, representation targets, GRM and PIU oversight.                 |
| Water-quality deterioration                           | All water points O&M     | Moderate                         | Minor–Moderate          | Wellhead/catchment hygiene, fencing/drainage and scheduled laboratory monitoring.                  |
| Catchment re-sedimentation / structural deterioration | Six catchments O&M       | Moderate                         | Minor–Moderate          | Annual condition inspection, post-rainfall maintenance and desilting/repair triggers.              |
| Security constraints                                  | Construction / oversight | Moderate to High by site/context | Residual site-dependent | Dynamic assessment, security clearance/SMP, halt/resequence authority and incident coordination.   |

## 10. Positive Project Impacts

| Positive Pathway             | Expected Effect                                                                                                                 | Assessment                                         |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Water security               | Restored/reliable borehole, catchment and dug-well functionality improves household and livestock access during dry periods.    | Major positive development rationale.              |
| Drought resilience           | Improved groundwater infrastructure and restored storage extend coping capacity where sources remain within sustainable limits. | Positive; climate-dependent.                       |
| Livestock and livelihoods    | More reliable watering reduces livestock stress and supports pastoral/agro-pastoral production.                                 | Positive; depends on equitable access and O&M.     |
| Women's time and safety      | Closer/more reliable water access can reduce collection burden and improve safety and participation.                            | Positive; design and governance dependent.         |
| Employment / skills          | Construction and WUA/O&M activities create local labour and skills opportunities.                                               | Temporary-to-medium positive.                      |
| Water governance             | Inclusive WUAs, public allocation rules and GRM can strengthen transparency and conflict management.                            | Positive if sustained.                             |
| Operational emissions / cost | Solar pumping where installed reduces diesel reliance and recurring fuel pollution/cost.                                        | Positive where final design confirms solar system. |

## 11. Climate, Cumulative and Induced Impacts

The Climate Risk Assessment projects increasing temperature and extreme-heat days, high rainfall variability, more frequent drought and more intense heavy-rainfall events. Drought and heat/evaporation are rated Very High, groundwater stress Very High and flash flooding High. These hazards can reduce recharge and catchment inflow, increase water demand, intensify worker heat stress and damage earth structures through concentrated runoff.

Cumulative risk arises where multiple boreholes may influence the same groundwater system and where improved water points attract additional pastoral or settled users. Increased concentration can accelerate local rangeland degradation and place pressure on WUA governance and infrastructure capacity. The ESMP therefore requires hydrogeological confirmation, abstraction/pumping records, water-level monitoring, inclusive allocation rules, catchment maintenance and adaptive management. Residual cumulative and climate risks remain Moderate and require ongoing O&M oversight.

## 12. Mitigation Hierarchy and Key Management Measures

- No mobilisation without written PIU confirmation of site readiness, access documentation, community notification, security clearance, approved contractor plans and the applicable technical pre-works studies.
- Complete approved hydrogeological assessment, baseline water quality and groundwater level for each borehole before construction/rehabilitation; use findings to establish pump design, sustainable abstraction and monitoring.
- Complete condition assessment for all six catchments and Gudheys dug well and incorporate findings into final design and contractor method statements.
- Apply task-specific OHS controls for drilling, excavation, catchment earthworks, extreme heat, lifting, plant/electrical/solar work and emergency response.
- Protect groundwater and soils through source setbacks, secondary containment, spill controls, controlled drilling waste and water-quality verification.
- Maintain water-access continuity through advance notice, alternative supply before shutdown and rapid restoration where rehabilitation affects an existing source.
- Control erosion, sediment, spoil, temporary access and associated support sites and complete reinstatement before handover.
- Implement Codes of Conduct, SEA/SH induction, confidential reporting, female focal/CLO access and survivor-centred referral arrangements.
- Apply the Land Access Protocol, protect pastoral movement routes, compensate verified project-caused crop/asset losses at replacement cost, and stop/reassess if displacement assumptions are exceeded.
- Form and train inclusive WUAs or community water committees before handover, with non-discriminatory rules and the ESMP target of at least 30% women in membership and leadership.
- Maintain security/UXO-ERW controls and resequence or suspend works when safe access and supervision cannot be maintained.
- Operate boreholes within sustainable-yield limits and maintain groundwater, water-quality and catchment-condition monitoring with adaptive corrective action.

### 13. Environmental and Social Management Plan

Chapter 9 provides the operational ESMP for all 13 sites and associated support areas in the standard BBS state-level ESMP structure. It converts the assessment into procurement, contractual, supervision, monitoring and O&M obligations for the PIU, contractors, Supervision Consultant, Galmudug State and district authorities, WUAs/community committees and AfDB oversight. Hard ESHS hold points prevent mobilisation or commissioning until the required studies, controls and management arrangements are verified.

#### 13.1 Monitoring and Reporting

Monitoring combines weekly construction compliance inspections, monthly PIU audits, periodic laboratory and groundwater monitoring, WUA and GRM oversight, and quarterly safeguards reporting to AfDB. Groundwater monitoring shall use the site-specific static-water-level, yield and abstraction trigger established by the approved hydrogeological assessment; water intended for potable use must pass the approved pre-commissioning quality criteria; catchments are inspected annually and after significant rainfall, with major desilting triggered at more than 20% storage loss from the accepted post-works baseline unless earlier intervention is required; and WUA, labour, GRM, OHS, security and inclusion indicators are tracked through implementation.

#### 13.2 Institutional Responsibilities

| Actor                                                  | Principal ESMP Role                                                                                                                                                            |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MoAI PIU</b>                                        | Overall ESMP ownership; approve C-ESMP/plans and studies; issue mobilisation/commissioning decisions; incident management; budget/corrective action; quarterly AfDB reporting. |
| <b>Galmudug E&amp;S Officer</b>                        | Day-to-day oversight across all 13 sites; inspections, GRM, stakeholder liaison, access/reinstatement, WUA and monitoring follow-up.                                           |
| <b>Galmudug State agriculture / water institutions</b> | State project and technical counterpart; water-resource and water-quality coordination; joint monitoring and O&M support.                                                      |
| <b>Six District Administrations</b>                    | Site access, community/security liaison and local dispute-resolution support.                                                                                                  |
| <b>Contractors</b>                                     | Implement C-ESMP, OHS, waste/pollution, labour, SEA/SH, community safety, security and site records.                                                                           |
| <b>Supervision Consultant</b>                          | Independent construction compliance verification, quality assurance, corrective-action close-out and handover checks.                                                          |
| <b>WUAs / Community Committees</b>                     | O&M, water-access/allocation rules, maintenance, safety and grievance reporting after handover.                                                                                |
| <b>AfDB</b>                                            | External safeguards oversight, supervision and review of Borrower reporting/corrective action.                                                                                 |

### 14. Stakeholder Engagement, Grievance Redress and SEA/SH

Stakeholder engagement must continue through all six districts using accessible Somali and oral communication, targeted outreach and documented feedback. A multi-channel GRM must be operational before mobilisation. Uptake channels include CLO/focal contacts, WUAs/community structures, hotline/SMS, suggestion boxes, district focal points, written submissions and anonymous reporting. The source contains inconsistent tier and timeframe descriptions, so one controlled GRM procedure must be issued and used consistently before works.

SEA/SH allegations are excluded from ordinary community or traditional mediation. They are handled only through the confidential PIU survivor-centred pathway, supported by worker Codes of Conduct, training, female liaison/focal arrangements, non-retaliation and pre-confirmed health/psychosocial referral options.

**15. Land Access, Livelihood Protection and Inclusion**

No permanent land acquisition or physical displacement is anticipated under the screened 13-site footprint. A Land Access Protocol applies to work areas, access routes and associated support sites. Actual land and resource users must be identified, temporary access agreed and documented, pastoral movement routes protected through design/phasing, and verified project-caused crop or asset losses compensated at full replacement cost. Any involuntary acquisition or material livelihood loss outside the screening assumptions triggers stop-work and formal OS5 determination before the affected activity proceeds.

Inclusion measures require non-discriminatory WUA rules, targeted engagement with women, IDPs, minority clans, poor pastoral households and persons with disabilities, transparent local recruitment, and gender/stakeholder-disaggregated monitoring. The Gender and Social Inclusion measures requires at least 30% women in WUA membership and leadership and at least 20% youth within the unskilled construction workforce.

**16. ESMP Budget and Financing**

For final submission, the detailed ESMP annual totals are adopted as the controlling indicative Galmudug safeguards planning envelope: USD 76,450 in Year 1, USD 64,834 in Year 2, USD 64,815 in Year 3 and USD 8,250 in Year 4, for a total of USD 214,349. Contractor ESHS costs are additional and shall be financed through the works contracts. The PIU shall disaggregate the envelope across the safeguards, monitoring, engagement, technical-study, SEA/SH, security and capacity-building activities in approved annual work plans without reducing the scope of the ESMP.

| Budget Position                               | Amount      | Control Note                                                                                                                                                                                             |
|-----------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Controlling indicative ESMP planning envelope | USD 214,349 | Detailed annual totals: Year 1 USD 76,450; Year 2 USD 64,834; Year 3 USD 64,815; Year 4 USD 8,250. PIU annual work plans shall provide the itemised allocation; contractor ESHS costs remain additional. |

**17. Conditions for Mobilisation, Commissioning and Operation**

**17.1 Before Mobilisation**

- Controlled 13-site register and final engineering/design package confirmed for the relevant contract.
- Approved hydrogeological assessment and baseline groundwater/water-quality record for each borehole.
- Approved condition assessment for each catchment and Gudheys dug well.
- Documented access/land-use arrangements and support-site approvals; pastoral routes identified where relevant.
- Valid security assessment/clearance and SMP where required; UXO/ERW clearance for uncertain ground disturbance.
- Approved C-ESMP, OHS Plan, Waste/Spill Plan, Community H&S Plan, labour/Workers' GRM, SEA/SH arrangements and high-risk method statements.

- Operational six-district GRM, confidential SEA/SH pathway and female liaison/focal arrangement.
- Pre-works community consultation and agreed alternative water supply where rehabilitation will interrupt an existing source.
- Reconciled project budget, incident procedure, GRM and technical thresholds where the source is inconsistent.

## 17.2 Before Commissioning / Handover

- Approved water-quality pass for any source intended for potable community use.
- Groundwater baseline, pumping/sustainable-yield limits and O&M monitoring arrangements established for boreholes.
- Catchment / dug-well physical and safety defects closed and disturbed areas reinstated.
- WUA/community management structure formed, trained and equipped with documented access/allocation rules and adequate inclusion.
- O&M manual, maintenance tools/arrangements, GRM and monitoring responsibilities handed over and understood.

## 18. C-ESMP and Pre-Construction Confirmation Requirements

| Requirement                                                     | C-ESMP / Pre-Construction Action                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Site-specific intervention status and controlled design package | Before mobilisation, the PIU shall confirm whether each borehole/catchment work is new construction or rehabilitation and issue one controlled 13-site register linking site name, coordinates, intervention type, approved drawing, BoQ and work package. The C-ESMP shall use only this controlled information.                           |
| Groundwater design and monitoring                               | For each borehole, the approved hydrogeological assessment shall confirm aquifer conditions, baseline static water level and quality, sustainable yield, pump duty, operating regime, monitoring frequency and site-specific action trigger. These values shall be incorporated into the approved C-ESMP before the affected work proceeds. |
| Gudheys dug-well design and safe method                         | The approved condition assessment and site-specific engineering design shall define the rehabilitation scope, access/entry controls, lining/coping, drainage, pumping and water-use facilities. The C-ESMP shall contain the task-specific high-risk work method.                                                                           |
| Heat-stress management                                          | The C-ESMP OHS Plan shall include a competent Heat Stress Management Plan covering potable water, shade, acclimatisation, workload-based work/rest controls, heat triggers, first aid and emergency response consistent with GIIP. The ESIA does not adopt a fixed numeric hydration quantity.                                              |
| Water-quality commissioning                                     | The C-ESMP commissioning plan shall define the approved project and applicable drinking-water acceptance criteria, accredited laboratory method, sampling locations, retesting and response to non-compliance. Potable use shall not begin until compliant results are confirmed.                                                           |
| GRM and incident procedure                                      | The ESIA establishes the controlling GRM and incident-management framework. Contractor and disclosure documents shall use the same escalation routes and the applicable AfDB/Financing Agreement incident-notification protocol.                                                                                                            |
| Safeguards financing                                            | The PIU shall use the USD 214,349 indicative safeguards planning envelope in annual work planning and assign financing to all ESMP activities. Contractor ESHS items shall be separately priced in works contracts.                                                                                                                         |

## 19. Overall Environmental and Social Conclusion

The ESIA concludes that the Galmudug component of the BBS Irrigation Project is environmentally and socially feasible and consistent with the risk profile of an AfDB Category 2 operation, provided the project is implemented within the confirmed 13-site scope and the ESMP is fully integrated into design, procurement, construction supervision,

commissioning and operation. The principal residual risks are manageable but depend on disciplined groundwater management, OHS performance, source protection, equitable water governance, SEA/SH prevention, security and sustained O&M.

AfDB and Borrower acceptance should therefore be linked to implementation of the ESMP, closure of the applicable pre-mobilisation hold points, approval of the relevant C-ESMP and activity-specific plans, adequate financing of safeguards measures, functioning engagement/GRM/SEA-SH systems, and continuing monitoring and adaptive management after handover.

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# CHAPTER 1: INTRODUCTION AND SCOPING

## 1.1 Background and Project Context

Somalia faces recurrent water and food insecurity associated with drought, climate variability, environmental degradation, institutional fragility and long-term underinvestment in productive water infrastructure. Galmudug State is a predominantly arid to semi-arid dryland setting in which rural and peri-urban communities rely heavily on boreholes, shallow or dug wells and seasonal runoff-harvesting structures for household and livestock water. In this context, loss of functionality or poor management of a water point can rapidly translate into livelihood stress, longer water-collection distances, livestock losses and pressure on customary water-sharing arrangements.

The Beero oo Barwaaqee Soomaaliya (BBS) Irrigation Project is an initiative of the Ministry of Agriculture and Irrigation (MoAI) of the Federal Republic of Somalia, financed by the African Development Bank (AfDB). The Galmudug component covers 13 sites in Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb Districts. The ESIA records the component as an AfDB Category 2 operation under the Integrated Safeguards System (ISS 2023).

The controlled site register contains three intervention typologies: six borehole sites, six water-catchment sites and one dug-well site. The exact new-versus-rehabilitation status of each borehole and catchment shall be confirmed by the approved engineering/BoQ package before the affected works proceed and incorporated into the C-ESMP.

Table 1-1: Galmudug Component at a Glance

| Item                | Galmudug component                                                         |
|---------------------|----------------------------------------------------------------------------|
| Project component   | BBS Irrigation Project - Galmudug State                                    |
| Proponent           | Ministry of Agriculture and Irrigation (MoAI), Federal Republic of Somalia |
| Financier           | African Development Bank (AfDB)                                            |
| AfDB classification | Category 2                                                                 |
| Geographic scope    | Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb Districts     |
| Verified site scope | 13 sites: 6 boreholes, 6 water catchments and 1 dug well                   |
| Field verification  | December 2025 - January 2026                                               |

## 1.2 Purpose and Objectives of the ESIA

The purpose of this ESIA is to provide a proportionate, site-specific assessment of the environmental and social risks and impacts associated with the Galmudug component and to establish the management framework required for environmentally and socially responsible implementation. It supports decision-making by AfDB, MoAI, Galmudug State institutions, district administrations and affected communities.

- Confirm the scope, intervention typologies and geographic distribution of the 13 Galmudug sites.
- Define the direct and broader areas of influence relevant to construction, groundwater use, pastoral mobility and water governance.

- Establish baseline environmental and social conditions using field verification, stakeholder consultations and the secondary information cited in the ESIA.
- Identify and assess material environmental and social risks and impacts across pre-construction, construction, commissioning, operation and maintenance, and temporary-works reinstatement.
- Apply the mitigation hierarchy and establish mitigation, monitoring, institutional, contractual and adaptive-management requirements consistent with AfDB ISS 2023.
- Identify matters that cannot be concluded from the available evidence and convert them into pre-works or commissioning hold points rather than assumptions.
- Provide the foundation for the detailed ESMP, associated safeguards instruments and contractor management plans.

### **1.3 Scope of the ESIA**

#### **1.3.1 Geographic and Intervention Scope**

The ESIA covers the 13 sites in the controlling site register: Xerale District (Hugdugaag, Huurshe and Mirxeyley); Cadado District (Gudheys dug well, Hulkujir, Laas Wardheer, Qoryacade, Gudheys borehole and Biyo-Guduud); Wisil District (Balicas); Hobyo District (Digaagaw); Galkacyo South District (Farah Geedi); and Dhusamareeb District (Iidow). The site register is used as the controlling scope because several narrative passages in the source incorrectly refer to ten sites or omit one catchment.

#### **1.3.2 Spatial Area of Influence**

The area of influence is considered at three levels. The direct footprint comprises borehole pads and drilling areas, catchment basins and embankments, the dug-well work area, pump/solar installations, kiosks and troughs, agreed access tracks, lay-down areas, borrow/spoil sites and temporary facilities. The immediate surrounding area includes settlements, grazing routes and receptors that may experience dust, noise, vehicle movement, open-excavation hazards or temporary restrictions. The broader livelihood and governance area includes pastoralists and other users who may travel several kilometres to water points and communities whose water access, allocation or movement patterns could change when infrastructure becomes more reliable.

#### **1.3.3 Temporal Scope and Project Phases**

The ESIA covers pre-construction and mobilisation; construction and rehabilitation; commissioning and handover; operation and maintenance; and demobilisation/reinstatement of temporary works. Seasonality is material because the Gu and Deyr rainfall periods affect catchment earthworks and erosion, while the Jiilaal and Hagaa dry periods intensify heat stress and water scarcity. Security conditions and pastoral movements are also dynamic and must be updated at site level immediately before mobilisation.

### **1.4 ESIA Methodology**

The assessment combines review of project and technical documentation, environmental and social screening, field verification, stakeholder engagement, baseline characterisation, significance assessment and development of mitigation

and monitoring requirements. This chapter structure preserves that evidence but separates project definition, alternatives, baseline, impact assessment and mitigation so that information is not duplicated across chapters.

- Document review and reconciliation of the 13-site register, engineering/design information, safeguards instruments and monitoring commitments.
- Field verification recorded for December 2025-January 2026, supplemented where access was constrained by local counterpart consultation and remote-sensing review.
- Stakeholder engagement with state and district institutions, community and traditional leaders, women, pastoral and agro-pastoral households, youth, IDPs/returnees and water-management committees.
- Impact identification by overlaying project activities against sensitive environmental and social receptors.
- Significance rating using magnitude, duration, geographic extent, receptor sensitivity, reversibility and likelihood, with Negligible, Minor, Moderate and Major ratings.
- Use of pre-works surveys, commissioning tests and adaptive monitoring where the baseline or final design parameter depends on site-specific confirmation.

## 1.5 Environmental and Social Scoping

### 1.5.1 Scoping Purpose and Inputs

Scoping focuses the assessment on issues that are material to dryland water infrastructure in Galmudug. It distinguishes borehole and dug-well risks from catchment earthwork risks and recognises that groundwater sustainability, pastoral mobility, social water allocation and remote-site worker safety are more important in Galmudug than the riverine canal risks relevant to other BBS components.

### 1.5.2 Priority Issues by Intervention and Location

Table 1-2: Scoping by Intervention Type and Location

| Area / typology              | Priority scoped issues                                                                                                                                                                                                                                                   |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Boreholes - six sites        | Groundwater sustainability and quality; drilling and fuel contamination; heat and drilling OHS; temporary water interruption where existing infrastructure is rehabilitated; wellhead hygiene and community access; solar/pump safety; long-term abstraction governance. |
| Water catchments - six sites | Erosion, sediment mobilisation, embankment and spillway performance, liner need where relevant, flash-flood damage, open-water/community safety, pastoral access, sedimentation and O&M.                                                                                 |
| Gudheys dug well - Cadado    | Safe cleaning/desilting, lining/coping condition, excavation/well-entry safety, water-quality protection, wellhead drainage/fencing, water access during rehabilitation and livestock/domestic-use separation.                                                           |
| Cadado cluster               | Multiple nearby water structures, IDP and peri-urban pressure, clan/water-access governance and cumulative demand.                                                                                                                                                       |
| Wisil/Hoby                   | Remote access, heat, drought/groundwater stress and security/logistics constraints.                                                                                                                                                                                      |
| Galkacyo South/Dhusamareeb   | Groundwater sustainability, urban/peri-urban demand, access and security conditions requiring site-specific confirmation.                                                                                                                                                |

1.5.3 Cross-Cutting Issues

- Land access, customary use and protection of pastoral routes and temporary livelihood activities.
- Worker health and safety, especially heat stress, excavation/drilling hazards, electrical work and remote emergency response.
- Community health and safety, including children around open excavations and catchments, project traffic and temporary loss of water access.
- Inclusive water governance and avoidance of clan, elite, gender, IDP or minority-group exclusion.
- SEA/SH prevention, confidential reporting and survivor-centred referral.
- Security and the need for dynamic access/movement protocols.
- Construction waste, fuel and chemical management and protection of groundwater/water points.
- Climate risks: drought, groundwater stress, extreme heat, flash flooding, wind erosion and dust.
- Stakeholder engagement, information disclosure, grievance management and transparent local recruitment.

1.5.4 Issues of Limited Relevance and Verification Triggers

Project screening identifies critical habitat, permanent involuntary resettlement and known cultural heritage as issues of limited relevance under the assessed footprint, subject to verification. The ESIA therefore applies precautionary controls: works remain within approved footprints; any displacement or material livelihood loss beyond screening assumptions requires OS5 reassessment; vegetation clearing is minimised and unexpected sensitive habitat requires review; and the Chance Finds Procedure applies to all ground disturbance.

1.5.5 Scoping Outputs

The scoping output is an issue register carried into Chapters 6-8, together with a defined area of influence and a set of evidence requirements that must be closed before specific activities proceed. These include hydrogeological and water-quality confirmation for boreholes, site-condition/design confirmation for catchments, land/access documentation, security clearance and approved contractor ESHS plans.

1.6 Stakeholder Engagement Approach During ESIA Preparation

The ESIA records engagement with Galmudug State institutions; administrations in all six project districts; community and traditional leaders; women; pastoral and agro-pastoral users; youth; IDPs/returnees; civil society; and water-management committees. The consultation log reports approximately 175 participants across 12 sessions, with women representing approximately 51% overall and women-only focus groups used for targeted discussion. Key issues included water equity, women's participation, local employment, maintenance sustainability, environmental protection, water access during works, pastoral movement routes, security, IDP inclusion and transparency.

1.7 Assessment Constraints, Data Gaps and Treatment of Uncertainty

Table 1-3: Principal Data Gaps and Treatment of Uncertainty

| Information area | Limitation | C-ESMP / Pre-Construction Treatment |
|------------------|------------|-------------------------------------|
|------------------|------------|-------------------------------------|

| Information area         | Limitation                                                                                                                                              | C-ESMP / Pre-Construction Treatment                                                                                                 |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Groundwater              | Site-specific aquifer yield, recharge and water-quality data are limited.                                                                               | Hydrogeological survey, sustainable-yield assessment and baseline water-quality testing before borehole drilling/rehabilitation.    |
| Catchments               | Storage, sediment depth, embankment condition, spillway performance and liner need are not quantified for every site.                                   | Pre-works condition/design verification for each catchment.                                                                         |
| Socioeconomic data       | Regional and consultation evidence is stronger than household-level site statistics.                                                                    | Use site consultations, WUA/user registers and monitoring; do not invent beneficiary numbers.                                       |
| Security                 | Conditions can change rapidly.                                                                                                                          | Update site-specific security assessment before mobilisation and major work phases.                                                 |
| Intervention status      | The project record does not consistently identify which boreholes/catchments are new works versus rehabilitation; final status is design/BoQ dependent. | Confirm against the approved engineering drawings and BoQ before mobilisation and incorporate the confirmed status into the C-ESMP. |
| Controlled project scope | The final ESIA uses the 13-site register as the controlling scope.                                                                                      | All C-ESMP, procurement, monitoring and associated instruments shall use the same 13-site / six-district scope.                     |

## 1.8 Structure of the ESIA

Table 1-4: ESIA Structure

| Chapter    | Content                                    |
|------------|--------------------------------------------|
| 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  | Environmental and Social Management Plan   |
| Chapter 10 | Conclusion and Recommendations             |

## CHAPTER 2: LEGAL AND INSTITUTIONAL FRAMEWORK

### 2.1 Purpose and Approach

This chapter identifies the federal, state, international and AfDB environmental and social requirements relevant to the Galmudug component. It uses the legal and institutional instruments evidenced in the project documentation and does not infer statutes that are not supported by the available record. Detailed mitigation and monitoring requirements are addressed in Chapters 8 and 9.

### 2.2 Federal Policy, Legal and Regulatory Framework

Table 2-1: Federal Policy, Legal and Regulatory Framework

| Instrument / policy area                                   | Lead institution                                  | Relevance to Galmudug component                                                                                                        |
|------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Provisional Federal Constitution (Articles 43, 44 and 45)  | Federal Government of Somalia                     | Environmental protection, land and natural-resource stewardship principles relevant to project siting and resource use.                |
| National Transformation Plan 2025-2029                     | Planning institutions                             | National resilience, productive-sector and service-delivery context for the project.                                                   |
| National Climate Change Policy and related instruments     | Ministry of Environment and Climate Change        | Climate adaptation, drought/flood resilience and climate-risk mainstreaming.                                                           |
| National Adaptation Plan / NAPA / NDC                      | Ministry of Environment and Climate Change        | National adaptation and climate commitments relevant to water security and resilient infrastructure.                                   |
| Environmental permitting and EIA requirements              | Ministry of Environment and Climate Change        | Environmental assessment, permitting and compliance expectations for civil works.                                                      |
| National Water Policy / Water Sector Strategy              | Water-sector authorities                          | Water-resource development, allocation, groundwater management and governance.                                                         |
| National Gender Policy                                     | Relevant federal gender/human-rights institutions | Gender equality, participation, benefit sharing and complaint-access considerations.                                                   |
| Agriculture Sector Strategy and Plan                       | Ministry of Agriculture and Irrigation            | Sector policy context for irrigation/water rehabilitation and climate-smart agriculture.                                               |
| Livestock Sector Development Strategy                      | Livestock/range institutions                      | Pastoral water use, livestock services and grazing/watering conflict relevance.                                                        |
| Food Security and Nutrition Policy                         | MoAI                                              | Food-security and vulnerable-household context.                                                                                        |
| Pesticide and Fertilizer Policies                          | MoAI                                              | Integrated pest management, safe agrochemical handling and prevention of water/soil contamination if agricultural input use increases. |
| Labour and Employment Laws / Regulations                   | Labour institutions                               | Worker protection, working conditions and labour-management requirements.                                                              |
| Public Health and Communicable Disease Control Regulations | Health institutions                               | Public health, sanitation, water-quality and vector-control context.                                                                   |
| Land Administration and Local Government Instruments       | Federal/local authorities                         | Access, land-use documentation and resolution of land-related issues.                                                                  |

## 2.3 Galmudug State and Local Institutional Framework

Galmudug State operates within Somalia's Federal Member State governance structure. The ESIA identifies state agriculture, water and environmental functions, district administrations and community/WUA structures as the principal counterparts for site access, water management, environmental oversight, local dispute resolution and operation of the completed infrastructure. State environmental and social governance capacity is described as limited, which increases the importance of applying AfDB ISS 2023 requirements as the project minimum standard.

Table 2-2: Galmudug State and Local Institutional Framework

| Institution / structure                                                               | Role relevant to project                                                                                       |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Galmudug Ministry of Agriculture / Livestock                                          | Project counterpart, site coordination, agricultural-development oversight and participation in supervision.   |
| Galmudug Ministry of Water, Energy & Natural Resources / Water Department             | Borehole permitting, groundwater management, water-point oversight and joint monitoring.                       |
| Galmudug environmental authority / relevant environment function                      | Environmental permitting and state environmental oversight as applicable.                                      |
| Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb District Administrations | Site-access coordination, community liaison, security coordination and local dispute resolution.               |
| Traditional leaders / elders                                                          | Customary access, communication and mediation of ordinary community disputes; not to handle SEA/SH complaints. |
| WUAs / community water committees                                                     | Water allocation, day-to-day O&M, maintenance, user communication and water-access grievance reporting.        |

## 2.4 International Conventions Relevant to the ESIA

The ESIA identifies the United Nations Convention to Combat Desertification, the United Nations Framework Convention on Climate Change and Paris Agreement, the Convention on Biological Diversity and the Convention on the Elimination of All Forms of Discrimination Against Women as relevant international commitments. They reinforce the need to manage dryland degradation, climate vulnerability, biodiversity, gender equality and participation. The project should apply the relevant commitments through the ESMP without treating the conventions as substitutes for project-specific safeguards obligations.

## 2.5 African Development Bank Integrated Safeguards System 2023

The ESIA classifies the BBS operation as Category 2 and identifies OS1, OS2, OS3, OS4, OS7 and OS10 as applicable to the Galmudug component. OS5, OS6 and OS8 are treated on a precautionary basis where project assumptions could change.

Table 2-3: AfDB Operational Safeguards - Galmudug

| AfDB safeguard                                           | Application to Galmudug                                                                                          |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| OS1 - Assessment and Management of E&S Risks and Impacts | Applies throughout screening, ESIA, design integration, ESMP, monitoring and adaptive management.                |
| OS2 - Labour and Working Conditions                      | Worker terms and conditions, OHS, heat stress, drilling/excavation safety, worker GRM and contractor management. |

| AfDB safeguard                                           | Application to Galmudug                                                                                                                                                                                            |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS3 - Resource Efficiency and Pollution Prevention       | Groundwater sustainability, water quality, fuel/chemical control, waste, erosion/sediment control and resource efficiency.                                                                                         |
| OS4 - Community Health, Safety and Security              | Open excavations, project traffic, water-point safety, SEA/SH, security management and emergency response.                                                                                                         |
| OS7 - Vulnerable Groups                                  | Poor pastoral households, female-headed households, IDPs, persons with disabilities and minority clans.                                                                                                            |
| OS10 - Stakeholder Engagement and Information Disclosure | Disclosure, meaningful engagement, GRM and ongoing communication.                                                                                                                                                  |
| OS5 - Land Acquisition / Restrictions on Land Use        | Precautionary/site-specific: permanent displacement is not anticipated; documented access and reinstatement apply, with stop-work and OS5 determination if displacement or material livelihood loss is identified. |
| OS6 - Habitat and Biodiversity Conservation              | Precautionary/site-specific: modified-rangeland screening applies; maintain footprint and vegetation controls and reassess if a sensitive habitat feature is identified.                                           |
| OS8 - Cultural Heritage                                  | Precautionary/site-specific: no known heritage receptor is identified; the Chance Finds Procedure applies to all ground disturbance.                                                                               |
| OS9 - Financial Intermediaries                           | Not applicable to the Galmudug works.                                                                                                                                                                              |

## 2.6 Institutional Responsibilities for Safeguards Implementation

Table 2-4: Safeguards Implementation Responsibilities

| Actor                              | Core responsibility                                                                                                                                           |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MoAI / PIU                         | Overall safeguards accountability; approval of contractor instruments; audits; incident management; AfDB reporting; technical and institutional coordination. |
| Galmudug E&S Officer               | Day-to-day oversight of the 13 sites, inspections, GRM, community liaison, monitoring verification and WUA support.                                           |
| Technical / Supervision Consultant | Design and survey verification, construction supervision, ESHS compliance verification and corrective-action follow-up.                                       |
| Contractors                        | C-ESMP and method statements; ESHS officer; worker management; implementation of construction-phase controls; records and incident reporting.                 |
| State and district authorities     | Permits/clearances within mandates, access/security coordination, joint oversight and dispute support.                                                        |
| WUAs / community committees        | O&M, water-allocation rules, maintenance, water-quality hygiene, user records and grievance reporting.                                                        |
| AfDB                               | Safeguards oversight, review of periodic reporting and corrective-action requirements.                                                                        |

## 2.7 Permits, Clearances and Pre-Works Compliance Requirements

The following items are project compliance requirements. Where the available legal and administrative record does not specify a formal permit name or statutory form, the PIU shall confirm the competent issuing authority and required evidence before procurement or mobilisation.

Table 2-5: Pre-Works Compliance Requirements

| Requirement | Lead / Evidence | Timing |
|-------------|-----------------|--------|
|-------------|-----------------|--------|

| Requirement                                                      | Lead / Evidence                                             | Timing                                                                                |
|------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Environmental approval / clearance                               | Applicable federal/state environment authority              | Before physical works; final evidence to be retained by PIU.                          |
| Borehole/water-resource permit or authorization                  | Galmudug water authority / relevant federal water authority | Before drilling or abstraction as required by applicable water governance procedures. |
| Hydrogeological survey and sustainable-yield confirmation        | PIU / technical consultant; reviewed with water authority   | Before borehole drilling/rehabilitation and pump sizing.                              |
| Land/access documentation                                        | District/community/land users; PIU records                  | Before site mobilisation and temporary access.                                        |
| Security clearance / site-specific security assessment           | PIU with state/district security structures                 | Before mobilisation and updated as conditions change.                                 |
| UXO/ERW verification where ground has not previously been worked | Relevant security or recognized demining authority          | Before excavation in uncertain/unworked ground, consistent with project requirements. |
| C-ESMP and high-risk method statements                           | Contractor; PIU approval                                    | Before mobilisation and before high-risk tasks.                                       |
| Water-quality acceptance test                                    | Accredited laboratory / PIU / water authority               | Before community use of rehabilitated or newly developed water sources.               |

## 2.8 Gap Review: Borrower/Galmudug Framework and AfDB ISS 2023

Table 2-6: Framework Gap Review

| Area                                              | Observed framework/capacity issue                                         | Project response under AfDB ISS                                                                           |
|---------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Environmental and social assessment / enforcement | State capacity described as limited and framework nascent.                | Apply AfDB ISS requirements as project minimum; PIU retains auditable safeguards records and supervision. |
| Groundwater monitoring                            | Routine monitoring systems largely absent.                                | Pre-drilling hydrogeology; baseline SWL/yield/quality; O&M abstraction and groundwater monitoring.        |
| Land access                                       | Customary/communal arrangements common and documentation can be informal. | Written access records, livelihood/crop verification, GRM and OS5 reassessment trigger.                   |
| Labour/OHS                                        | Remote construction and extreme heat increase enforcement challenges.     | C-ESMP, OHS plan, worker records, no child labour, task-specific controls and supervision.                |
| Vulnerable groups / gender                        | Existing governance can under-represent women, IDPs and minority clans.   | Targeted consultations, non-discrimination and inclusive WUA rules/monitoring.                            |
| GRM                                               | Formal grievance procedures not standardized across all districts.        | Multi-channel project GRM with confidential SEA/SH pathway and documented escalation.                     |
| Security                                          | Dynamic access can constrain supervision.                                 | Site-specific security assessment, SMP and work suspension where oversight cannot be maintained.          |

## 2.9 Compliance Hierarchy and Implications for the ESIA

Project activities must comply with applicable Somali legal and administrative requirements and the AfDB ISS 2023. Where project or contractor documents contain inconsistent requirements, the PIU must reconcile them before

procurement; the final approved ESIA/ESMP and AfDB requirements should not be weakened by less specific legacy wording. The legal chapter does not itself prescribe detailed mitigation measures; those are consolidated in Chapters 8 and 9.

## CHAPTER 3: ANALYSIS OF ALTERNATIVES

### 3.1 Purpose and Decision Framework

The alternatives analysis identifies reasonable options for meeting the project objectives while avoiding or reducing environmental and social risk. It considers the no-project option, site selection and micro-siting, design and technology, construction scheduling and work organisation, and risk-avoidance measures. Alternatives are limited to options evidenced in the project documentation or directly required by the assessed risk pathways.

### 3.2 Evaluation Criteria

Table 3-1: Alternatives Evaluation Criteria

| Criterion                       | Application                                                                                          |
|---------------------------------|------------------------------------------------------------------------------------------------------|
| Technical feasibility           | Ability to provide reliable water under local hydrogeological and dryland conditions.                |
| Environmental risk              | Effects on groundwater, soils, drainage, vegetation, pollution and climate resilience.               |
| Social benefit and inclusion    | Water security, livelihood benefit, equitable access and differentiated benefit to vulnerable users. |
| Land and livelihood disturbance | Temporary access, grazing/crop effects and avoidance of displacement.                                |
| OHS and community safety        | Relative exposure to drilling, excavation, traffic, open water and equipment hazards.                |
| Cost and implementability       | Capital, logistics and ability to implement and supervise safely.                                    |
| O&M sustainability              | Energy, maintenance, spare parts, water governance and WUA capacity.                                 |
| Climate resilience              | Performance under drought, heat, flash floods and reduced recharge.                                  |

### 3.3 No-Project Alternative

Under the no-project alternative, degraded or unreliable boreholes and wells would continue to constrain water access, and sedimented or structurally degraded catchments would continue to provide reduced seasonal storage. The ESIA links this condition to drought vulnerability, livestock stress, longer water-collection burdens and livelihood insecurity. While the no-project option would avoid short-term construction disturbance, it would not address the underlying water-security problem and is therefore not preferred.

### 3.4 Location and Siting Alternatives

#### 3.4.1 Selection of the 13 Sites

Project preparation used a multi-stage selection process involving national and state prioritisation, community demand, technical condition screening, feasibility assessment and environmental and social screening. Priority was given to high-need sites where existing infrastructure was deteriorated or small-scale new infrastructure could fill a critical service gap and where community management arrangements could be established or strengthened.

#### 3.4.2 Deprioritised or Screened-Out Sites

Additional sites were screened out or deprioritised during project preparation because of security constraints, infrastructure considered beyond economic rehabilitation, weak management conditions or elevated environmental risks

not readily addressed within project scope. The main project record does not provide the complete screened-out site list; this ESIA therefore records the selection rationale without creating unsupported names, scores or rankings.

### 3.4.3 Micro-Siting and Footprint Adjustment

Within each selected site, micro-siting should remain within the screened footprint and use existing disturbed or water-point areas where feasible. Borehole pads, solar arrays, kiosks, troughs, access tracks, spoil areas and temporary facilities should avoid pastoral movement routes, cultivated plots, drainage lines and sensitive community areas as far as practicable. Any material footprint change after ESIA clearance requires screening before implementation.

## 3.5 Design and Technology Alternatives

Table 3-2: Design and Technology Alternatives

| Design issue            | Alternative A               | Alternative B / preferred direction                                                                 | Rationale / limitation                                                                                                                                                        |
|-------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Borehole pumping energy | Diesel-only pumping         | Solar-powered submersible pump, with backup configuration only where final design demonstrates need | Solar is preferred because it reduces recurring fuel cost, emissions and fuel-supply dependence. Final backup/generator arrangements must be confirmed by engineering design. |
| Borehole depth          | Predetermined shallow depth | Depth determined by hydrogeological survey                                                          | Survey-led depth is preferred. The 60-120 m range is a regional estimate, not a site-specific commitment.                                                                     |
| Community distribution  | Direct draw at wellhead     | Kiosk/distribution point plus livestock trough                                                      | Separated distribution is preferred to protect the wellhead, improve hygiene and support managed allocation.                                                                  |
| Catchment lining        | Compacted soil only         | Geomembrane where high infiltration losses justify it                                               | Selective lining is preferred; the project does not require lining every catchment.                                                                                           |
| Catchment desilting     | Mechanical excavation only  | Combined mechanical and labour-based methods                                                        | Combined method supports local employment and allows more controlled work near structures/liners.                                                                             |
| Dug well pumping        | Unspecified single solution | Hand pump or powered pump as determined by condition/design                                         | The project allows pump or hand-pump rehabilitation/installation; final choice must be supported by design and O&M capacity.                                                  |

## 3.6 Construction and Implementation Alternatives

### 3.6.1 Seasonal Scheduling

For catchment earthworks, the preferred approach is to avoid peak Gu and Deyr rainfall where practicable so that exposed soils and embankments are not left vulnerable to intense storm runoff. Borehole works are less rainfall-dependent but should still account for road access, heat and water availability. Construction programmes must remain flexible because security and seasonal pastoral movements can alter site readiness.

### 3.6.2 Work-Front Organisation

District-based work packages and multiple work fronts are appropriate to reduce overall programme duration. Because the 13 sites are dispersed across six districts, multiple work fronts are acceptable only where each has adequate supervision, ESHS staffing, emergency response and security support; geographic efficiency shall not reduce safeguards control.

### 3.6.3 Mechanised and Labour-Based Methods

Borehole drilling necessarily requires specialised mechanical equipment. Catchment desilting and reshaping can combine machinery with labour-based tasks where safe and technically appropriate. The preferred approach is not to maximise manual labour at the expense of safety or quality, but to use local labour for suitable tasks while retaining competent operators for excavation, drilling, solar/electrical and structural work.

## 3.7 Environmental and Social Risk-Avoidance Alternatives

- Use hydrogeological evidence before drilling rather than drilling to an assumed depth or yield.
- Keep works within existing water-point and catchment footprints where feasible to avoid new land take and rangeland clearance.
- Use solar pumping rather than routine diesel pumping to reduce operational fuel handling and supply-chain risk.
- Separate livestock and domestic water collection through troughs and controlled distribution where included in final design.
- Stage rehabilitation of an existing water point only after alternative community water access is confirmed.
- Avoid peak-rainfall catchment earthworks and avoid locating spoil or temporary facilities in drainage lines or pastoral routes.
- Delay or suspend works where security conditions prevent safe implementation or effective supervision.

## 3.8 Stakeholder and Inclusion Considerations in Alternatives Selection

Consultations support design and implementation choices that protect water access, pastoral routes and local employment and that provide women, IDPs, minority clans and youth a meaningful role in project benefit and governance arrangements. Alternatives that increase reliability but allow exclusive control by one user group are not socially sustainable. WUA constitution and access-rule design are therefore part of the alternatives decision, not merely an O&M matter.

## 3.9 Climate Resilience and Operational Sustainability

The preferred alternatives seek to reduce drought vulnerability through productive aquifer selection, controlled abstraction, improved catchment storage and solar pumping. Flash-flood and erosion resilience must be incorporated into catchment design and O&M. The climate annex contains additional design propositions, including specific flash-flood standards and evaporation-reduction measures, but not all are clearly applicable to the 13-site intervention package; only measures confirmed by the final engineering design should be carried into contracts.

### 3.10 Preferred Alternative

The preferred alternative is the 13-site Galmudug package using survey-led borehole drilling or rehabilitation, solar pumping where confirmed by final design, protected distribution points and livestock troughs, site-specific catchment works, rehabilitation of the Gudheys dug well, district-based sequencing and inclusive WUA management. It addresses the documented water-security need while retaining manageable Category 2 risks, subject to the ESIA pre-works evidence and safeguards controls.

## CHAPTER 4: DESIGN MEASURES

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### 4.1 Purpose and Design Status

This chapter summarises environmental and social design measures relevant to risk avoidance. It does not replace the approved engineering drawings, specifications or Bills of Quantities. Site-specific dimensions and technical parameters shall be taken from the controlled engineering design and incorporated into the C-ESMP before the affected activity proceeds.

### 4.2 Design Principles Applied to the Galmudug Component

- Use site-specific hydrogeological evidence to determine borehole depth, yield, pumping capacity and sustainable abstraction rather than relying on regional averages.
- Protect water quality through sanitary wellhead design, drainage, animal exclusion and separation of fuel/chemical storage from water sources.
- Minimise land disturbance and use existing water-point, access and catchment footprints where practicable.
- Design catchments for stable embankments, safe overflow/spillways, sediment control and maintainability under intense rainfall events.
- Use solar pumping as the preferred operational energy source where final design confirms suitability, while avoiding unsupported assumptions about batteries or backup generators.
- Separate domestic collection and livestock watering where facilities are included in final design, reducing contamination and conflict.
- Design for safe access by women, children, pastoralists and persons with mobility constraints and maintain pastoral routes.
- Ensure WUA/O&M capacity and maintenance access are considered before finalising infrastructure configuration.

### 4.3 Borehole Design Measures - Six Sites

#### 4.3.1 Hydrogeological Investigation and Borehole Depth

The six borehole sites are Hugdugaag, Huurshe, Gudheys, Digaagaw, Farah Geedi and Iidow. Regional drilling depths of approximately 60-120 m are contextual only; the approved hydrogeological survey shall determine the final drilling target, productive aquifer, water-quality risk and sustainable yield at each site.

#### 4.3.2 Casing, Well Development and Pumping Configuration

Casing and screening shall be appropriate to the selected aquifer, with well development/testing and installation or rehabilitation of submersible pumping in accordance with the approved design. Solar-powered pumping is the preferred operating concept. Pump capacity and operating hours shall be sized to tested yield and sustainable abstraction. Any hybrid or backup arrangement shall be confirmed by the final electrical design before procurement.

### 4.3.3 Wellhead Protection, Drainage and Distribution

Permanent borehole design should include a sanitary wellhead/protection structure, apron and drainage, fencing or controlled access, and the community distribution facilities shown in the approved design. Kiosks and livestock troughs are the intended arrangement where included in the final design. Construction-stage wellhead protection and exclusion zones shall protect the developing borehole from fuel, drilling fluid, animals and uncontrolled public access.

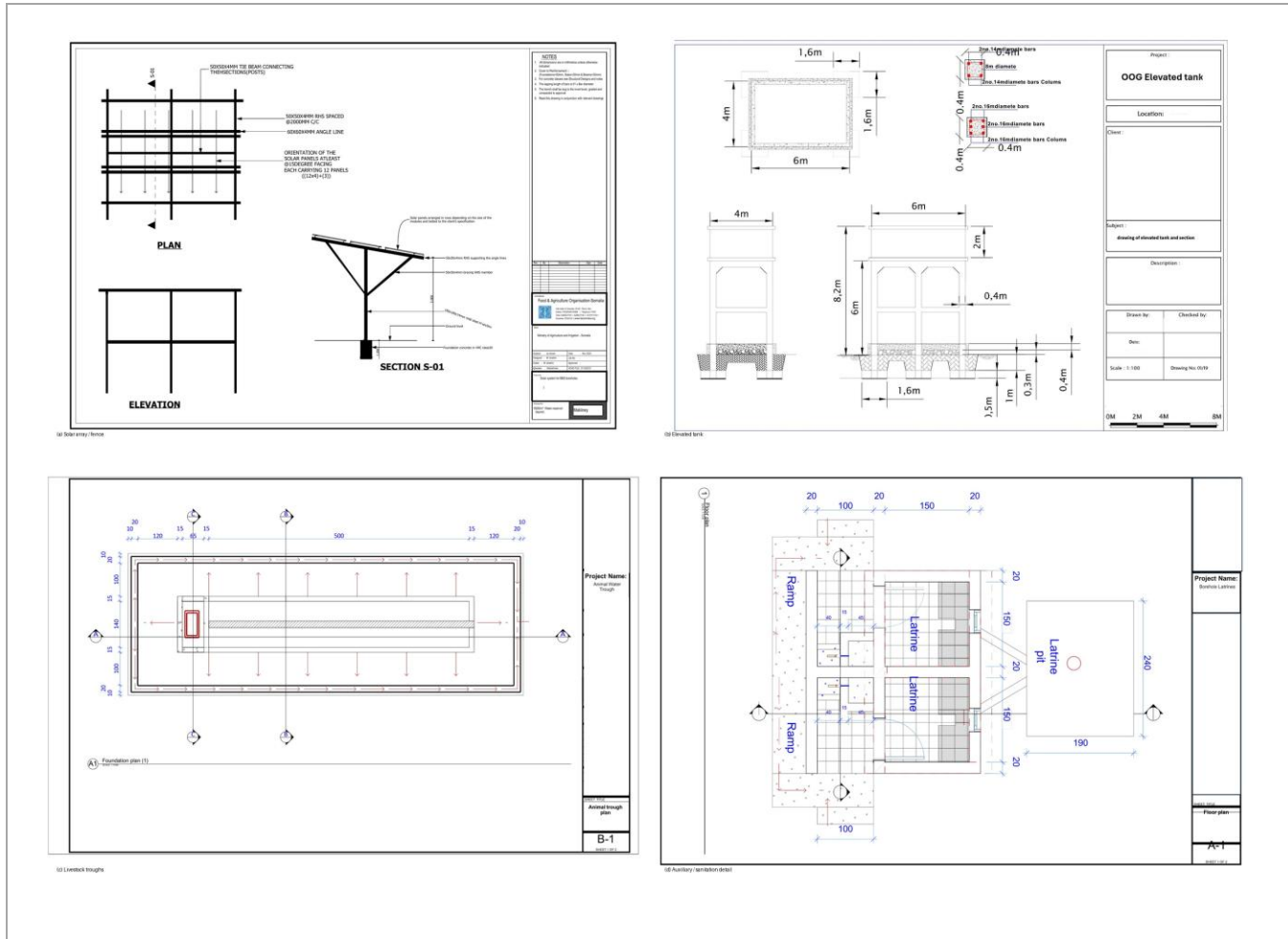


Figure 4-1: Project-Standard Borehole Infrastructure Reference Details - Solar Array, Elevated Tank, Livestock Trough and Sanitation

Reference engineering details illustrate the BBS borehole infrastructure concept. Final site-specific pump, solar, tank, trough, sanitation and wellhead arrangements shall be taken from the approved Galmudug engineering design and incorporated into the C-ESMP.

### 4.4 Water-Catchment Design Measures - Six Sites

The controlling site register identifies six water catchments: Mirxeyley, Hulkujir, Laas Wardheer, Qoryacade, Biyo-Guduud and Balicas. This differs from the project-definition narrative, which refers to five and omits Laas Wardheer. The six-site register is used for ESIA scope, while the final engineering package must confirm the precise treatment of each catchment.

- Desilting and basin reshaping to recover storage while avoiding over-excavation beyond the approved geometry.
- Repair/reinforcement of embankments and bunds with suitable material and controlled compaction.

- Geomembrane lining only where site-specific infiltration conditions justify it.
- Silt traps and inlet controls to reduce re-sedimentation and protect storage.
- Spillway/controlled outlet capacity and downstream erosion protection matched to the site hydrology and approved design standard.
- Livestock troughs and access arrangements where included in design, with community access separated from unsafe embankment or excavation edges.
- Vegetation or surface stabilisation around disturbed perimeter areas where feasible and appropriate to local dryland conditions.
- Maintenance access for future silt-trap clearing, inspection and repair.

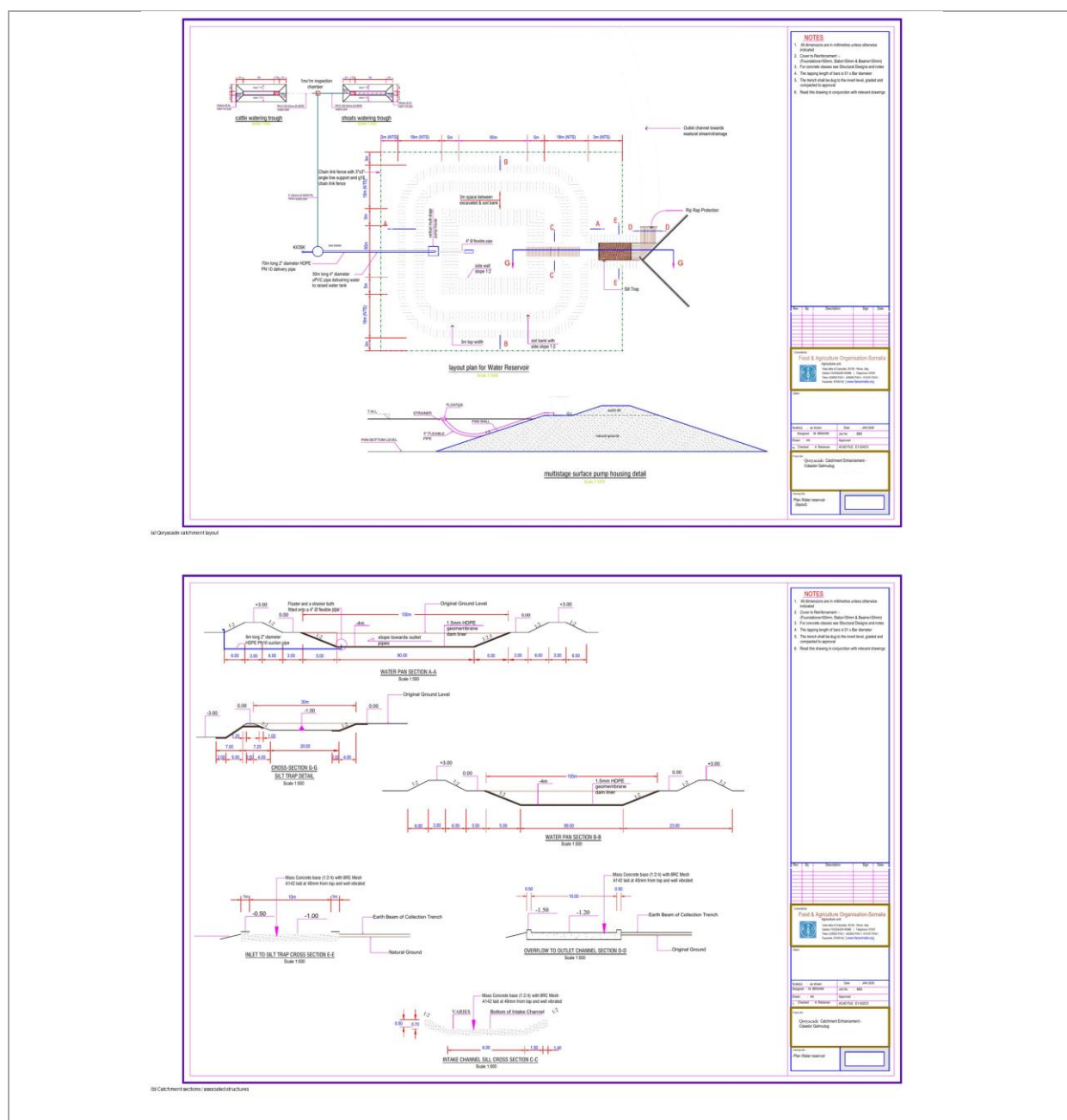


Figure 4-2: Qoryacade Water-Catchment Layout, Sections, Inlet/Silt Trap and Overflow Arrangement - Galmudug

## 4.5 Gudheys Dug-Well Design Measures

The Gudheys dug well in Cadado is the only dug-well site in the controlling register. The approved rehabilitation scope may include cleaning/desilting, repair of lining and coping, installation or rehabilitation of a hand pump or powered pump, wellhead-protection apron and drainage, fencing, a collection point and a livestock trough where appropriate. Final well depth, structural repair, pump selection and any need for controlled entry shall be based on the condition survey and approved method statement.

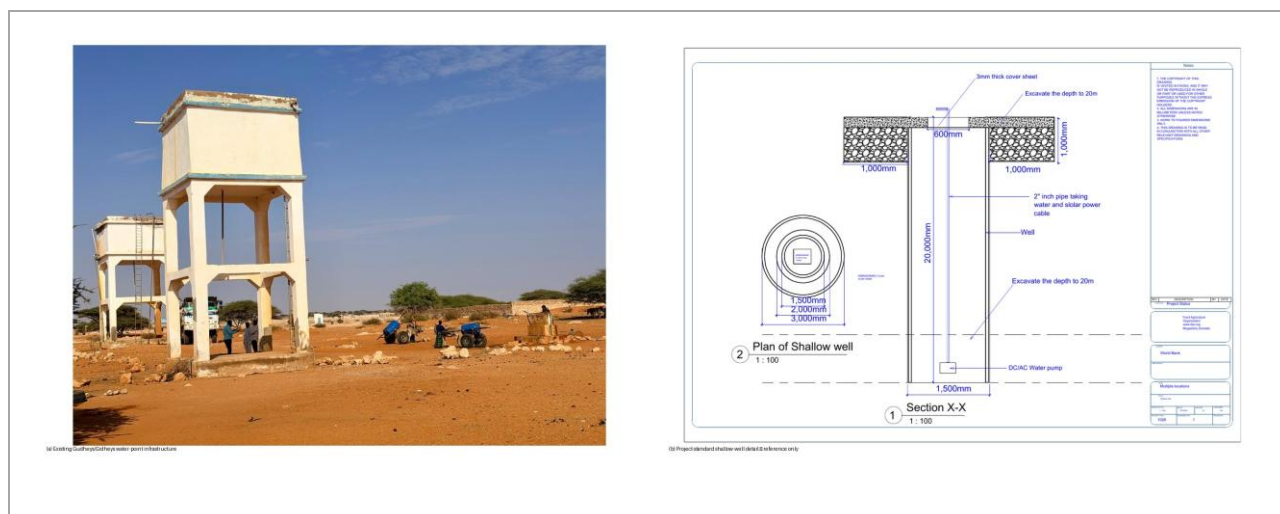


Figure 4-3: Gudheys Existing Water-Point Condition and Project-Standard Dug/Shallow-Well Reference Detail

*The engineering detail is a project-standard reference and is not a final Gudheys construction drawing. The approved site-specific design and C-ESMP shall govern depth, lining/coping, access, fall protection, pumping, drainage and water-use facilities.*

## 4.6 Solar, Electrical and Mechanical Design Measures

Solar pumping is preferred for boreholes because it reduces recurrent fuel logistics and associated pollution risk in remote areas. The approved design shall specify pump duty, solar array, controls, electrical protection, storage and any backup arrangement based on tested borehole performance and demand. No unsupported battery, panel or generator rating is adopted by this ESIA.

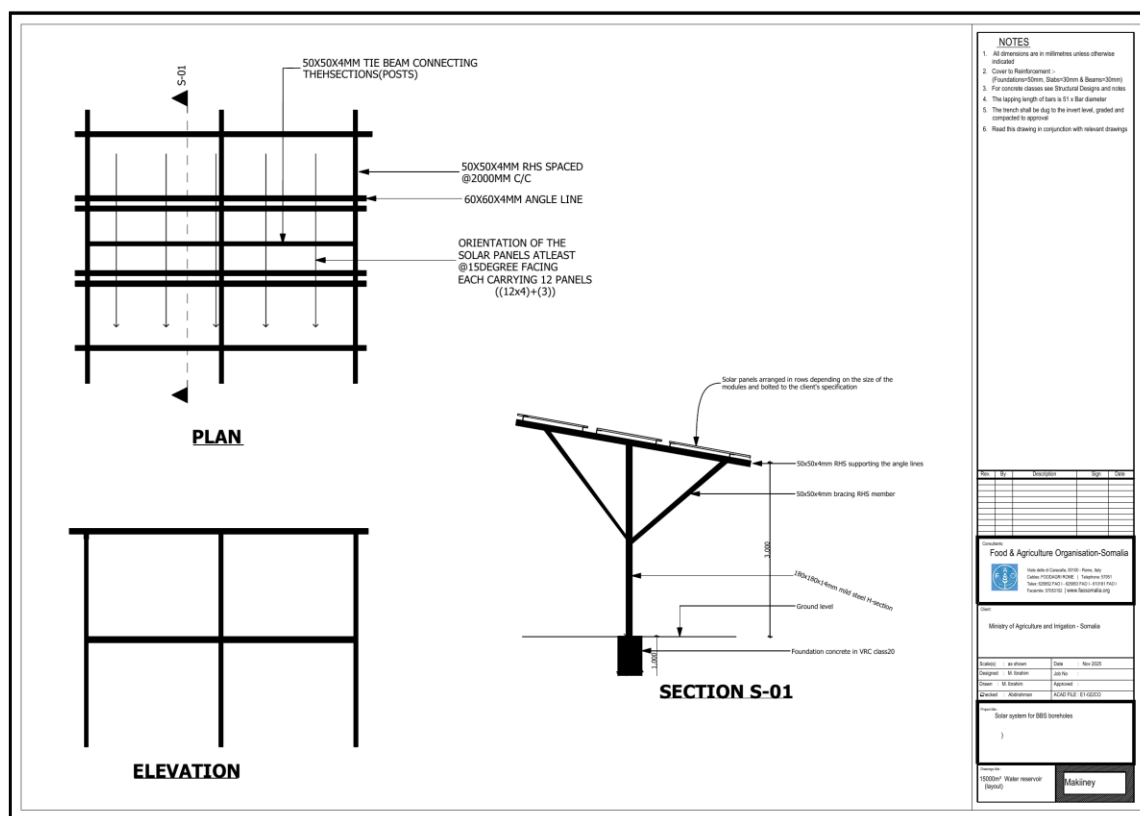


Figure 4-4: Project-Standard Solar-Pumping Arrangement - Reference Detail for Galmudug Borehole Design

Reference detail for ESIA design illustration. Final array size, controls, electrical protection, pump duty, storage and any backup arrangement shall be confirmed in the approved site-specific engineering design before procurement.

#### 4.7 Environmental and Social Design Integration

Table 4-1: Environmental and Social Design Integration

| Design consideration | Required design integration                                                                                                         |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Water sustainability | Pump sizing and operating rules linked to hydrogeological sustainable yield; abstraction measurement/records incorporated into O&M. |
| Water quality        | Protected wellhead, drainage, animal exclusion, suitable sampling points and acceptance testing before community use.               |
| Pastoral mobility    | Avoid blocking livestock routes; retain or provide safe crossing/access around work and permanent infrastructure.                   |
| Inclusive access     | Water kiosks/troughs and WUA rules designed for non-discriminatory use; women and vulnerable users consulted on access and safety.  |
| Community safety     | Fencing/guarding of wells and solar equipment; safe catchment access; no uncontrolled open excavation at handover.                  |
| Maintenance          | Safe access to pumps, solar equipment, silt traps, embankments and outlets; provision for routine inspection and repair.            |
| Climate resilience   | Drought-aware abstraction, efficient storage, flash-flood/erosion protection and post-event inspection requirements.                |

## 4.8 Climate-Resilient Design Measures

The Climate Risk Assessment identifies drought, heat/evaporation and groundwater stress as Very High risks, and flash flooding as High. Design response should therefore prioritize sustainable aquifer selection and abstraction, reliable solar systems, minimisation of unnecessary evaporation loss, robust catchment embankment/spillway design, erosion protection and maintainability after extreme rainfall. The climate annex proposes specific numerical flood/abstraction margins; these should be adopted only where confirmed by the approved engineering and hydrogeological design, not copied into contracts solely from the ESIA annex.

## 4.9 Design Confirmation Before Procurement and Mobilisation

Table 4-2: Design Information Required Before Procurement/Mobilisation

| Scope               | Required confirmation                                                                                                                                          |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| All six boreholes   | Hydrogeological survey; target depth/aquifer; sustainable yield; baseline SWL; baseline water quality; pump duty/operating hours; final energy configuration.  |
| All six catchments  | Existing/new status; survey geometry; storage and sediment condition; embankment/spillway/inlet condition; liner need; erosion and downstream-flow protection. |
| Gudheys dug well    | Condition of lining/coping; water level/quality; safe rehabilitation method; pump type; wellhead/drainage/fencing layout.                                      |
| All sites           | Land/access footprint; pastoral routes; WUA/user arrangements; GRM access; security clearance; temporary facilities/borrow/spoil locations.                    |
| Procurement package | One controlled set of site names, intervention status, drawings, BoQ, technical specifications and ESMP clauses.                                               |

## 4.10 C-ESMP and Pre-Construction Design Confirmation Requirements

Table 4-3: Design-Related Document-Control Issues

| Design Requirement                 | Assessment Position                                                                                                          | C-ESMP / Pre-Construction Action                                                                                                                        |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Intervention status                | The controlled scope is 13 sites; site-level new-versus-rehabilitation status is confirmed by the final design/BoQ.          | Use the approved intervention status to determine shutdown, access, construction and commissioning controls in the C-ESMP.                              |
| Groundwater and pumping parameters | Site-specific aquifer, yield, water-quality and pumping data are not final until the hydrogeological assessment is approved. | Use the approved hydrogeological parameters as the controlling design and monitoring basis in the C-ESMP.                                               |
| Heat-stress controls               | Extreme heat is a material OHS risk                                                                                          | C-ESMP Heat Stress Management Plan to define hydration, acclimatisation, work/rest regime, shade, triggers and emergency response consistent with GIIP. |
| Climate/hydraulic design values    | Catchment flood, spillway, storage and erosion values are site-specific.                                                     | Use the approved site hydrology/engineering design; do not import generic recurrence, reserve or safe-yield percentages into contracts.                 |

## CHAPTER 5: PROJECT DESCRIPTION

### 5.1 Project Overview

The Galmudug component of the BBS Irrigation Project comprises 13 small-scale water-infrastructure sites distributed across six districts. The controlled register identifies six borehole sites, six water-catchment sites and one dug-well site. The component objective is to improve reliability, safety and climate resilience of household, livestock and livelihood water supply through groundwater works, improved seasonal-runoff storage, solar-powered pumping where specified and strengthened community management.

### 5.2 Geographic Setting

The sites are dispersed across central Somalia, from Xerale and Cadado in the inland drylands to Wisil, Hobyo and Galkacyo South in Mudug and Dhusamareeb in the central interior. Figure 5-1 shows the geographically separated site clusters. Construction logistics, security, emergency response, water availability and supervision shall therefore be planned by district and site.

### 5.3 Project Site Register

Table 5-1: Galmudug Project Site Register

| No. | District       | Site          | Infrastructure  | Latitude | Longitude |
|-----|----------------|---------------|-----------------|----------|-----------|
| 1   | Xerale         | Hugdugaag     | Borehole        | 6.148760 | 46.386650 |
| 2   | Xerale         | Huurshe       | Borehole        | 6.114120 | 46.323760 |
| 3   | Xerale         | Mirxeyley     | Water Catchment | 6.043220 | 46.642570 |
| 4   | Cadado         | Gudheys       | Dug Well        | 6.306120 | 46.583450 |
| 5   | Cadado         | Hulkujir      | Water Catchment | 6.394540 | 46.590900 |
| 6   | Cadado         | Laas Wardheer | Water Catchment | 6.176130 | 46.726470 |
| 7   | Cadado         | Qoryacade     | Water Catchment | 6.043139 | 46.642448 |
| 8   | Cadado         | Gudheys       | Borehole        | 6.015292 | 46.679519 |
| 9   | Cadado         | Biyo-Guduud   | Water Catchment | 6.319570 | 46.569350 |
| 10  | Wisil          | Balicas       | Water Catchment | 5.414276 | 48.093700 |
| 11  | Hobyo          | Digaagaw      | Borehole        | 5.634177 | 48.376700 |
| 12  | Galkacyo South | Farah Geedi   | Borehole        | 6.693291 | 47.521692 |
| 13  | Dhusamareeb    | Iidow         | Borehole        | 5.164727 | 45.919494 |

The register above is used as the controlling ESIA scope. It includes two different assets named Gudheys in Cadado: one dug well and one borehole at different coordinates. The final project documentation should therefore always identify both the site name and infrastructure type to avoid procurement or monitoring ambiguity.

5.4 Project Map and Visual Records

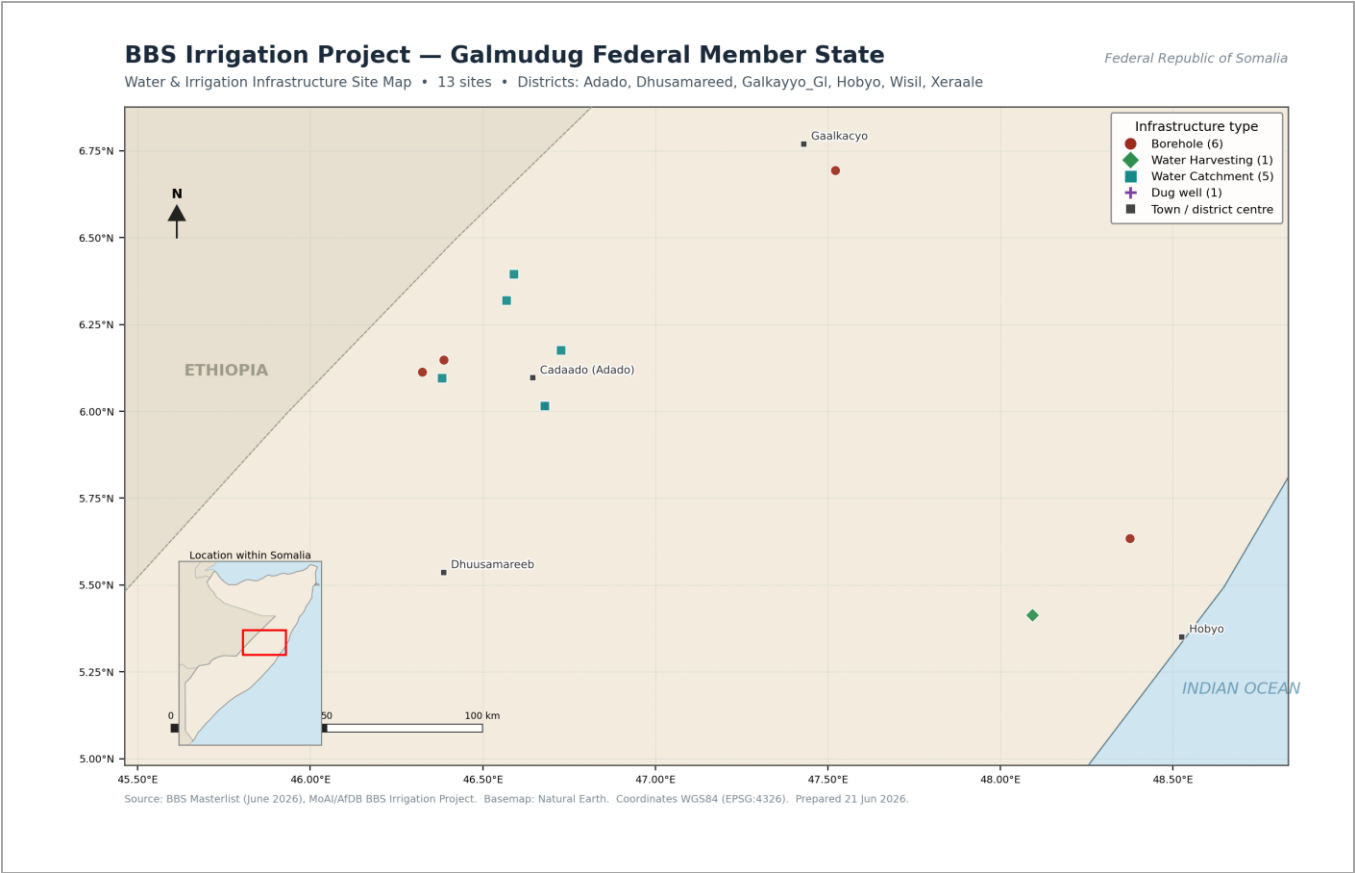


Figure 5-1: Galmudug State - BBS Project Locations (13 Sites)



Figure 5-2: Representative Pre-Works Conditions - Borehole Infrastructure and Water Catchments in Galmudug

## 5.5 Borehole Drilling and/or Rehabilitation Works

The six borehole sites are Hugdugaag and Huurshe in Xerale, Gudheys in Cadado, Digaagaw in Hobyo, Farah Geedi in Galkacyo South and Iidow in Dhusamareeb. The final engineering package shall confirm whether each asset is new construction or rehabilitation; the C-ESMP shall apply the relevant shutdown, access and construction controls accordingly.

- Mobilisation of drilling/rehabilitation equipment and establishment of a controlled work pad.
- Hydrogeological survey and final target selection before drilling or major borehole intervention.
- Drilling or wellbore cleaning/rehabilitation, casing/screen work as specified, well development and testing.
- Water-quality testing and confirmation of suitability for intended use.
- Installation or rehabilitation of submersible pumping and solar power where specified.
- Construction of permanent wellhead protection, apron/drainage, fencing and associated kiosk/distribution points and livestock troughs where included in the design.
- Testing, operator/WUA training, commissioning and site reinstatement.

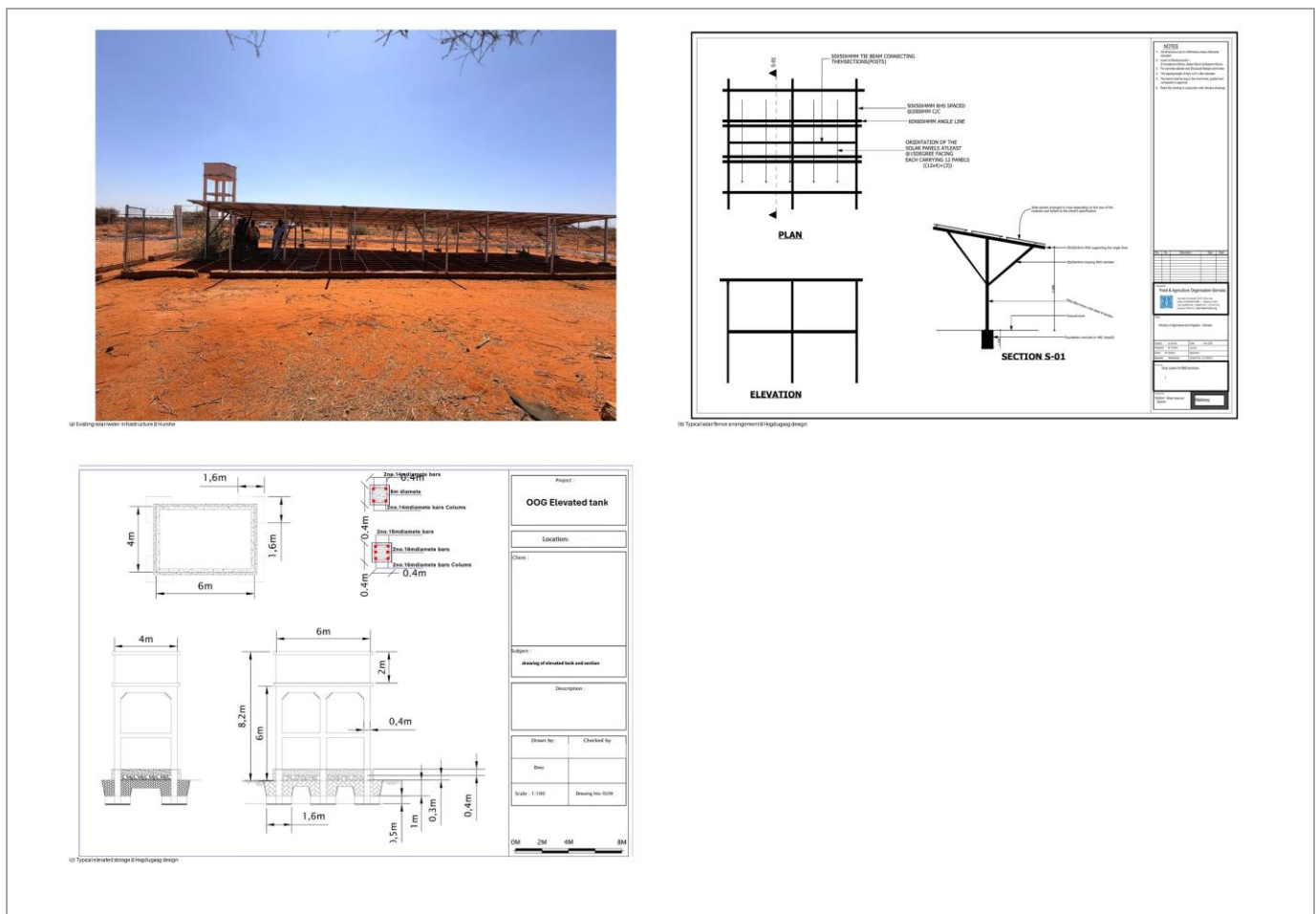


Figure 5-3: Representative Borehole Infrastructure and Typical Design Arrangement - Galmudug

## 5.6 Water-Catchment Works

The six catchment sites are Mirxeyley, Hulkujir, Laas Wardheer, Qoryacade, Biyo-Guduud and Balicas. The approved site-specific design shall determine the precise rehabilitation or construction treatment and the associated earthworks, liner, drainage, spillway, access and erosion-control requirements.

- Desilting and basin reshaping using appropriate mechanical and labour-based methods.
- Embankment/bund repair, construction or reinforcement as specified in final design.
- Selective geomembrane lining where site conditions and design justify it.
- Silt traps, inlet/outlet works, spillways and erosion protection.
- Livestock troughs and safe community access facilities where included.
- Minor access-track works needed for construction or maintenance.
- Reuse of suitable spoil for embankment works or disposal at screened and agreed locations.
- Surface stabilisation/revegetation and full reinstatement of temporary work areas.

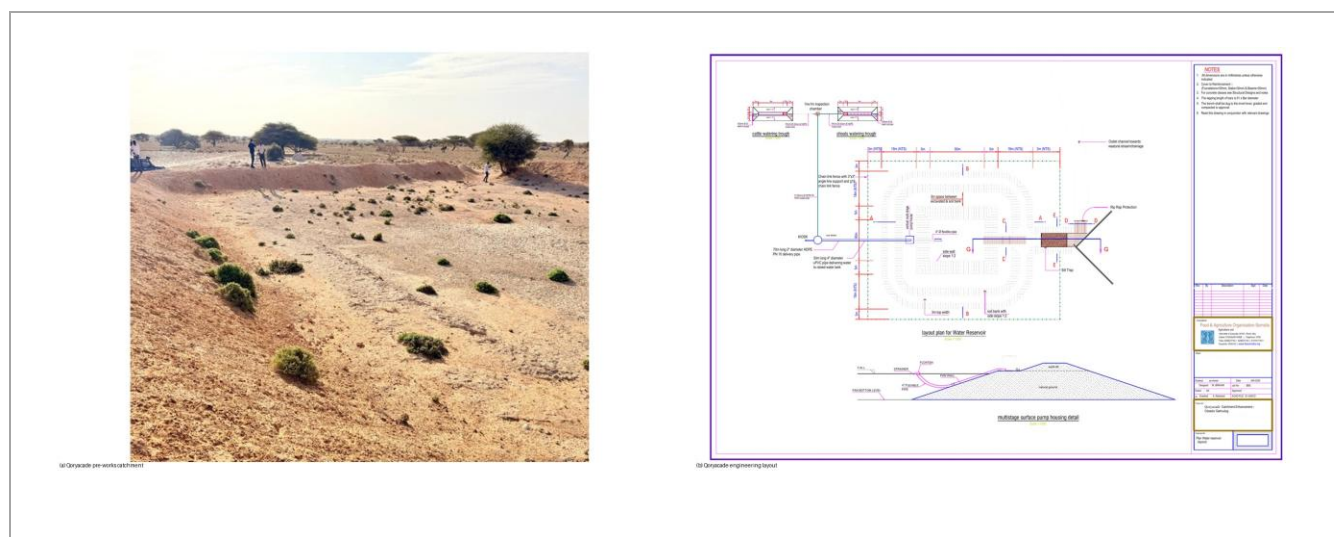


Figure 5-4: Water-Catchment Works - Qoryacade Reference Plan and Representative Pre-Works Condition

## 5.7 Gudheys Dug-Well Rehabilitation

The Gudheys dug well in Cadado is the sole dug-well intervention. The final works package shall confirm cleaning/desilting, lining/coping repairs, pump arrangement, wellhead apron/drainage, fencing, water-collection point and livestock trough where applicable. Water quality shall be tested before and after rehabilitation. Any well entry or deep excavation requires an approved task-specific safety method before work begins.

## 5.8 Construction Phasing and Sequencing

The overall project period is four years, with individual Galmudug works phased within that period. Indicative construction durations are 8-16 weeks per borehole site, 8-16 weeks per catchment and 4-8 weeks for the dug well. These are planning estimates only and depend on final design, drilling success, site access, security, weather and procurement.

- Complete pre-works readiness and safeguards hold points before site mobilisation.
- Avoid peak Gu/Deyr rainfall for major catchment earthworks where practicable.
- Sequence rehabilitation of an existing water source so that alternative community water access is confirmed before shutdown.
- Limit the duration of open excavations and restore/secure work areas promptly.
- Use separate district work fronts only where each is adequately supervised and supported by ESHS and security resources.

## **5.9 Construction Support Activities, Materials and Temporary Facilities**

Construction inputs include casing and screens, pumps and fittings, solar panels and controls, concrete/masonry materials, geomembrane where required, fencing, pipes, aggregate/fill, fuels and lubricants. Materials are expected to be transported from established supply centres. Local borrow/quarry material may be used only after environmental/social screening and confirmation of land/access arrangements.

Temporary facilities may include lay-down areas, tool/equipment storage, bundled fuel storage, worker welfare/sanitation, potable water, shade, first aid and communication equipment. Remote sites require reliable communications and an emergency plan. Associated borrow areas, spoil/waste disposal sites, camps, construction water points and temporary access routes must be entered in an Associated Facilities and Support-Sites Register and screened before use.

## **5.10 Workforce and Labour Profile**

Approximately 15-40 workers may be required per active site depending on intervention type, including drillers, equipment operators, electricians/solar technicians and unskilled labour. Contractors shall prioritise qualified local unskilled and semi-skilled recruitment and create opportunities for youth and women in suitable roles. Final workforce arrangements are governed by the Labour Management Procedures and procurement documents.

## **5.11 Resource Requirements and Energy**

### **5.11.1 Construction Water and Materials**

Construction water is required for concrete, dust suppression, drilling/works and worker welfare. Water may be obtained from agreed existing water points, tanker delivery or a borehole under development where technically and socially acceptable. Construction shall not compromise a community's primary or sole water source without documented agreement and an alternative supply arrangement.

### **5.11.2 Energy and Operational Configuration**

Construction energy is expected to come primarily from diesel-powered drilling/earthmoving equipment and temporary generators. The intended operational concept for boreholes is solar-powered pumping. Any backup or generator arrangement shall be confirmed in the approved site-level engineering design and BoQ and incorporated into the C-ESMP rather than assumed in this ESIA.

## 5.12 Operation and Maintenance Concept

Completed infrastructure is intended to be handed over to WUAs or strengthened community water committees with support from state and district authorities. O&M includes pump/solar inspection, wellhead/kiosk hygiene, borehole performance monitoring, catchment silt-trap clearing and periodic desilting, embankment/liner/spillway inspection, maintenance of fencing and access, record keeping and application of water-access rules. The PIU is expected to provide follow-up during the first year and periodic oversight thereafter.

## 5.13 Land Requirements and Access

Permanent land acquisition or physical displacement is not anticipated under the screened footprint. Sites are on community-managed rangeland, communal water-point areas or land subject to customary management. Temporary access and work footprints shall be agreed and documented before mobilisation. Pastoral routes, cultivation and other active uses shall be identified during setting-out; verified project-caused asset/crop damage is managed through the project compensation and grievance framework. If the actual footprint would cause displacement or material livelihood loss beyond the screened assumptions, works shall pause for OS5 determination.

## 5.14 Project Information to be Confirmed through the Controlled Design Package and C-ESMP

Table 5-2: Project Description Document-Control Actions

| Issue                             | Required project-control action                                                                                                           |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Controlling scope                 | Use 13 sites and the 6/6/1 intervention count. Correct references to ten sites, five catchments or two districts.                         |
| Asset names                       | Confirm Farah/Farax Geedi and Iidow/Lidow naming against final Master List.                                                               |
| New/rehabilitation status         | Confirm site-level status for all borehole and catchment assets.                                                                          |
| Balicas location/type             | Use Wisil and water catchment as recorded in the site register unless formally revised.                                                   |
| Energy configuration              | Reconcile solar-only/hybrid/generator references with final engineering and BoQ.                                                          |
| Design values                     | Do not carry regional drilling-depth, climate-annex safe-yield or flash-flood percentages into contracts without technical confirmation.  |
| Associated safeguards instruments | Update SEP/GRM/training/monitoring documents that refer only to Xerale/Cadado or fewer districts so they cover all six project districts. |

## CHAPTER 6: PROJECT BASELINE

### 6.1 Purpose and Approach to Baseline Characterisation

This chapter defines environmental and social conditions relevant to the 13 project sites and the receptors that may be affected. It is based on field verification, stakeholder consultation and the cited secondary datasets. Regional statistics are distinguished from site-specific evidence, and parameters that depend on final site investigation are assigned to the pre-construction/C-ESMP process.

### 6.2 Geographic and Dryland Setting

Galmudug occupies central Somalia and is characterised by broad inland plains, dry rangelands, localized depressions and seasonal drainage lines. The project sites are distributed across Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb. There are no permanent rivers within the project setting; surface runoff occurs episodically in seasonal channels after rainfall, while groundwater and constructed catchments provide the principal dependable water sources.



### 6.3 Physical Environment

#### 6.3.1 Climate, Seasonality and Climate Hazards

Galmudug is characterised by arid to semi-arid conditions, low and highly variable rainfall, high temperatures and chronic moisture deficit. Rainfall is bimodal, concentrated in the Gu and Deyr seasons, with long Jiilaal and Haggaa dry

periods. Regional baseline ranges are approximately 200-400 mm/year for Wisil and Hobyo, approximately 200-350 mm/year for Xerale and 250-380 mm/year for Cadado. These are district/regional values rather than site-gauge measurements.

Potential evapotranspiration is reported to exceed 2,000 mm/year and dry-season temperatures commonly exceed 35°C. The climate annex rates drought, heat/evaporation and groundwater stress as Very High risks, flash flooding as High, and wind erosion/dust as Moderate-High. It projects additional very hot days and increasing drought frequency, while recognising substantial rainfall uncertainty.

Table 6-1: Climate Hazard Profile - Galmudug

| Climate hazard                       | Assessment Rating | Baseline relevance                                                                                                               |
|--------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Drought / consecutive failed seasons | Very High         | Reduced catchment inflow, groundwater recharge, livestock/crop water availability and increased pressure on shared water points. |
| Heat stress / evaporation            | Very High         | Worker heat exposure, increased demand and evaporation losses from open storage.                                                 |
| Groundwater stress                   | Very High         | Declining water levels/yields if abstraction exceeds recharge, especially during multi-year drought.                             |
| Flash flooding / intense runoff      | High              | Catchment embankment/spillway damage, sedimentation, access-road erosion and construction risk.                                  |
| Wind erosion / dust                  | Moderate-High     | Dust exposure, siltation and erosion around disturbed sites.                                                                     |

### 6.3.2 Soils, Erosion and Drainage

Clay-rich and lime-rich soils occur across much of inland Galmudug, with shallow/stony soils in uplands and salinity accumulation in some low-lying areas. Dry soils can be hard and crusted, while wet clay-rich soils can become plastic and difficult to compact. Sparse vegetation, drought and grazing increase susceptibility to erosion. Intense rainfall on disturbed surfaces can generate rapid runoff, rilling, gullyng and sediment delivery to catchments.

### 6.3.3 Land Use and Landscape

Rangeland dominates the project districts, supporting pastoral and agro-pastoral livelihoods. Settlement is concentrated around water points and district centres, with limited climate-sensitive cultivation in suitable areas and fishing/port-linked activities around Hobyo. Recurrent drought and concentration of livestock around permanent water points contribute to localized rangeland degradation. Temporary construction footprint and improved water reliability can therefore affect grazing patterns as well as fixed settlement users.

### 6.3.4 Water Resources and Groundwater

Water supply depends on boreholes, shallow/dug wells and seasonal runoff captured in catchments. Groundwater occurs in fractured and sedimentary formations with spatially variable depth, productivity and quality. Regional evidence indicates yields ranging from only a few cubic metres per hour in poor aquifers to about 20-50 m<sup>3</sup>/hour in more productive formations, with salinity concerns in some aquifers. These ranges are not site-specific and do not substitute for hydrogeological investigation.

Existing sources are reported to have variable functionality due to pump failure, borehole deterioration and limited maintenance. Shallow wells can experience seasonal drawdown and contamination, while catchments have lost storage through sedimentation. The combination of unreliable rainfall, variable groundwater and maintenance constraints makes water resources a high-sensitivity receptor.

### **6.3.5 Biodiversity and Habitat**

The project setting is dominated by modified arid shrubland and degraded grassland with sparse acacia-type shrubs and drought-tolerant vegetation. Screening in the ESIA identifies no designated protected areas, Ramsar wetlands or known critical habitat features at the project sites. Biodiversity sensitivity is therefore lower than water and social sensitivity, but vegetation clearing and expansion outside the screened footprint remain controlled because dryland recovery can be slow.

### **6.3.6 Cultural Heritage**

No known archaeological, cultural or sacred sites were identified at the project sites during project screening and field verification. Because borehole drilling, catchment earthworks and well rehabilitation disturb ground and subsurface material, residual chance-find potential remains. The baseline therefore supports use of the Chance Finds Procedure rather than a conclusion of zero heritage risk.

## **6.4 Social and Socioeconomic Baseline**

### **6.4.1 Population, Settlement and Mobility**

Regional information cites approximately 1.3 million people for the combined Mudug and Galgaduud population; this is not a project-beneficiary count. Project communities include district-centre populations, dispersed rural settlements, seasonally mobile pastoral households and IDPs/returnees near some urban centres. The number of users at a water point can vary considerably by season and drought conditions.

### **6.4.2 Livelihoods and Water Dependence**

Pastoral and agro-pastoral production dominate, supplemented by petty trade, remittances, wage labour and localized farming. Livestock mobility and access to dry-season water are central to household survival. Improved or failed water infrastructure can alter herd movement, grazing concentration, water expenditure and household coping strategies. Around Hobyo, coastal/fishing livelihoods add another user group, although the source does not quantify site-specific dependence on the project water point.

### **6.4.3 Vulnerable and Disadvantaged Groups**

Poor pastoral households, female-headed households, IDPs, persons with disabilities, youth and minority-clan communities are identified as vulnerable or potentially disadvantaged. Their sensitivity derives from low asset buffers, insecure service access, weaker representation in customary decision-making, mobility constraints and high dependence on shared water resources.

**6.4.4 Gender and Social Inclusion**

Women and girls bear a large share of domestic water collection and are under-represented in existing water management structures. The Gender and Social Inclusion measures reports women-only consultations and records requests for representation, safe access and confidential reporting of GBV/SEA/SH concerns. IDPs and minority-clan households are vulnerable to exclusion where WUA eligibility or customary resource control depends on tenure or dominant-clan status. Youth unemployment creates strong expectations of construction employment and skills development.

**6.4.5 Health and Emergency Response**

Health access is limited in remote areas, with higher-level care relying on district facilities in Cadado, Galkacyo and Dhusamareeb. Waterborne disease, drought-related nutrition stress and limited emergency response are relevant baseline vulnerabilities. For construction planning, the precise nearest facility, travel time, ambulance/vehicle availability and communications shall be verified for every active work front rather than assumed from district-level descriptions.

**6.4.6 Education and Communication**

Education and literacy are limited in many rural communities. Oral communication, visual materials and community-based communication are therefore important for low-literacy audiences. This baseline is relevant to worker induction, safety signage, stakeholder engagement, GRM awareness and WUA training.

**6.4.7 Land Tenure, Pastoral Routes and Customary Water Governance**

Land tenure combines customary clan-based arrangements, communal grazing access and private plots around settlements. Water points are socially sensitive assets governed through formal and informal arrangements. Pastoral routes and seasonal water-sharing patterns can extend well beyond the physical site. Any project change in access, fee collection or WUA membership therefore interacts with existing customary rights and power relationships.

**6.4.8 Security and Fragility**

Security conditions vary by district and over time. Risks include armed actors, criminality, theft, clan/political perceptions and access constraints. Security can affect worker safety and the consistency of supervision and monitoring. The baseline is therefore treated as dynamic, with site-specific assessments updated before mobilisation and major work phases.

**6.4.9 Existing Water Governance and WUA Readiness**

The stakeholder consultations indicate existing water point management committees at some sites and a need to establish or strengthen WUAs before commissioning. Key governance concerns are non-discriminatory membership, transparent access rules, maintenance financing, representation of women, IDPs and pastoralists, and conflict resolution. These conditions are central to operation-phase impact significance.

**6.5 District-Specific Baseline Profiles**

Table 6-2: District-Specific Baseline Profiles

| District       | Baseline setting                                                                                                                          | Key sensitivities for assessment                                                                                                                         |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Xerale         | Two boreholes and Mirxeyley catchment; arid inland setting with drought and groundwater dependence.                                       | Hydrogeology, heat/OHS, catchment erosion, pastoral access, WUA equity and security.                                                                     |
| Cadado         | Six sites including borehole, dug well and four catchments; highest site concentration and IDP/peri-urban pressure in available evidence. | Cumulative water demand, land/customary access, clan equity, IDP inclusion, employment expectations, catchment condition and groundwater sustainability. |
| Wisil          | Balicas catchment in dryland Mudug.                                                                                                       | Remote access, flash-flood/sediment behaviour, pastoral use, O&M capacity and security/logistics.                                                        |
| Hobyo          | Digaagaw borehole; coastal/inland dryland context with pastoral and fishing livelihoods.                                                  | Groundwater quality/salinity uncertainty, remote-site logistics, heat, O&M and security.                                                                 |
| Galkacyo South | Farah Geedi borehole.                                                                                                                     | Groundwater sustainability/quality, peri-urban demand and access/security confirmation.                                                                  |
| Dhusamareeb    | Iidow borehole and state-level institutional linkages.                                                                                    | Groundwater performance, user governance and technical/administrative oversight.                                                                         |

Figure 6-1: Representative Galmudug Baseline Conditions - Borehole Infrastructure and Water-Catchment Settings

## 6.6 Baseline Sensitivity and Receptor Summary

Table 6-3: Baseline Receptor Sensitivity

| Receptor                                   | Sensitivity                            | Baseline basis                                                                                              |
|--------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Groundwater/aquifers                       | High                                   | Primary/sole reliable dry-season resource; variable yield and quality; recharge sensitive to drought.       |
| Existing water users and livestock         | High                                   | Short disruption or reduced yield can have immediate household/livelihood consequences.                     |
| Pastoral routes and communal rangeland     | High locally                           | Water points influence seasonal movement and grazing concentration.                                         |
| Women, IDPs and minority clans             | High                                   | Potential exclusion from water governance and differentiated safety/access burdens.                         |
| Workers at remote drilling/earthwork sites | High                                   | Extreme heat, excavation/drilling/electrical hazards and delayed emergency response.                        |
| Catchment soils/embankments                | Moderate-High                          | Erosion-prone disturbed surfaces and flash-flood/sediment loads.                                            |
| Modified dryland habitat                   | Low-Moderate within screened footprint | No critical habitat identified, but vegetation recovery is slow and footprint expansion requires screening. |
| Cultural heritage                          | Low known sensitivity; precautionary   | No known sites identified; chance finds remain possible during ground disturbance.                          |

## 6.7 Baseline Information to be Confirmed through the C-ESMP and Pre-Construction Process

Table 6-4: Baseline Data Gaps and Required Confirmation

| Information to be Confirmed | Current Assessment Basis | C-ESMP / Pre-Construction Requirement |
|-----------------------------|--------------------------|---------------------------------------|
|-----------------------------|--------------------------|---------------------------------------|

| Information to be Confirmed | Current Assessment Basis                                                                                 | C-ESMP / Pre-Construction Requirement                                                                                                                                                                          |
|-----------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Borehole hydrogeology       | No site-specific final yield/recharge/salinity profile in the available project information.             | Complete the hydrogeological survey, pumping/yield assessment, baseline static water level and water-quality profile and establish the sustainable-yield operating and monitoring basis before borehole works. |
| Catchment condition/design  | No complete site-by-site storage/sediment/embankment/spillway data in the available project information. | Complete a site condition/design assessment covering storage/sediment, embankment, inlet/outlet/spillway, liner need, erosion and access before earthworks and incorporate findings into the C-ESMP.           |
| Gudheys dug well            | Detailed condition, depth and safe access method not established in the available project information.   | Complete the structural/water-quality condition assessment and approve the safe rehabilitation method before works; incorporate task controls into the C-ESMP.                                                 |
| Beneficiary population      | No verified site-level beneficiary counts.                                                               | Establish the verified beneficiary and vulnerable-user baseline through WUA/user registration and mobilisation-stage engagement for later benefit and inclusion monitoring.                                    |
| Land/pastoral routes        | Actual temporary footprint and affected users depend on contractor setting-out.                          | Document temporary access, actual land/resource users, pastoral routes and asset/crop exposure before setting-out and include the commitments in the C-ESMP.                                                   |
| Emergency response          | District facilities identified but site-specific routes/times not verified.                              | C-ESMP Emergency Response Plan shall verify actual referral routes, transport, communications and contacts for each active work front.                                                                         |
| Security                    | Dynamic and variable.                                                                                    | Update the site-specific security assessment before mobilisation and as conditions change; incorporate controls into the C-ESMP/SMP.                                                                           |
| Controlled project scope    | The final ESIA uses one 13-site/six-district dataset.                                                    | All implementation instruments shall use the same controlled site register.                                                                                                                                    |

## 6.8 Baseline Conclusion

The Galmudug baseline confirms high sensitivity to water scarcity, groundwater sustainability, heat and worker safety, equitable access, and catchment resilience; site-specific technical baselines must therefore be completed before works or commissioning.

# CHAPTER 7: ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

## 7.1 Impact Assessment Scope and Method

### 7.1.1 Impact Identification

Impact pathways are identified by relating the activities in Chapter 5 to the baseline receptors in Chapter 6 for each project phase and intervention type. Significance uses the methodology established in Chapter 1. Where a site-specific rating depends on hydrogeology, final design or operating conditions, the assessment identifies the pathway and assigns the determination to a pre-construction or commissioning hold point rather than creating unsupported precision.

### 7.1.2 Significance Determination

Significance is based on magnitude, duration, geographic extent, receptor sensitivity, reversibility and likelihood. Pre-mitigation and residual ratings use Negligible, Minor, Moderate and Major. Residual ratings assume implementation of the controls consolidated in Chapter 8 and later operationalised in the ESMP. A residual rating is therefore not a prediction of contractor performance; it is conditional on verified implementation.

## 7.2 Impact Pathways by Project Phase

Table 7-1: Impact Pathways by Project Phase

| Phase                           | Principal impact pathways                                                                                                                                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pre-construction / mobilisation | Inadequate land/access documentation; drilling without hydrogeological confirmation; weak contractor ESHS readiness; security mobilisation to unsafe sites; unmanaged employment expectations; temporary facility siting.    |
| Construction                    | Catchment earthworks and erosion; borehole/dug-well contamination; drilling/excavation/heat/electrical OHS; community access/safety; water disruption; waste/fuel; SEA/SH; employment/clan grievances; security incidents.   |
| Commissioning                   | Water quality not confirmed; pumping exceeding sustainable yield; unsafe/incomplete infrastructure; WUA/access rules not ready.                                                                                              |
| Operation and maintenance       | Groundwater drawdown; water-quality deterioration; inequitable allocation; catchment re-sedimentation; infrastructure safety/maintenance; induced settlement/grazing concentration; continued security and governance risks. |
| Temporary-works demobilisation  | Unrestored lay-down/access areas, abandoned waste/spoil, erosion or residual contamination.                                                                                                                                  |

### 7.3 Pre-Construction and Mobilisation Risks

The principal risk is that works begin before the evidence required to validate design and safeguards assumptions is available. Drilling without hydrogeological confirmation could create an unsustainable or poor-quality source; mobilisation without land/access documentation can create community disputes; and mobilisation without security clearance or an approved C-ESMP can expose workers and communities to avoidable risk. These risks are largely avoidable through hold points and are therefore treated as readiness risks rather than permanent project impacts.

## **7.4 Construction-Phase Environmental Risks and Impacts**

### **7.4.1 Soil Erosion and Land Degradation**

Catchment desilting, embankment works, borehole pads, access improvements and spoil handling disturb dryland soils with limited vegetation. This impact is assessed as Moderate before mitigation and Minor residual. The most sensitive periods are intense rainfall events following disturbance, when runoff can erode newly worked surfaces and deliver sediment to low-lying areas or catchments.

### **7.4.2 Groundwater and Water-Point Contamination**

Borehole drilling, well cleaning, fuels, lubricants, drilling fluids, grout and poor sanitation can contaminate soils or a water source. Given high dependence on groundwater, water contamination at borehole/well sites is assessed as Moderate-Major before mitigation and Minor-Moderate residual. Prevention and water-quality acceptance testing are therefore critical.

### **7.4.3 Catchment Sediment, Drainage and Flash-Flood Effects**

Earthworks can mobilise silt, alter local runoff and expose embankments to concentrated flow. Inadequate spillway/inlet design or leaving partially completed embankments through intense rainfall can increase failure or gully risk. Catchment erosion and sediment impacts are manageable through seasonal scheduling and controlled construction; site-level severity depends on the final condition and design of each catchment.

### **7.4.4 Dust, Noise, Waste and Local Pollution**

Drilling, excavation, vehicle movement and dry spoil generate dust and noise, while packaging, scrap, used fluids and drilling waste require controlled disposal. These effects are expected to remain localized and temporary under standard controls, but dust may extend beyond the immediate footprint under strong winds. Illegal dumping, uncontrolled used oil or fuel leakage would create a more significant localized pollution pathway.

## **7.5 Construction-Phase Occupational Health and Safety Risks**

### **7.5.1 Heat Stress and Remote Work**

Extreme heat, limited shade and remote access make heat illness a high-consequence risk. Overall worker OHS is assessed as Major before mitigation and Minor-Moderate residual. The C-ESMP Heat Stress Management Plan shall define evidence-based hydration, work/rest, shade, acclimatisation and emergency requirements.

### **7.5.2 Drilling, Excavation, Well and Electrical Hazards**

Workers can be exposed to rotating drilling equipment, pressurised systems, open excavations, falls, lifting, electrical installation and potential entry into a dug well or deep excavation. These hazards can result in serious injury or fatality without competent supervision, exclusion zones, task-specific procedures, electrical isolation and rescue arrangements. Any confined-space or well-entry activity requires formal assessment before entry.

## **7.6 Construction-Phase Community and Social Risks**

### **7.6.1 Community Safety Around Work Areas**

Open catchment works, excavations, vehicles and drilling equipment can expose children and other community members to falls, struck-by hazards and traffic incidents. Community safety is assessed as Moderate-Major before mitigation and Minor-Moderate residual, with risk higher near settlements and active water points.

### **7.6.2 Temporary Disruption to Water Access**

Rehabilitation of an existing borehole or the Gudheys dug well may temporarily interrupt a community source. In an arid environment, even short disruptions can affect household and livestock welfare. The impact is assessed as Moderate before mitigation and Minor residual where advance notice, alternative supply and rapid restoration are implemented.

### **7.6.3 Land Access, Pastoral Routes and Temporary Livelihood Effects**

Temporary construction areas can interfere with grazing access, pastoral movement, cultivation or community paths. Permanent resettlement is not anticipated, but actual effects depend on contractor setting-out and site access. Because pastoral mobility can extend beyond the immediate site, an apparently small footprint can create disproportionate inconvenience if it blocks a key route or water-point approach.

### **7.6.4 SEA/SH and Protection Risks**

Worker-community interaction in remote settings can increase SEA/SH risk, particularly for women, girls, IDP women and female-headed households. SEA/SH risk is assessed as Moderate before mitigation and Minor-Moderate residual, conditional on Codes of Conduct, training, confidential reporting, female outreach and survivor-centred response.

### **7.6.5 Employment, Clan and Water-Access Grievances**

Perceptions of unequal hiring, siting or benefit distribution can generate grievances in clan-structured communities. Social conflict and employment grievances are assessed as Moderate before mitigation and Minor residual during construction. Transparent criteria and consistent communication are required.

### **7.6.6 Security Risk**

Security conditions can threaten workers, equipment and supervision continuity and can create perceptions that the project favours particular political or clan actors. Security is a persistent implementation risk. The consequence of a serious security incident can be high even if probability varies by site; residual security risk is therefore treated dynamically and reassessed as conditions change.

## **7.7 Commissioning and First-Use Risks**

### **7.7.1 Water Quality and Source Acceptance**

A rehabilitated or newly developed source that is opened before water-quality results are acceptable could expose users to bacteriological, chemical or natural salinity risk. Water-quality acceptance is therefore a hard commissioning hold point. The C-ESMP commissioning plan shall specify the approved project and applicable drinking-water acceptance criteria and accredited laboratory method.

### 7.7.2 Sustainable Pumping and Groundwater Baseline

Commissioning a borehole without an established sustainable-yield limit, baseline static water level and operating regime can lock the project into over-pumping. These parameters must be established before handover so that WUAs and the water authority have a measurable basis for adaptive management.

### 7.7.3 WUA and Management Readiness

Physical infrastructure can fail socially if it is handed over without clear rules, inclusive representation, maintenance responsibilities and grievance channels. WUA readiness is therefore a commissioning hold point. The ESMP requires at least 30% women in WUA membership and leadership and explicit inclusion of vulnerable users.

## 7.8 Operation and Maintenance Risks and Impacts

Table 7-2: Principal Operation-Phase Impacts

| Impact                                                | Pre-mitigation | Residual       | Assessment basis                                                                                                           |
|-------------------------------------------------------|----------------|----------------|----------------------------------------------------------------------------------------------------------------------------|
| Groundwater over-abstraction                          | Moderate-Major | Moderate       | Increased demand can drive pumping beyond recharge/sustainable yield; requires long-term measurement and adaptive pumping. |
| Inequitable water access / elite or clan capture      | Moderate-Major | Moderate       | Governance-dependent and potentially persistent; affects poor pastoral households, women, IDPs and minority clans.         |
| Water-quality deterioration                           | Moderate       | Minor-Moderate | Wellhead hygiene, animals, natural salinity, agricultural inputs and maintenance practices can degrade quality.            |
| Catchment re-sedimentation / structural deterioration | Moderate       | Minor-Moderate | Storage can decline and embankment/spillway defects can recur without routine inspection and desilting.                    |
| Safety around pumps/catchments                        | Moderate       | Minor          | Fencing, safe access and maintenance are needed to prevent operational accidents.                                          |

### 7.9 Cumulative and Induced Impacts

Cumulative risks arise where multiple water interventions affect the same users or groundwater system, particularly in the Cadado cluster, and where improved supply attracts pastoralists or settlement growth to water points. Induced concentration of people and livestock around improved sources can accelerate rangeland degradation and place pressure on WUA governance. Aquifer connectivity between boreholes shall be assessed hydrogeologically rather than assumed.

### 7.10 Differential Impacts on Vulnerable Groups

Table 7-3: Differential Impacts on Vulnerable Groups

| Group           | Differentiated impact pathway                                                                                     | Assessment implication                                                             |
|-----------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Women and girls | Potential reduction in water-collection burden; risk of exclusion from governance and SEA/SH during construction. | Women-only engagement, safe access, WUA representation and confidential reporting. |

| Group                     | Differentiated impact pathway                                                                       | Assessment implication                                                            |
|---------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| IDPs / returnees          | Potential improved access but risk of exclusion where tenure/clan status influences WUA membership. | Non-discrimination, explicit representation and low-barrier GRM access.           |
| Minority clan households  | Risk of reduced access to communally controlled water points.                                       | Transparent posted access rules, representation and conflict-sensitive oversight. |
| Poor pastoral households  | High dependence on affordable dry-season water; possible fee/access and route impacts.              | Pastoral-route protection and equitable access/fee governance.                    |
| Persons with disabilities | Physical barriers to water collection and consultation participation.                               | Accessible design/communication and targeted outreach.                            |
| Youth                     | Potential jobs/skills; risk of grievance where expectations are unmet.                              | Transparent recruitment and youth representation in suitable WUA structures.      |

### 7.11 Climate Risk and Interaction with Project Impacts

Climate change amplifies the project's core risks. More frequent drought and higher evapotranspiration can reduce recharge, increase demand and deepen groundwater stress. Extreme heat increases worker and livestock stress. Intense rainfall can damage catchment works, accelerate sedimentation and erode access routes. The Climate Risk Assessment rates residual climate risk as manageable only with sustainable abstraction, robust catchment design/maintenance and adaptive drought response. Climate resilience therefore depends as much on O&M governance as on physical design.

### 7.12 Positive Impacts and Development Opportunities

- Improved reliability and safety of household and livestock water supply where sources meet quality and sustainable-yield requirements.
- Reduced drought vulnerability and potentially reduced emergency water trucking or long-distance water collection.
- Improved livestock health and livelihood stability in water-insecure pastoral settings.
- Reduced operating fuel dependence and emissions through solar pumping where implemented.
- Local employment and practical skills development during construction and O&M.
- Improved water governance through formal WUAs, posted rules, grievance mechanisms and participation of women, IDPs and minority users.
- Potential reduction in women's water-collection burden and increased time for livelihood, care or education activities.

### 7.13 Residual Impact Profile and Management Priorities

The assessment concludes that construction residual impacts are generally Minor to Minor-Moderate, while the most important operation-phase residuals remain Moderate for groundwater abstraction and equitable water access. These two risks require sustained technical and governance monitoring after construction. Security and SEA/SH also require continuing management because they are behaviour- and context-dependent rather than resolved by engineering completion.

## 7.14 Impact Determinations to be Confirmed through the C-ESMP and Commissioning Process

Table 7-4: Provisional Impact Determinations and Hold Points

| Impact Determination                  | Required Confirmation                                                                             | C-ESMP / Decision Requirement                                                                                                                                                           |
|---------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Borehole sustainable yield / drawdown | Cannot be finalised without site hydrogeology and pumping/yield data.                             | Approved hydrogeological assessment shall establish the operating rule and action trigger before commissioning; resize, relocate or revise the source if viability is not demonstrated. |
| Borehole water quality / salinity     | Regional risk known; site-specific result incomplete.                                             | Baseline and post-development laboratory testing shall establish the commissioning and monitoring basis before community use.                                                           |
| Catchment structural/erosion risk     | Depends on actual embankment, sediment and spillway condition.                                    | Condition/design assessment shall define the final works and controls incorporated into the C-ESMP earthworks method statement.                                                         |
| Temporary water disruption            | Depends on whether each borehole is new or rehabilitation and on alternative source availability. | Confirm whether the asset is rehabilitation/new work and approve the disruption/alternative-supply plan before mobilisation.                                                            |
| Land/livelihood impact                | Depends on final footprint/access routes.                                                         | Complete land/access and asset verification before setting-out; any displacement beyond screening assumptions triggers OS5 review before works.                                         |
| Security residual risk                | Dynamic.                                                                                          | Update the site-specific security assessment before mobilisation and incorporate the approved controls into the C-ESMP/SMP.                                                             |

## 7.15 Overall Impact Assessment Conclusion

The 13-site Galmudug component presents material but generally localised Category 2 risks. Construction risk is dominated by worker OHS, community safety, contamination and erosion, while long-term risk is dominated by groundwater sustainability and equitable water governance. The residual profile is acceptable only if Chapter 8 mitigation, Chapter 9 ESMP requirements and the defined C-ESMP/pre-construction hold points are fully implemented.

## CHAPTER 8: MITIGATION MEASURES

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### 8.1 Purpose and Mitigation Hierarchy

This chapter consolidates the mitigation and enhancement measures required to address the risks assessed in Chapter 7. It follows the mitigation hierarchy: avoid risk through siting, design and readiness decisions; minimise unavoidable effects through controlled methods; restore disturbed areas; and compensate verified project-caused livelihood or asset losses where applicable. Detailed responsibilities, frequencies and budgets are reserved for the ESMP in Chapter 9.

### 8.2 Pre-Construction Avoidance and Readiness Measures

- No site mobilisation without a PIU-approved readiness checklist covering scope, access, security, community notification, contractor ESHS plans and required technical surveys.
- Complete hydrogeological investigation, baseline water quality and sustainable-yield assessment before drilling or major borehole rehabilitation.
- Complete catchment condition/design verification before earthworks, including sediment, embankment, spillway/inlet and erosion conditions.
- Complete structural/water-quality assessment and a safe rehabilitation method for the Gudheys dug well.
- Document temporary land/access arrangements, pastoral routes and any crop/asset exposure before setting out works.
- Screen all borrow areas, disposal sites, camps, lay-down areas, temporary water sources and access roads before use.
- Establish and test the community GRM and confidential SEA/SH channel before mobilisation.
- Complete site-specific security assessment and do not mobilise where acceptable worker safety and safeguards supervision cannot be maintained.
- Obtain formal UXO/ERW clearance confirmation before excavation on previously unworked or uncertain ground where required by the site-specific security/mine-action assessment.

### 8.3 Borehole Mitigation Measures

#### 8.3.1 Groundwater Sustainability

- Use hydrogeological survey and pumping/yield evidence to define the sustainable operational limit for each source.
- Size pump duty and operating hours to the approved sustainable-yield limit rather than unconstrained user demand.
- Establish baseline static water level, yield and relevant water-quality parameters before commissioning.
- Maintain pumping/abstraction records and periodic groundwater-level monitoring during O&M.
- Apply an adaptive pumping-reduction protocol where sustained decline is observed. The site-specific groundwater-level and yield action trigger shall be established by the approved hydrogeological assessment and incorporated into the C-ESMP/O&M monitoring plan.

### 8.3.2 Pollution and Wellhead Protection

- Keep fuel, lubricants and chemicals in bunded storage away from the borehole/well and drainage pathways; maintain a minimum 50 m setback where practicable unless the approved site-specific pollution-prevention assessment requires a more protective arrangement.
- Use drip trays/spill kits and remove contaminated material and used containers from site through approved disposal routes.
- Control drilling fluids/cuttings so they do not enter community water, grazing areas or drainage channels.
- Maintain a controlled drilling/wellhead exclusion zone during construction and complete permanent apron, drainage and fencing before handover.
- Test water quality before community use and repeat testing as required during O&M.

### 8.4 Water-Catchment Mitigation Measures

- Limit clearing and excavation to the approved basin/embankment footprint.
- Sequence major earthworks outside peak rainfall where practicable and do not leave unstable embankments or spoil exposed to forecast intense rainfall without temporary protection.
- Use silt traps, diversion bunds or equivalent controls appropriate to the site to prevent uncontrolled sediment release.
- Reuse suitable desilted material only where technically acceptable; place surplus spoil at screened and agreed locations, never in natural drainage routes or on active livelihood land without agreement.
- Compact/stabilise embankments and disturbed surfaces promptly and reinstate vegetation/surface cover where appropriate.
- Provide safe public access and barriers/signage during works and ensure no unsafe excavation or embankment defect remains at commissioning.
- Establish O&M triggers for silt-trap clearing, basin desilting and repair of embankments, liners, inlets/outlets and spillways.

### 8.5 Gudheys Dug-Well Mitigation Measures

- Confirm well condition, water quality and the safe method before cleaning, lining or pumping work.
- Treat any well entry or deep/enclosed excavation as a high-risk task requiring a specific permit/procedure, atmospheric assessment where relevant, competent supervision, rescue planning and no lone working.
- Prevent fuel/chemical/material contamination and keep animals/public away from the work area.
- Provide wellhead coping/apron, drainage and fencing in the completed condition.
- Maintain alternative community water access during any rehabilitation shutdown and reopen only after acceptable water-quality confirmation.

## 8.6 Occupational Health, Welfare and Emergency Response

- Contractor OHS plan and site-specific task hazard assessments before work.
- Heat-stress plan using work-rest scheduling, shade, acclimatisation, potable water, monitoring of heat illness and a buddy system; the C-ESMP Heat Stress Management Plan shall establish the final evidence-based hydration and workload controls.
- Appropriate PPE for drilling, excavation, lifting, concrete, solar/electrical and traffic tasks.
- Guarding/exclusion around drilling rigs, rotating equipment and electrical installations; lock-out/isolation for electrical maintenance.
- Daily toolbox talks and competent supervision of high-risk tasks.
- First aid and trained responders at each work front, with verified evacuation route, transport, communications and receiving health facility.
- Incident and near-miss reporting, investigation and corrective action.
- No child labour; age verification and worker records consistent with the project LMP.

## 8.7 Community Health and Safety

- Physical barriers and clear Somali-language/visual safety information at open excavations and active work fronts.
- Control project traffic through settlements, use safe speeds and community notification, and avoid predictable high-pedestrian periods where practicable.
- Maintain safe access to homes, water points and pastoral routes during construction.
- Keep community members away from drilling equipment, electrical installations, fuel stores and unstable embankments.
- At handover, maintain fencing/signage and safe access around boreholes, solar systems, dug wells and catchments.
- Use separate domestic collection and livestock troughs where included in design to reduce contamination and user conflict.

## 8.8 Temporary Water Access, Land and Livelihood Protection

- Where an existing source must be shut down, communicate the schedule in advance and confirm alternative water supply before interruption.
- Minimise shutdown duration and restore service promptly after testing.
- Document site access, working width and restoration requirements with affected users and local authorities before mobilisation.
- Map and maintain pastoral movement routes; use phasing or temporary crossings where works would block a route.
- Record and compensate verified project-caused crop or asset loss at replacement cost under the project compensation framework.
- Suspend and reassess any activity that would cause physical displacement or material livelihood loss beyond the screened assumptions.

## 8.9 Pollution Prevention, Waste and Resource Management

- Segregate inert, general and hazardous waste; maintain labelled temporary storage and disposal records.
- Remove used oils, chemical containers, contaminated absorbents and other hazardous waste through an approved route.
- Use secondary containment for fuels and generators and inspect storage regularly.
- Control dust through appropriate vehicle speeds, surface management and water suppression where it does not compromise scarce community supply.
- Use construction water only under an agreed arrangement that does not deprive community users.
- Screen quarries/borrow sources and require reinstatement of temporary support sites.

## 8.10 Social Inclusion, WUA Governance and Conflict Sensitivity

- Establish or strengthen a WUA/community management structure for every site before commissioning.
- Use non-discriminatory membership/access rules that do not exclude users because of clan, tenure, displacement status, gender or duration of residence.
- Meet the ESMP target of at least 30% women in WUA membership and leadership and verify effective participation before handover.
- Include pastoralists, IDPs/returnees, minority clans, youth and persons with disabilities in engagement and monitoring as relevant to each site.
- Document and publicly communicate water allocation, opening hours, fees where applicable, livestock/domestic access and dispute procedures in accessible formats.
- Use transparent local recruitment criteria and report workforce composition. The ESMP targets at least 80% of unskilled labour from project communities where feasible and at least 20% youth participation within the unskilled workforce, subject to the approved Labour Management Plan and non-discrimination requirements.
- Monitor GRM trends for systemic exclusion, clan capture or repeated water-access complaints and adjust WUA rules where necessary.

## 8.11 SEA/SH Prevention and Response

- All workers, drivers, security personnel and subcontractors sign and understand a Code of Conduct prohibiting SEA/SH.
- SEA/SH induction before work and periodic refresher training.
- Dedicated confidential reporting pathway managed by the PIU Social/GBV function, with female outreach/CLO support.
- Survivor-centred response, confidentiality and referral to available health/psychosocial/legal services; community leaders or WUAs must not investigate sensitive complaints.
- Worker accommodation, if required, located and managed to reduce inappropriate interaction with vulnerable households and ensure gender-sensitive welfare.

- Disciplinary consequences for substantiated misconduct in accordance with the Code of Conduct and applicable law.

### **8.12 Security Risk Management**

- Site-specific security assessment before mobilisation and update as conditions change.
- Security Management Plan where required, covering movement, communications, incident escalation, work-suspension thresholds and evacuation.
- Coordinate with state and district security structures without creating arrangements that discriminate against or intimidate project communities.
- Do not proceed where security conditions prevent effective safeguards supervision or community access to the GRM.
- Record and investigate security incidents and review implementation arrangements after serious events.

### **8.13 Commissioning and Operation-Phase Measures**

- No water source opened for community use before completion of approved water-quality acceptance testing.
- No borehole handed over before baseline SWL, yield, pump operating limits and monitoring arrangements are documented.
- No catchment handed over with unresolved structural, erosion, fencing or public-safety defects.
- No site handed over before the WUA has been trained, access rules are documented and the GRM is operational.
- Provide O&M manuals, basic tools/spares appropriate to the design and clear escalation routes for technical failure.
- Periodic PIU/state oversight during the first year and thereafter as defined in the ESMP.

### **8.14 Climate-Resilience Measures**

- Use sustainable abstraction and drought-period pumping reductions to protect groundwater during recharge failure.
- Maintain and inspect catchment silt traps, spillways and embankments before/after rainfall seasons and after major storm events.
- Use solar pumping and efficient distribution to reduce dependence on diesel and avoid unnecessary operational losses.
- Use seasonal climate information to inform maintenance, water-allocation and drought contingency decisions where WUAs have capacity to do so.
- Maintain contingency arrangements for critical source failure or severe drought through the project/O&M framework; exact reserve percentages proposed in the climate annex should be confirmed in the financial/O&M plan before adoption.

### **8.15 Enhancement Measures**

- Prioritise suitable local labour and skills transfer without compromising competency requirements.

- Use WUA training to strengthen transparent water governance, record keeping, hygiene and preventive maintenance.
- Design and site distribution points to reduce women's collection burden and improve safety where feasible.
- Use consultation and monitoring to identify whether improved water supply is causing unsustainable livestock/settlement concentration and respond through access/abstraction management.
- Coordinate with agricultural/livestock extension so improved water access does not lead to unmanaged pesticide/fertiliser use or rangeland pressure.

## 8.16 C-ESMP and Pre-Construction Confirmation Requirements

Table 8-1: C-ESMP and Pre-Construction Confirmation Requirements

| Requirement                                   | C-ESMP / Pre-Construction Action                                                                                                                                                                  |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Controlled site scope and intervention status | Use the 13-site / six-district register and confirm the new-versus-rehabilitation status of each borehole/catchment from the approved design/BoQ before mobilisation.                             |
| Groundwater monitoring and operating triggers | The hydrogeological assessment shall establish site-specific monitoring frequency, sustainable-yield basis and groundwater-level/yield action trigger; these values govern C-ESMP/O&M monitoring. |
| Heat-stress management                        | The C-ESMP OHS Plan shall define the evidence-based Heat Stress Management Plan                                                                                                                   |
| Water-quality acceptance                      | Use one approved project/applicable potability and operational monitoring protocol across the C-ESMP, commissioning plan and O&M records.                                                         |
| Climate/hydraulic design parameters           | Use only values confirmed by the approved site-specific engineering/hydrological design; generic safe-yield percentages, flood recurrence or storage measures are not contractual.                |
| GRM and incident management                   | Use the controlling GRM escalation procedure in Section 9.7 and the applicable AfDB/Financing Agreement incident protocol consistently in contractor and disclosure documents.                    |

## 8.17 Mitigation Summary by Priority Risk

Table 8-2: Priority Mitigation Summary

| Priority risk               | Core mitigation package                                                                                                             |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Groundwater sustainability  | Hydrogeology before works; sustainable-yield pump design; SWL/yield/quality baseline; pumping logs and adaptive reduction.          |
| Worker OHS                  | Heat plan, competent high-risk methods, PPE, exclusion/guarding, first aid/rescue, verified emergency routes and supervision.       |
| Water contamination         | Wellhead exclusion/protection, fuel/chemical containment, drilling-waste control, sanitary facilities and water-quality acceptance. |
| Community safety            | Barriers/signage, traffic control, safe access, secure permanent infrastructure and child-sensitive awareness.                      |
| Water-access disruption     | Advance notice, alternative supply, short shutdown and acceptance testing before reopening.                                         |
| Erosion/catchment integrity | Seasonal scheduling, sediment/drainage control, suitable compaction, stable spillway/inlets and maintenance triggers.               |
| Equitable access            | Inclusive WUA, posted rules, vulnerable-group representation, GRM and PIU oversight.                                                |
| SEA/SH                      | Code of Conduct, training, confidential channel, female outreach and survivor-centred referral.                                     |

| Priority risk | Core mitigation package                                                                                          |
|---------------|------------------------------------------------------------------------------------------------------------------|
| Security      | Dynamic assessment, SMP, movement/communications, halt thresholds and no mobilisation where oversight is unsafe. |

### 8.18 Pre-Mobilisation Verification and Adaptive Management

Mitigation effectiveness depends on treating the project as evidence-led and adaptive. Each site must pass a documented readiness review before mobilisation, and borehole/catchment design assumptions must be updated where surveys show different conditions. During operation, groundwater, water quality, catchment condition, WUA performance, grievances and security trends must be used to adjust pumping, access rules, maintenance frequency or implementation arrangements. Where monitoring indicates a material unanticipated risk, the PIU should pause the affected activity, reassess significance and update the ESMP before continuing.

## CHAPTER 9: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

|                              |                                                                                         |                                 |                                                                                  |
|------------------------------|-----------------------------------------------------------------------------------------|---------------------------------|----------------------------------------------------------------------------------|
| <b>Project code</b>          | P-SO-A00-003                                                                            | <b>AfDB category</b>            | Category 2                                                                       |
| <b>Location</b>              | Galmudug State — Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb Districts | <b>Project sites</b>            | 13 sites — 6 boreholes, 6 water catchments and 1 dug well                        |
| <b>Applicable safeguards</b> | OS1, OS2, OS3, OS4, OS7 and OS10                                                        | <b>Precautionary safeguards</b> | OS5, OS6 and OS8; OS9 not applicable                                             |
| <b>Basis</b>                 | Galmudug ESIA, controlled 13-site register and AfDB ISS 2023                            | <b>Indicative ESMP budget</b>   | USD 214,349 over four years; contractor ESHS costs additional in works contracts |

### 9.1. ESMP objectives and scope

This ESMP defines the environmental and social management measures, monitoring requirements, institutional arrangements, implementation schedule and financing provisions for the Galmudug component of the BBS Project. It is the operational instrument through which the environmental and social obligations identified in this ESIA are translated into actionable requirements for the Project Implementation Unit (PIU), contractors, the Supervision Consultant, Galmudug State and district authorities, and Water User Associations (WUAs) or community water-management committees.

The ESMP covers all thirteen sites in Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb Districts across pre-construction and mobilisation, construction and rehabilitation, commissioning and handover, operation and maintenance, and demobilisation/reinstatement of temporary works. The 13-site register in the ESIA project-description chapter is the controlling scope for this chapter. The ESMP is a living document and shall be updated where a material change to scope, design, site conditions or risk context occurs; any such change must be screened before implementation and the applicable AfDB requirements applied.

### 9.2. Summary of environmental and social risks and impacts

This ESMP responds to the risks and impacts assessed in Chapter 7 and the mitigation hierarchy established in Chapter 8. It translates those requirements into implementation, monitoring, C-ESMP and contractual controls.

#### Risks arising from project activities.

Construction activities generate soil erosion and sediment mobilisation during catchment earthworks; contamination risk from drilling fluids, fuel, lubricants and waste at borehole and dug-well sites; occupational health and safety risks from extreme heat, drilling, excavation, lifting, electrical/solar installation and mobile plant; community safety risks at open excavations and active drilling/earthworks; temporary interruption of existing water access during rehabilitation; dust, noise and traffic disturbance; worker-community SEA/SH risk; employment and benefit-distribution grievances; and security risks affecting workers, communities and supervision. Operation generates risks of groundwater over-abstraction, declining water levels and yield, deterioration in water quality, inequitable water allocation or elite capture,

catchment re-sedimentation and structural deterioration, safety risks at water points and catchments, and weak operation and maintenance.

### **Risks arising from associated facilities.**

Borrow areas and quarries, spoil-disposal sites, construction-water abstraction points, worker camps, lay-down areas and temporary access routes are not all fixed at design stage. Their foreseeable risks include vegetation and soil disturbance, erosion, dust and traffic impacts, un-reinstated excavations, fuel or chemical contamination, competition for scarce water, land-access disputes, worker-welfare deficiencies and SEA/SH exposure if camp or labour arrangements fall outside the main works controls. They are therefore subject to screening, land/access confirmation, applicable permits, site-specific management and reinstatement requirements before use.

### **Cumulative impacts.**

The principal cumulative risks are combined abstraction where boreholes draw from the same or hydraulically connected groundwater system, induced concentration of pastoral and settled users around improved water points, increasing rangeland pressure around permanent sources, and the combined effect of several catchments in the wider Cadado area on local grazing and water-use patterns. These risks require hydrogeological confirmation, pumping limits, WUA coordination, monitoring of water-level and access trends, and adaptive management.

### **Risks to vulnerable individuals and groups.**

Poor pastoral households, female-headed households, internally displaced persons, persons with disabilities, minority-clan households and unemployed youth face differentiated exposure to water-access decisions, construction disruption, employment selection, SEA/SH risk and grievance accessibility. The ESMP therefore requires non-discriminatory WUA rules, targeted participation, accessible facilities and communications, female liaison arrangements, transparent recruitment and gender- and stakeholder-disaggregated monitoring.

### **Involuntary resettlement.**

The screened project footprint does not anticipate permanent land acquisition or physical displacement. Temporary construction access and work areas are managed through written access arrangements and reinstatement. If any proposed activity would cause involuntary land acquisition, physical displacement or material economic displacement outside the screened assumptions, works must not proceed until the PIU has completed the required OS5 determination and any additional safeguard instrument required by the Bank.

## **9.3. Mitigation, compensation and enhancement measures**

The measures below operationalise the mitigation hierarchy established in Chapter 8. They identify the conditions under which each measure applies, the responsible party, the monitoring and verification requirement, and the funding route. Where a design or technical parameter remains subject to pre-works confirmation, the hold point is the binding requirement and the parameter is not treated as final until the competent technical assessment is approved.

### 9.3.1. Pre-construction and mobilisation phase

Table 9: AfDB Operational Safeguards Applicability and ESMP Cross-Reference — Galmudug

| Operational Safeguard                                                                              | Applicability  | Galmudug ESMP Application                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS1 — Assessment and Management of Environmental and Social Risks and Impacts                      | Applicable     | Overall ESIA/ESMP; 13-site readiness screening; hydrogeological and catchment condition assessment; associated-facility screening; cumulative groundwater and climate-risk management; change screening and corrective action. |
| OS2 — Labour and Working Conditions                                                                | Applicable     | Labour Management Procedures; written terms and age verification; Workers' GRM; heat, drilling, excavation, lifting and electrical OHS controls; welfare, first aid and emergency arrangements.                                |
| OS3 — Resource Efficiency and Pollution Prevention and Management                                  | Applicable     | Groundwater sustainability; water-quality protection; fuel and chemical controls; drilling cuttings and wastewater; erosion and sediment; construction water; waste and hazardous materials; catchment maintenance.            |
| OS4 — Community Health, Safety and Security                                                        | Applicable     | Community safety around excavations and drilling; traffic; continuity of water access; safe commissioning; SEA/SH; security, emergency response and UXO/ERW precautions.                                                       |
| OS5 — Land Acquisition, Restriction on Access to Land and Land Use, and Involuntary Resettlement   | Precautionary  | Temporary land/access arrangements and reinstatement; compensation for verified project-caused asset or crop damage; stop-work and OS5 determination if screened assumptions are exceeded.                                     |
| OS6 — Habitat and Biodiversity Conservation and Sustainable Management of Living Natural Resources | Precautionary  | Minimum vegetation clearance in modified rangeland; protection/reinstatement around catchments, access tracks and associated facilities; no uncontrolled expansion of footprints.                                              |
| OS7 — Vulnerable Groups                                                                            | Applicable     | Targeted inclusion of poor pastoral households, female-headed households, IDPs, minority-clan households, youth and persons with disabilities; inclusive WUAs and differentiated consultation.                                 |
| OS8 — Cultural Heritage                                                                            | Precautionary  | Chance Finds Procedure for all excavation, drilling and earthworks; stop-work, secure-area and notification requirements.                                                                                                      |
| OS9 — Financial Intermediaries                                                                     | Not applicable | No financial-intermediary structure is involved in the Galmudug component.                                                                                                                                                     |
| OS10 — Stakeholder Engagement and Information Disclosure                                           | Applicable     | Six-district stakeholder engagement, disclosure, pre-works meetings, multi-channel GRM, feedback and water-access governance transparency.                                                                                     |

Use of this table. The safeguard cross-reference defines the management themes carried into the comprehensive implementation matrix. It does not replace the detailed mitigation, monitoring or institutional requirements that follow.

### 9.3.2. Construction phase

Table 10: Comprehensive ESMP Implementation Matrix — Galmudug (all 13 sites)

| PROJECT PHASE                                                                        | E&S RISKS AND IMPACTS                                                     | MITIGATION / MANAGEMENT MEASURES                                                                                                                                                                                                                                                            | IMPLEMENTATION RESPONSIBILITY | MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY                                            | INDICATIVE COST (USD) / FUNDING SOURCE      |
|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------|
| <b>OS1 — Assessment and Management of Environmental and Social Risks and Impacts</b> |                                                                           |                                                                                                                                                                                                                                                                                             |                               |                                                                                               |                                             |
| Pre-construction — all 13 sites                                                      | Mobilisation without confirmed readiness                                  | PIU site-readiness checklist before mobilisation: site scope confirmed; land/access documentation; community notification; security clearance; approved contractor plans; relevant technical pre-works assessments; GRM and SEA/SH channel operational. Written PIU authorisation required. | PIU / Galmudug E&S Officer    | Checklist verified once per site before mobilisation; 13/13 sites authorised in writing.      | PIU safeguards administration               |
| Pre-construction — 6 boreholes                                                       | Drilling/rehabilitation without aquifer or water-quality evidence         | Complete hydrogeological assessment before borehole works. Confirm aquifer conditions, baseline static water level, expected yield, water quality, sustainable abstraction basis and monitoring points; incorporate approved findings into final drilling/pump design.                      | PIU / Technical Consultant    | Approved hydrogeological report before works; baseline SWL/quality record for each borehole.  | ESMP planning envelope / technical studies  |
| Pre-construction — 6 catchments                                                      | Earthworks without verified catchment condition or drainage understanding | Complete site condition assessment: sediment depth/volume, embankment and bund condition, inlet/outlet/spillway function, liner need where applicable, erosion pathway, downstream receptors and access arrangements. Reflect findings in method statement.                                 | PIU / Technical Consultant    | Assessment and approved method statement before catchment mobilisation.                       | Technical/design budget / works preparation |
| Pre-construction — Gudheys dug well                                                  | Rehabilitation without well-condition and baseline-quality confirmation   | Verify structural condition, access and safety requirements; obtain baseline water-quality sample before cleaning/repair; confirm the approved rehabilitation method and post-works water-quality requirement.                                                                              | PIU / Technical Consultant    | Condition record and baseline water-quality result before works.                              | Water-quality / technical line              |
| All phases                                                                           | Uncontrolled scope or design change                                       | Screen any material project change before implementation. Update ESMP/C-ESMP and obtain PIU and, where required, AfDB/regulatory clearance before changed works proceed.                                                                                                                    | PIU                           | Change register reviewed monthly; zero material changes implemented without screening.        | PIU administration                          |
| Construction close-out                                                               | Temporary sites left disturbed                                            | Remove temporary facilities, wastes and contaminated materials; reinstate access routes, lay-down areas, borrow/spoil areas and disturbed ground; close safety hazards before site handover.                                                                                                | Contractor                    | Supervision close-out inspection and photographic evidence before handover.                   | Works contract                              |
| <b>OS2 — Labour and Working Conditions</b>                                           |                                                                           |                                                                                                                                                                                                                                                                                             |                               |                                                                                               |                                             |
| Pre-construction / construction                                                      | Workers engaged without compliant terms or age verification               | Apply LMP to contractors and subcontractors; maintain worker register, age verification, written terms, wage/working-time records and Workers' GRM; prohibit child and forced labour.                                                                                                       | Contractor                    | Monthly labour-record audit; zero workers under 18 on construction sites; complaints tracked. | Works contract                              |

| PROJECT PHASE                                                            | E&S RISKS AND IMPACTS                                                  | MITIGATION / MANAGEMENT MEASURES                                                                                                                                                                                                                  | IMPLEMENTATION RESPONSIBILITY    | MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY                                                                        | INDICATIVE COST (USD) / FUNDING SOURCE |
|--------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Pre-construction                                                         | Workforce unfamiliar with site hazards                                 | Mandatory induction before assignment covering OHS, emergency procedures, heat stress, drilling/excavation hazards, PPE, Code of Conduct, GRM and Chance Finds; task-specific competency verification for specialised work.                       | Contractor; Supervision verifies | 100% induction records before work; competency records for drilling/electrical/plant operators.                           | Works contract                         |
| Construction — all sites                                                 | Heat stress, dehydration, remote-worker welfare                        | Implement a competent Heat Stress Management Plan within the C-ESMP, including potable water, shade, acclimatisation, workload-based work/rest arrangements, heat-trigger criteria, toolbox briefings, first aid and verified medical evacuation. | Contractor                       | Daily heat-risk/welfare log and weekly Supervision inspection; heat illness or control failure triggers immediate review. | Works contract                         |
| Construction — boreholes                                                 | Drilling, rotating plant, high-pressure/electrical and lifting hazards | Approved drilling method statement; guarded rotating equipment; exclusion zones; lifting plan; lock-out/tag-out for electrical and pump work; competent operators; PPE; no unauthorised access.                                                   | Contractor                       | Daily supervisor checks; weekly Supervision inspection; incidents/near misses tracked.                                    | Works contract                         |
| Construction — catchments/dug well                                       | Excavation collapse, falls or unsafe entry                             | Barricade excavations; safe access/egress; assess ground stability; prohibit unsupported unsafe entry; no lone working; rescue arrangements where entry conditions warrant; backfill/secure excavations when inactive.                            | Contractor                       | Daily excavation inspection; immediate suspension on unsafe excavation.                                                   | Works contract                         |
| Construction — remote sites                                              | Delayed emergency response                                             | Site emergency response plan with nearest feasible health referral, first responders, communications, transport/evacuation arrangements and security coordination confirmed before work front opens.                                              | Contractor / PIU                 | Emergency route/contact test before mobilisation; drills and monthly verification.                                        | Works contract / PIU coordination      |
| <b>OS3 — Resource Efficiency and Pollution Prevention and Management</b> |                                                                        |                                                                                                                                                                                                                                                   |                                  |                                                                                                                           |                                        |
| Construction — borehole/dug well sites                                   | Fuel, oil, chemical or drilling-fluid contamination of water source    | Locate fuel/chemical storage away from wellheads; ESIA specifies at least 50 m. Use secondary containment, drip trays and spill kits; prohibit refuelling at wellhead; remove contaminated materials; train workers in spill response.            | Contractor                       | Daily containment inspection; spill log; Supervision weekly; water-quality verification before use.                       | Works contract                         |
| Construction — boreholes                                                 | Drilling cuttings, slurry and wastewater contaminating soil/drainage   | Collect and manage cuttings/slurry in designated contained area; prevent discharge to water points or drainage; remove chemical containers; reinstate disposal area after completion.                                                             | Contractor                       | Weekly waste/soil inspection; no uncontrolled drilling discharge.                                                         | Works contract                         |

| PROJECT PHASE                        | E&S RISKS AND IMPACTS                                   | MITIGATION / MANAGEMENT MEASURES                                                                                                                                                                                                                                                                                                   | IMPLEMENTATION RESPONSIBILITY        | MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY                                                                                                                            | INDICATIVE COST (USD) / FUNDING SOURCE |
|--------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Construction — catchments            | Erosion, sediment transport, embankment instability     | Limit footprint; phase desilting; manage spoil; use temporary diversion/sediment controls; compact and stabilise earthworks promptly; avoid peak rainfall earthworks where practicable; reinstate vegetation where disturbed.                                                                                                      | Contractor                           | Weekly during earthworks and after rainfall; sediment escape/instability triggers method review.                                                                              | Works contract                         |
| Construction — associated facilities | Borrow/spoil/waste impacts or illegal dumping           | Screen and approve each borrow, spoil and support site; document land use; segregate waste; use agreed disposal points; prohibit spoil in drainage/water point areas; reinstate extraction/disposal sites.                                                                                                                         | Contractor / PIU                     | Associated Facilities Register; monthly audit; zero illegal dumping.                                                                                                          | Works contract                         |
| Construction                         | Competition for scarce community water for construction | Agree construction-water source with community/WUA and district authority; do not use the sole/primary community source without documented agreement and alternative supply; meter/record where required by method statement.                                                                                                      | Contractor / PIU                     | Construction-water source approved before use; complaints and supply interruptions monitored.                                                                                 | Works contract                         |
| O&M — 6 boreholes                    | Groundwater over-abstraction and declining yield        | Operate within the sustainable yield and pumping regime established by the approved hydrogeological assessment; maintain abstraction/pumping and groundwater-level records; reduce pumping and undertake technical review when the approved site-specific trigger is reached.                                                      | WUA / Galmudug water authority / PIU | Baseline then monitoring at the frequency established in the approved hydrogeological assessment; no sustained decline beyond the approved trigger without corrective action. | O&M / PIU monitoring                   |
| O&M — all water supply points        | Bacteriological/chemical deterioration                  | Maintain wellhead/apron/drainage/fencing; prevent animal access to potable collection point; undertake scheduled laboratory testing and additional testing after incidents/complaints; do not authorise unsafe water for potable use.                                                                                              | WUA / PIU / water authority          | Pre-commissioning pass; routine O&M monitoring at the frequency established in the approved water-quality monitoring protocol; additional testing after incidents/complaints. | Water-quality monitoring line          |
| O&M — catchments                     | Re-sedimentation and structural deterioration           | Post-rainfall silt-trap maintenance; annual condition inspection; desilt the main basin when storage is reduced by more than 20% from the accepted post-works baseline or when the approved O&M assessment determines earlier intervention is required; inspect/repair embankment, inlet/outlet, spillway and liner where present. | WUA / PIU technical oversight        | Annual/post-rainfall condition record; >20% storage loss is the major desilting trigger unless the approved site-specific O&M plan requires earlier action.                   | O&M / community maintenance            |

#### OS4 — Community Health, Safety and Security

| PROJECT PHASE                                                                                           | E&S RISKS AND IMPACTS                                                          | MITIGATION / MANAGEMENT MEASURES                                                                                                                                                                                                                                                                                                     | IMPLEMENTATION RESPONSIBILITY              | MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY                                                                                     | INDICATIVE COST (USD) / FUNDING SOURCE   |
|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Construction — all sites                                                                                | Children/community entering work zones                                         | Install physical barriers and Somali-language warning signs; maintain safe access around settlements and water points; no unguarded hazardous excavation overnight; notify community before high-risk works.                                                                                                                         | Contractor / CLO                           | Daily barrier/safety check; community complaints tracked.                                                                              | Works contract                           |
| Construction — transport                                                                                | Road traffic accidents, dust and access conflict                               | Use approved routes; maximum 30 km/h through settlements unless a lower site-specific limit is required; competent drivers; roadworthy vehicles; flagmen where needed; avoid sensitive movement periods; communicate truck schedules.                                                                                                | Contractor                                 | Driver/vehicle records and weekly Supervision checks; incidents investigated.                                                          | Works contract                           |
| Construction — rehabilitation sites                                                                     | Temporary loss of community water access                                       | Agree disruption schedule in advance; confirm alternative water source/tanker arrangement before shutdown; minimise interruption; restore supply promptly; test quality before potable use.                                                                                                                                          | Contractor / PIU / WUA                     | Daily during interruption; zero unplanned disruption beyond agreed arrangement.                                                        | Works / PIU contingency                  |
| Pre-construction / construction                                                                         | Security or UXO/ERW risk                                                       | Per-site security assessment; district coordination; Security Management Plan where required; define halt/evacuation thresholds; obtain formal UXO/ERW clearance confirmation before excavation on previously unworked or uncertain ground.                                                                                          | PIU / Contractor                           | Valid security clearance before mobilisation; incident log continuous.                                                                 | PIU security / works contract            |
| Commissioning / O&M                                                                                     | Unsafe water point/catchment access                                            | Inspect fences, aprons, drainage, access paths, signage and trough arrangements before handover; maintain safety features and report/repair defects during O&M.                                                                                                                                                                      | Supervision / PIU / WUA                    | Commissioning checklist; quarterly WUA safety review.                                                                                  | Works / O&M                              |
| Construction / O&M                                                                                      | Standing water and vector/public-health risk                                   | Maintain drainage around water points; eliminate avoidable stagnant pools and un-reinstated depressions; coordinate health messaging and report abnormal disease concerns through district health channels.                                                                                                                          | Contractor / WUA / PIU                     | Site inspections and complaint/health trend review.                                                                                    | Works / O&M                              |
| <b>OS5 — Land Acquisition, Restriction on Access to Land and Land Use, and Involuntary Resettlement</b> |                                                                                |                                                                                                                                                                                                                                                                                                                                      |                                            |                                                                                                                                        |                                          |
| Pre-construction / construction                                                                         | Land-access dispute, grazing-route obstruction, project-caused crop/asset loss | Confirm work footprint/access in writing with actual users and relevant community/district structures; document pastoral movement routes where relevant; phase access; reinstate land; compensate verified project-caused loss at replacement cost. Stop works and undertake OS5 determination if screened assumptions are exceeded. | PIU / Contractor / District Administration | Access record before mobilisation; grievance log; reinstatement verification; no involuntary displacement without required instrument. | PIU / works / compensation as applicable |

| PROJECT PHASE                                                                                             | E&S RISKS AND IMPACTS                                                                           | MITIGATION / MANAGEMENT MEASURES                                                                                                                                                                                                                                                                             | IMPLEMENTATION RESPONSIBILITY | MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY                                                                          | INDICATIVE COST (USD) / FUNDING SOURCE |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| <b>OS6 — Habitat and Biodiversity Conservation and Sustainable Management of Living Natural Resources</b> |                                                                                                 |                                                                                                                                                                                                                                                                                                              |                               |                                                                                                                             |                                        |
| Construction / associated facilities                                                                      | Unnecessary vegetation clearance or rangeland degradation                                       | Keep works within approved footprint; avoid unnecessary shrub/vegetation clearance; prohibit uncontrolled borrow or spoil sites; reinstate disturbed surfaces and vegetation where feasible; do not create new access tracks where existing access is adequate.                                              | Contractor                    | Monthly footprint/vegetation inspection; zero clearing outside approved area.                                               | Works contract                         |
| <b>OS7 — Vulnerable Groups</b>                                                                            |                                                                                                 |                                                                                                                                                                                                                                                                                                              |                               |                                                                                                                             |                                        |
| Pre-construction / O&M                                                                                    | Exclusion of women, IDPs, minority clans, poor pastoral households or persons with disabilities | Inclusive WUA/community structures; non-discriminatory membership and water-access rules; at least 30% female membership and leadership; accessible water points and consultation formats; targeted outreach and monitoring.                                                                                 | PIU / CLO / WUA               | Membership and participation records before commissioning and at oversight visits; grievances analysed by stakeholder type. | PIU capacity / O&M                     |
| Construction                                                                                              | Employment expectations and youth exclusion                                                     | Transparent recruitment criteria communicated before mobilisation; preference for qualified local labour; target at least 80% local unskilled labour where feasible and at least 20% youth within the unskilled workforce; prohibit clan-based exclusion; maintain employment GRM.                           | Contractor / PIU              | Monthly workforce data disaggregated by residence, age and sex.                                                             | Works contract                         |
| <b>OS8 — Cultural Heritage</b>                                                                            |                                                                                                 |                                                                                                                                                                                                                                                                                                              |                               |                                                                                                                             |                                        |
| Construction — all ground disturbance                                                                     | Chance find disturbed or removed                                                                | Immediate stop-work; secure the area with an appropriate exclusion radius (minimum approximately 20 m where practicable); do not move the find; record GPS/photo; notify site supervisor/PIU promptly and the relevant authority in accordance with the Chance Finds Procedure; resume only after clearance. | Contractor / PIU              | Chance-find log; induction records; event reporting.                                                                        | Works contract                         |
| <b>OS10 — Stakeholder Engagement and Information Disclosure</b>                                           |                                                                                                 |                                                                                                                                                                                                                                                                                                              |                               |                                                                                                                             |                                        |
| Pre-construction / construction                                                                           | Communities unaware of scope, timing, impacts or entitlements                                   | Pre-works meeting at each site/community; disclose scope, schedule, local hiring, water-disruption arrangements, access/reinstatement commitments, GRM and safety requirements in accessible Somali/oral formats; continue district/community engagement during works.                                       | PIU / CLO / Contractor        | Meeting records; gender/stakeholder-disaggregated participation; issues/action log.                                         | Community engagement line              |

| PROJECT PHASE       | E&S RISKS AND IMPACTS                  | MITIGATION / MANAGEMENT MEASURES                                                                                                                                                                                               | IMPLEMENTATION RESPONSIBILITY | MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY                 | INDICATIVE COST (USD) / FUNDING SOURCE |
|---------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------|----------------------------------------|
| All phases          | Grievances inaccessible or unresolved  | Operational multi-channel GRM: in-person/CLO, hotline/SMS, suggestion boxes, district focal points and anonymous options; acknowledge/log promptly; defined escalation; separate confidential SEA/SH pathway; no retaliation.  | PIU / Galmudug E&S Officer    | Monthly grievance log; resolution-rate KPI; quarterly reporting.   | GRM line                               |
| Commissioning / O&M | Opaque or inequitable water allocation | WUA formed and trained before handover; water-access/allocation rules documented, publicised and non-discriminatory; grievance route for water-access complaints; PIU oversight at 3, 6 and 12 months and annually thereafter. | PIU / WUA                     | WUA readiness certificate; meeting and access records; GRM trends. | Capacity-building / O&M                |

Budget control: the controlling indicative Galmudug ESMP planning envelope is USD 214,349 over four years as presented in Section 9.13. The PIU shall disaggregate this envelope through approved annual work plans, while contractor ESHS costs remain additional and are priced through the works contracts.

### 9.3.3. Operation and maintenance phase

Operation and maintenance measures are carried in the comprehensive matrix above and are implemented through WUAs/community water-management committees with PIU and Galmudug technical oversight. The controlling O&M requirements are sustainable groundwater abstraction within the approved hydrogeological basis; scheduled water-level and water-quality monitoring; prompt response to declining yield or quality; catchment sediment and structural maintenance; functioning safety and drainage features; transparent, non-discriminatory water-access rules; routine meeting and maintenance records; and continued access to the project GRM.

No site is handed over until the infrastructure has passed the relevant technical and environmental/social commissioning checks, water intended for potable use has passed the approved quality criteria, unresolved safety defects have been closed, and the WUA or equivalent management structure has been formed, trained and provided with the applicable O&M responsibilities.

### 9.3.4. Land Access Protocol

While permanent land acquisition and physical displacement are not anticipated under the screened 13-site scope, a Land Access Protocol applies to project works and associated support sites. Before mobilisation, the PIU must document the works footprint, temporary access route and actual land or resource users; agree temporary access and reinstatement arrangements; identify pastoral movement routes where relevant; and record any agreed use of private or customary land. Verified project-caused crop or asset damage is compensated at replacement cost through the project compensation process. Land- and access-related grievances remain eligible for the project GRM.

Any proposed activity that would cause involuntary permanent land acquisition, physical displacement or material economic displacement outside the screened assumptions is a stop-work trigger. The activity may proceed only after the PIU has completed an OS5 determination and any additional assessment, plan, consultation and Bank approval required by the applicable safeguard requirements.

### 9.3.5. SEA/SH prevention and response

Given the existing gender vulnerability described in the baseline and the worker-community interaction associated with remote construction works, the following SEA/SH measures apply to all Galmudug work packages:

- All workers, including drivers, security personnel and subcontractors, sign an individual Code of Conduct before commencing work, explicitly prohibiting SEA/SH and defining disciplinary consequences.
- A dedicated confidential SEA/SH reporting channel is operational before mobilisation and managed through the PIU Social/GBV function; SEA/SH allegations are not processed through ordinary community mediation or traditional grievance structures.
- A female Community Liaison Officer or designated female focal arrangement is available for women's engagement, GRM outreach and confidential referral throughout implementation.

- Survivor-centred referral pathways to available health, psychosocial and other support services shall be mapped and verified before works begin, including appropriate district-level referral options in Dhusamareeb and other project districts.
- SEA/SH induction is delivered before work and refreshed during implementation; community awareness explains reporting options without requiring disclosure of survivor identity.
- Worker accommodation, where required, is located and managed to reduce community exposure, with adequate welfare and privacy arrangements.
- The PIU reviews the confidential SEA/SH mechanism regularly and follows the applicable Bank incident-notification and survivor-safety requirements for any allegation or confirmed incident.

#### **9.4. Environmental and social clauses for procurement and contracts**

The ESMP becomes enforceable through procurement and contract documents. The following clauses and requirements must be incorporated into bidding documents, Bills of Materials where costed, conditions of contract, contractor method statements and supervision arrangements:

- Contractor ESMP (C-ESMP) and supporting plans must be submitted, reviewed and approved in writing before mobilisation.
- Activity-specific method statements are required for borehole drilling/development, excavation and catchment earthworks, dug-well cleaning/repair, lifting and pump/solar installation, traffic, waste/spill management, and any high-risk or unusual task.
- Contractor staffing must include competent ESHS/OHS responsibility proportionate to the work package and available at active work fronts.
- The LMP, worker register, age verification, written employment terms, Workers' GRM, Code of Conduct, SEA/SH requirements and worker-welfare provisions flow down to all subcontractors and associated support sites.
- The contractor must maintain approved land/access boundaries and may not establish a borrow, spoil, camp, lay-down or other support site without the required screening, access agreement and PIU approval.
- Non-compliance is subject to corrective-action notices, withholding of approval/payment where contractually provided, and immediate suspension for serious safety, environmental, social, security or safeguard breaches.
- Environmental and social records — inspections, waste records, water-quality results, training, incidents, grievances, workforce data, access/reinstatement records and photographs — form part of the contractor's monthly reporting and handover dossier.
- No site is accepted at handover until physical reinstatement, safety close-out, water-quality/commissioning requirements and WUA readiness conditions have been verified.

#### **9.5. Environmental, occupational health and safety requirements (ESHS hold points)**

No physical works may begin at a Galmudug site until the following applicable hold points have been satisfied and the PIU has issued written mobilisation authorisation:

- Approved C-ESMP covering the relevant work package and all site-specific risks.

- Approved task method statements for drilling, excavations/catchment earthworks, dug-well works, lifting, electrical/solar installation, traffic and other high-risk activities.
- Approved OHS plan, including a competent-person-approved heat-stress/work-rest/hydration regime, first aid, emergency referral/evacuation, communications and remote-work arrangements.
- Approved waste management and spill-prevention arrangements, including wellhead/source contamination controls.
- Approved community health and safety arrangements, barriers/signage, traffic controls and water-supply continuity measures.
- LMP implementation arrangements: worker register, age verification, written terms and Workers' GRM.
- Worker Code of Conduct, SEA/SH training plan, confidential channel, female liaison/focal arrangement and verified referral pathway.
- Site security assessment and security clearance; Security Management Plan where required; UXO/ERW clearance confirmation where excavation occurs on previously unworked or uncertain ground.
- Chance Finds Procedure incorporated in induction and available on site.
- Written land/access arrangements and identification of pastoral movement routes or other resource-use constraints where relevant.
- Hydrogeological assessment and baseline groundwater/water-quality evidence for borehole works.
- Catchment condition assessment and approved earthworks/drainage method for catchment works.
- Dug-well structural/condition assessment and baseline water-quality result before Gudheys dug-well rehabilitation.
- Pre-works community meeting completed, GRM channels operational and any planned water-supply interruption/alternative supply agreed.
- Final design parameters and quantitative technical criteria reconciled with the approved engineering design and BoQ where project documents contain provisional or inconsistent values.

## 9.6. Stakeholder-engagement measures

Stakeholder engagement continues throughout implementation under the project Stakeholder Engagement Plan. The stakeholder consultation record reports twelve consultation sessions across Galmudug and approximately 175 participants, with approximately 51% women's participation across all sessions and dedicated women-only focus groups. Stakeholder groups included state and district authorities, traditional leaders, farming and pastoral households, women, youth, IDPs/returnees, existing water-management committees, NGOs and civil society.

Implementation engagement must cover all six project districts and all thirteen sites. At minimum it includes pre-mobilisation disclosure at each site; advance notice of work schedules, recruitment arrangements and any water interruption; targeted engagement with women, IDPs, minority-clan households, pastoralists and persons with disabilities; periodic community feedback meetings during works; pre-handover WUA/access-rule consultation; and disclosure of the GRM, safety commitments and operation-and-maintenance responsibilities in accessible Somali and oral formats.

Document-control requirement: some associated project instruments refer only to Xerale and Cadado despite the 13-site, six-district scope. Before implementation, the controlled SEP, GRM, gender/social-inclusion and training instruments must be updated so that Wisil, Hobyo, Galkacyo South and Dhusamareeb are fully covered.

### 9.7. Project-level grievance redress mechanism

A project-level GRM shall be established before mobilisation and remain operational through construction and O&M. It must be accessible, culturally appropriate, free of retaliation and usable by people with low literacy or mobility constraints. Uptake channels include CLO/focal-person contact, WUA/community contact points, suggestion boxes, telephone/SMS, district focal points, written submissions and anonymous reporting.

Table 12: Controlling Galmudug GRM Escalation Framework

| Level                                  | Purpose / Responsible Level                                                                                                                       | Target timeframe                                                       |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Level 1 — Site resolution              | Contractor/CLO/WUA or site focal point addresses minor construction and access complaints.                                                        | Target: within 5 business days, consistent with the main ESIA summary. |
| Level 2 — PIU/District review          | Repeated safety, access, service, employment or other matters requiring project/district action.                                                  | Target: within 10 business days after escalation.                      |
| Level 3 — Galmudug State review        | Complex or unresolved matters requiring state-level administrative or technical decision.                                                         | Target: within 15 business days after escalation.                      |
| Level 4 — National / external recourse | Unresolved matters may be elevated to national PIU governance and complainants retain access to AfDB's Independent Recourse Mechanism and courts. | Per applicable external process; project shall not obstruct access.    |

SEA/SH complaints are excluded from the ordinary tiered process and are handled only through the confidential survivor-centred pathway. The escalation framework above is the controlling project GRM for Galmudug and shall be used consistently in the SEP, contractor documents, disclosure materials and monitoring.

### 9.8. Monitoring and reporting plan

Monitoring verifies whether mitigation measures are implemented, whether performance thresholds are met and whether emerging risks require corrective action. The plan below follows the Hirshabelle ESMP format: parameter, method, frequency, responsibility, reporting route and trigger/action.

Table 13: Monitoring Plan — Galmudug (13 sites, construction and O&M phases)

| Parameter                          | Indicator / Method                                                                             | Frequency                                                                                                       | Responsible                          | Reporting                                 | Threshold / Action                                                                                                                              |
|------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction ESHS compliance       | ESMP checklist; OHS statistics; corrective actions; GRM and workforce records                  | Weekly Supervision inspection; monthly PIU audit                                                                | Supervision / Galmudug E&S Officer   | Weekly/monthly reports; quarterly to AfDB | Non-compliance triggers time-bound corrective action; serious breach may suspend work.                                                          |
| Catchment erosion and stability    | Visual inspection of erosion controls, sediment escape, embankment condition and reinstatement | Weekly during earthworks and after rainfall                                                                     | Contractor / Supervision             | Weekly site report                        | Sediment escape, gully or instability triggers method review and corrective work.                                                               |
| Groundwater / borehole performance | Static water level, yield/pumping records and approved hydrogeological parameters              | Baseline before works; monitoring frequency established by the approved hydrogeological assessment and O&M plan | PIU / Galmudug water authority / WUA | Groundwater monitoring report             | Approved site-specific groundwater-level/yield trigger reached or declining source performance triggers pumping reduction and technical review. |

| Parameter                                | Indicator / Method                                                                                      | Frequency                                                                                                                                                                  | Responsible                                   | Reporting                             | Threshold / Action                                                                                                                                                      |
|------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water quality — borehole/dug-well supply | Bacteriological and physical parameters; chemical parameters as applicable                              | Baseline/pre-works; post-works before use; routine O&M at the frequency established in the approved water-quality monitoring protocol; additional after incident/complaint | PIU / accredited laboratory / water authority | Test certificate; O&M results         | No potable commissioning/use until approved quality criteria are met; non-compliance triggers investigation, corrective action and retesting.                           |
| Construction water continuity            | Alternative supply in place; duration of planned/unplanned interruption                                 | Daily during any active interruption                                                                                                                                       | Contractor / WUA / PIU                        | Site log / monthly report             | Unplanned disruption beyond agreed arrangement triggers immediate corrective action.                                                                                    |
| Waste and hazardous materials            | Waste records; approved disposal; containment; spills                                                   | Weekly site check; monthly audit; immediate on spill                                                                                                                       | Contractor / Supervision                      | Monthly E&S report                    | Zero illegal dumping; spills require containment, clean-up and incident record.                                                                                         |
| Dust / traffic                           | Visible dust, complaints, vehicle speeds/routes and incidents                                           | Weekly during active earthworks/haulage                                                                                                                                    | Contractor / Supervision                      | Weekly/monthly report                 | Persistent dust or traffic complaint/incident triggers additional controls.                                                                                             |
| WUA governance and inclusion             | Membership, women in leadership, IDP/minority representation, meeting and access-rule records           | Before commissioning; 3, 6, 12 months; then annually                                                                                                                       | PIU / Galmudug E&S Officer                    | Oversight-visit report                | Failure to meet inclusive governance conditions blocks handover or triggers governance corrective action.                                                               |
| GRM performance                          | Cases by type/district; resolution time; complainant feedback; confidential SEA/SH referrals separately | Monthly                                                                                                                                                                    | Galmudug E&S Officer / PIU                    | Monthly summary; quarterly to AfDB    | Resolution performance below target or recurring theme triggers management review.                                                                                      |
| OHS incidents                            | Fatalities, LTIs, medical treatment, first aid, near misses, heat illness, drilling/excavation events   | Continuous; immediate reporting by severity                                                                                                                                | Contractor / Supervision                      | Incident notice; monthly summary      | Serious event triggers stop/secure, investigation and corrective action.                                                                                                |
| Security                                 | Security incidents, access restrictions, work suspensions, UXO/ERW status                               | Continuous; reassess before each mobilisation/phase                                                                                                                        | PIU / Contractor                              | Immediate escalation; monthly summary | Deterioration beyond approved threshold triggers suspension/evacuation.                                                                                                 |
| Catchment condition — O&M                | Sediment/storage condition, embankment, spillway/inlet/outlet, liner where applicable, safety features  | Post-rainfall checks; annual inspection                                                                                                                                    | WUA / PIU technical oversight                 | Annual condition report               | >20% storage-capacity reduction from the accepted post-works baseline triggers major desilting, unless earlier intervention is required by the approved O&M assessment. |
| Associated facilities / support sites    | Register status; screening, permits/access, waste, erosion and reinstatement                            | Before use; monthly while active; close-out                                                                                                                                | Contractor / PIU                              | Associated Facilities Register        | No unapproved support site; close-out required before release.                                                                                                          |
| Community satisfaction / water access    | Qualitative satisfaction, access grievances, time/distance trends where monitored                       | 6 and 12 months post-handover; periodic thereafter                                                                                                                         | PIU / CLO                                     | Safeguards monitoring report          | Persistent exclusion, service or access complaints trigger WUA/technical review.                                                                                        |

Table 14: Numeric Performance Standards and Thresholds — Galmudug

| Parameter                                 | Numeric threshold / standard                                                                                                                                                                                                                   | Implementation Basis                                        |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Groundwater level                         | The approved hydrogeological assessment shall establish the site-specific groundwater-level, yield and abstraction action trigger before commissioning.                                                                                        | Hydrogeological assessment / C-ESMP and O&M monitoring plan |
| WUA gender inclusion                      | ≥30% women in WUA membership and ≥30% in leadership positions.                                                                                                                                                                                 | ESMP / Gender and Social Inclusion measures                 |
| Local labour                              | ≥80% of unskilled labour local, where feasible under the approved labour plan.                                                                                                                                                                 | ESMP / Labour Management Plan                               |
| Youth employment                          | ≥20% of unskilled workforce aged 18–30 from project communities.                                                                                                                                                                               | ESMP / Labour Management Plan                               |
| GRM resolution                            | At least 80% of grievances resolved within 30 days; no case outstanding beyond 60 days without written explanation and management review.                                                                                                      | ESMP / Controlling Galmudug GRM                             |
| OHS                                       | Zero fatalities; LTIFR and other OHS indicators monitored against the approved project OHS KPI framework.                                                                                                                                      | C-ESMP OHS Plan / project OHS KPI framework                 |
| Vehicle speed in settlements              | 30 km/h through settlements, unless a more protective site traffic plan applies.                                                                                                                                                               | ESMP / Traffic Management Plan                              |
| Surface-water / wadi turbidity near works | Visible construction-induced turbidity or sediment release at monitored seasonal-water locations triggers immediate inspection and additional sediment controls; quantitative monitoring shall follow the approved site method where required. | C-ESMP erosion/sediment method statement                    |
| Waste                                     | 100% disposal at approved locations; zero illegal dumping.                                                                                                                                                                                     | ESMP / Waste Management Plan                                |
| Vegetation                                | Zero clearance beyond the approved footprint.                                                                                                                                                                                                  | ESMP / approved site footprint                              |
| Catchment sediment/storage                | Major desilting when storage is reduced by >20% from the accepted post-works baseline.                                                                                                                                                         | ESMP O&M framework                                          |
| Chance finds                              | Stop work; secure an appropriate exclusion area (minimum approximately 20 m where practicable); notify PIU and the relevant authority in accordance with the Chance Finds Procedure.                                                           | Chance Finds Procedure                                      |
| Water-quality commissioning               | Water intended for potable use must meet the approved project/national/WHO criteria before community use.                                                                                                                                      | C-ESMP commissioning and water-quality protocol             |
| Heat-stress controls                      | C-ESMP Heat Stress Management Plan implemented and verified; heat illness or control failure triggers immediate review.                                                                                                                        | C-ESMP Heat Stress Management Plan                          |

## 9.9. Institutional arrangements

Table 15: Roles and Responsibilities — Galmudug ESMP

| Actor      | Key responsibilities — Galmudug ESMP                                                                                                     | Implementation / authority                              | Monitoring / oversight                | Reporting                               | Coordination                                                        |
|------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------|-----------------------------------------|---------------------------------------------------------------------|
| PIU (MoAI) | Own and implement ESMP; approve C-ESMP/plans; issue mobilisation authorisation; manage material incidents, budget and corrective action. | Authorises/suspends works; contracts technical studies. | Monthly audits and management review. | Quarterly safeguards reporting to AfDB. | Coordinates federal/state authorities, supervision and contractors. |

| Actor                                        | Key responsibilities — Galmudug ESMP                                                                                               | Implementation / authority                                             | Monitoring / oversight                                       | Reporting                                       | Coordination                                               |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|
| Galmudug E&S Officer                         | Day-to-day safeguards oversight across all 13 sites; inspections; GRM; engagement; WUA support; access/reinstatement verification. | Site-level compliance coordination.                                    | Weekly/regular site verification; tracks corrective actions. | Monthly to PIU; inputs to quarterly report.     | Coordinates six district focal points and communities.     |
| Galmudug Ministry of Agriculture / Livestock | State project counterpart; agricultural/water-point coordination and oversight support.                                            | State counterpart authority.                                           | Joint missions and implementation support.                   | As agreed with PIU.                             | Coordinates district administrations and WUAs.             |
| Galmudug water authority / department        | Borehole/water-point technical oversight, hydrogeology/water quality and groundwater monitoring support.                           | Technical/regulatory coordination.                                     | Reviews groundwater and water-quality results.               | Annual/periodic technical inputs.               | Coordinates PIU and WUAs.                                  |
| Six District Administrations                 | Site access, community liaison, security coordination and local dispute-resolution support.                                        | Local coordination authority.                                          | Support monitoring and community verification.               | Report local issues to PIU/E&S Officer.         | Xerale, Cadado, Wisil, Hobyo, Galkacyo South, Dhusamareeb. |
| Contractors                                  | Implement C-ESMP; OHS, waste, pollution, community safety, labour, SEA/SH and security controls; maintain site records.            | Control construction work fronts; must stop unsafe/non-compliant work. | Daily self-checks and reporting.                             | Monthly E&S report; immediate incident notices. | Flow obligations to subcontractors/support sites.          |
| Supervision Consultant                       | Independent construction compliance verification, QA of ESHS, corrective-action follow-up and handover checks.                     | Can reject non-compliant work and recommend suspension.                | Weekly inspections / task verification.                      | Weekly reports; monthly summary to PIU.         | Coordinates contractor and PIU.                            |
| WUAs / Community Committees                  | Operate and maintain infrastructure; implement access/allocation rules; maintenance, safety and community grievance reporting.     | Operational authority after handover.                                  | O&M logs, inspections and meetings.                          | Periodic records to PIU/state/district.         | Accountable to users and supported by PIU.                 |
| AfDB                                         | Safeguards oversight, supervision and review of borrower reporting; corrective-action requirements.                                | External financier oversight.                                          | Supervision missions and report review.                      | Bank records / actions.                         | Coordinates with Borrower PIU.                             |

### 9.9.1. Incident management and reporting

All environmental, social, occupational health and safety, security and community incidents are recorded in the Galmudug incident register and managed according to severity. Minor incidents are documented and closed through site corrective action. Moderate incidents are reported promptly to the PIU and followed by written investigation/corrective action. Serious incidents — including fatalities, serious injury, major pollution, serious security events and SEA/SH allegations — require immediate site control, rapid PIU notification and onward notification to AfDB in accordance with the applicable Financing Agreement/Bank incident-reporting requirements.

Incident-reporting control: serious incidents shall be reported immediately to the PIU and notified to AfDB within the applicable Financing Agreement/Bank timeframe. The C-ESMP, emergency plan, induction and reporting templates shall use the controlling project protocol consistently.

### 9.10. Institutional capacity assessment

The institutional arrangement is workable but capacity is uneven. The PIU provides the central safeguards function and has authority to approve contractor plans, manage reporting and direct corrective action. Galmudug State and district institutions provide essential access, water-resource, community and security coordination, while WUAs/community committees will hold the operational asset after handover.

The principal capacity limitations are limited state-level environmental and social enforcement capacity; sparse groundwater monitoring systems; limited site-level hydrogeological data; non-standardised formal grievance procedures; security-related constraints on routine site access; and variable community-management capacity. The geographic dispersion of the thirteen sites across six districts increases the supervision and travel burden.

Required strengthening therefore includes a dedicated Galmudug safeguards function with adequate field mobility; competent hydrogeological and water-quality technical support; independent Supervision Consultant verification; a functioning six-district GRM and liaison network; capacity-building for WUAs before handover; and practical reporting/monitoring tools that can be used under low-connectivity conditions.

The PIU should review staffing and logistics at mobilisation and at least annually thereafter. If simultaneous work fronts exceed the capacity of the Galmudug E&S Officer and Supervision Consultant to verify the required controls, additional field safeguards support must be mobilised before expanding the number of active sites.

### 9.11. Capacity development and training

Table 16: Capacity Building and Training Plan — Galmudug

| Training Topic                             | Target Participants                                            | Key Content                                                                                                                    | Frequency                                | Responsible                        |
|--------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------|
| ESMP implementation and reporting          | PIU, Galmudug E&S Officer, Supervision, Contractor ESHS staff  | ESMP obligations; hold points; OS mapping; inspection/reporting templates; corrective actions; six-district scope              | Start-up; quarterly refreshers           | PIU / Supervision                  |
| OHS in arid/remote conditions              | All construction workers and supervisors                       | Heat stress, PPE, drilling/excavation, plant/electrical safety, first aid, emergency response, incident reporting              | Day 1; toolbox talks; periodic refresher | Contractor / Supervision           |
| Borehole/wellhead contamination prevention | Drilling/rehabilitation teams, supervisors                     | Wellhead protection, fuel/chemical control, drilling waste, spill response, water-quality sampling and source protection       | Before each borehole/dug-well package    | Contractor / PIU technical support |
| Catchment earthworks and erosion control   | Earthworks crews and supervisors                               | Phased desilting, spoil placement, embankment stability, drainage/sediment control, reinstatement and post-rainfall inspection | Before each catchment package            | Contractor / Supervision           |
| SEA/SH prevention and response             | All workers, CLO/female focal, PIU GBV function                | Code of Conduct, prohibited conduct, confidential reporting, survivor-centred referral, non-retaliation                        | Before mobilisation; periodic refresher  | PIU / Contractor                   |
| GRM implementation                         | Galmudug E&S Officer, district focal points, CLOs/WUA contacts | Uptake channels, logging, timelines, escalation, feedback, confidentiality, sensitive complaints                               | Before mobilisation; 6-month refresher   | PIU                                |

| Training Topic                                | Target Participants                                          | Key Content                                                                                                                      | Frequency                                      | Responsible                                      |
|-----------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------|
| WUA governance and inclusive water management | WUA/community committee members; district/water focal points | Roles, non-discrimination, ≥30% women, allocation rules, record keeping, conflict resolution, GRM, fees where applicable         | Before commissioning; 6-month/annual refresher | PIU / district support                           |
| Infrastructure O&M                            | WUA technical members / water officers                       | Pump/solar/basic borehole O&M, water-quality hygiene, pumping logs, catchment sediment/structural maintenance, safety inspection | Before handover; refresher                     | PIU technical / Contractor during defects period |
| Gender and social inclusion                   | CLOs, WUAs, district focal points, PIU                       | Inclusive consultation, IDP/minority/pastoral inclusion, disability accessibility, gender-disaggregated monitoring               | Before mobilisation; periodic coaching         | PIU / specialist support                         |
| Security and UXO/ERW awareness                | PIU, supervision, contractor supervisors                     | Security assessment, movement/communication protocol, halt/evacuation, UXO/ERW recognition and reporting                         | Before mobilisation; update by phase           | PIU / security function                          |

## 9.12. Implementation schedule

Table 17: Implementation Schedule and Reporting Calendar — Galmudug

| Activity                                       | Timing / Trigger                                 | Responsible                 | Output                                                     |
|------------------------------------------------|--------------------------------------------------|-----------------------------|------------------------------------------------------------|
| 13-site scope/design reconciliation            | Before procurement/mobilisation                  | PIU / Design / Safeguards   | Controlled site register and design/safeguards cross-check |
| Hydrogeological surveys — 6 boreholes          | Before borehole works                            | PIU / Technical Consultant  | Approved report and baseline per site                      |
| Catchment condition assessments — 6 catchments | Before catchment mobilisation                    | PIU / Technical Consultant  | Approved condition assessment / method input               |
| Gudheys dug-well baseline assessment           | Before rehabilitation                            | PIU / Technical Consultant  | Condition and baseline water-quality record                |
| Land/access and support-site approvals         | Before relevant mobilisation/use                 | PIU / District / Contractor | Written records / Associated Facilities Register           |
| Security/UXO-ERW clearance                     | Before mobilisation/excavation; updated by phase | PIU / Contractor            | Valid clearance / SMP where required                       |
| C-ESMP and supporting plans                    | Before any on-site mobilisation                  | Contractor; PIU approves    | Written approval                                           |
| GRM and SEA/SH pathway operational             | Before mobilisation in each district             | PIU / Galmudug E&S Officer  | Tested uptake channels / referrals                         |
| Community pre-works meetings                   | Before each site mobilises                       | PIU/CLO/Contractor          | Minutes and attendance                                     |
| Worker induction                               | Day 1 before work assignment                     | Contractor / Supervision    | Signed records                                             |
| Construction inspections                       | Weekly active sites; monthly PIU audit           | Supervision / PIU           | Inspection/audit reports                                   |
| Pre-commissioning water-quality tests          | Before potable community use                     | PIU / accredited laboratory | Test certificate / PIU release                             |
| WUA formation and training                     | Before handover                                  | PIU / Galmudug E&S Officer  | Membership, rules, training records                        |
| Quarterly safeguards report                    | Quarterly through project                        | PIU                         | Report to AfDB                                             |
| Post-handover WUA oversight                    | 3, 6, 12 months; annually thereafter             | PIU / Galmudug E&S Officer  | Oversight visit report                                     |
| Groundwater/catchment O&M monitoring           | Per approved monitoring plan                     | WUA / PIU / water authority | Annual/periodic monitoring records                         |

### 9.13. Cost estimates and sources of financing

For final submission, the detailed ESMP annual totals are adopted as the controlling indicative Galmudug safeguards planning envelope: USD 76,450 in Year 1, USD 64,834 in Year 2, USD 64,815 in Year 3 and USD 8,250 in Year 4, for a total of USD 214,349. Contractor ESHS costs are additional and shall be financed through the works contracts. The PIU shall provide the itemised allocation in the approved annual work plans and procurement plan without reducing the safeguards scope.

Table 18: Indicative ESMP Planning Envelope - Galmudug (USD)

| Cost Item                                  | Year 1 | Year 2 | Year 3 | Year 4 | Total   | Financing                                                                      |
|--------------------------------------------|--------|--------|--------|--------|---------|--------------------------------------------------------------------------------|
| Galmudug ESMP safeguards planning envelope | 76,450 | 64,834 | 64,815 | 8,250  | 214,349 | Project safeguards budget; contractor ESHS costs additional in works contracts |

Budget implementation requirement: the PIU shall disaggregate the USD 214,349 planning envelope across pre-works technical studies, safeguards supervision, monitoring, GRM and engagement, WUA capacity building, SEA/SH support, security/field mobility, training and other ESMP activities in the approved annual work plans. Contractor ESHS obligations shall be explicitly priced in the works BoQ/contract or otherwise demonstrably funded.

### 9.14. ESMP implementation matrix

Table 19: ESMP Implementation Matrix — Galmudug

| Code   | Impact / Risk                      | Measure                                                                                                                          | Deadline                             | Cost / Funding                             | KPI                                                             | Implementation             | Monitoring                                 |
|--------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------|-----------------------------------------------------------------|----------------------------|--------------------------------------------|
| GAL-01 | Unready mobilisation               | Complete site-readiness checklist and all applicable hold points.                                                                | Before each mobilisation             | PIU admin                                  | 13/13 sites authorised in writing                               | PIU / Galmudug E&S Officer | Pre-mobilisation verification              |
| GAL-02 | Unsustainable borehole development | Hydrogeological assessment, baseline SWL/quality, sustainable-yield basis and design confirmation.                               | Before 6 borehole works              | ESMP planning envelope / technical studies | 6/6 approved hydrogeological reports                            | PIU / Technical Consultant | Water authority / PIU review               |
| GAL-03 | Catchment failure/erosion          | Condition assessment; approved earthworks/drainage method; sediment/erosion controls.                                            | Before and during 6 catchments       | Works / technical                          | 6/6 condition assessments; zero uncontrolled sediment discharge | Contractor                 | Supervision weekly/after rainfall          |
| GAL-04 | Dug-well contamination/safety      | Condition assessment, baseline/post-work quality, wellhead/drainage/fencing and safe method.                                     | Before/at Gudheys works              | Works / monitoring                         | Commissioning withheld until pass                               | Contractor / PIU           | Supervision / lab                          |
| GAL-05 | Worker injury / heat stress        | Approved OHS plan, competent heat regime, PPE, task controls, emergency response and induction.                                  | Before/during works                  | Works contract                             | Zero fatalities; induction 100%; OHS KPI framework monitored    | Contractor                 | Supervision / PIU                          |
| GAL-06 | Water-source contamination         | 50 m source fuel/chemical setback where applicable, containment, spill controls, waste handling, water testing.                  | Construction                         | Works contract                             | Zero untreated spills; quality pass before use                  | Contractor                 | Supervision / PIU                          |
| GAL-07 | Community safety / traffic         | Barriers/signage, secure excavations, 30 km/h settlement speed, safe access and notification.                                    | Construction                         | Works contract                             | Zero unguarded high-risk excavation; traffic incidents tracked  | Contractor                 | Supervision / CLO                          |
| GAL-08 | Water access disruption            | Agreed disruption/alternative supply before shutdown; rapid restoration and test before potable use.                             | Before/during rehabilitation         | Works / PIU contingency                    | Zero unplanned interruption beyond agreement                    | Contractor / PIU / WUA     | Daily during interruption                  |
| GAL-09 | SEA/SH                             | Code of Conduct, induction/refreshers, confidential pathway, female focal/CLO, survivor referral.                                | Before and during works              | Works / PIU                                | 100% workers signed CoC; referral pathway operational           | Contractor / PIU GBV       | Confidential monthly review                |
| GAL-10 | Land/access or livelihood loss     | Written access/use records; pastoral-route protection; reinstatement; replacement-cost compensation; OS5 stop trigger.           | Before/during works                  | PIU / compensation if needed               | 100% access arrangements documented; losses closed              | PIU / Contractor           | Galmudug E&S Officer / GRM                 |
| GAL-11 | Security / UXO-ERW                 | Per-site security assessment/clearance, SMP where needed, halt/evacuation thresholds and UXO/ERW clearance for uncertain ground. | Before mobilisation; update by phase | PIU security / works                       | 100% active sites with valid clearance                          | PIU / Contractor           | Continuous; incident escalation            |
| GAL-12 | Groundwater decline                | Operate to sustainable yield/pumping schedule; maintain log; monitor SWL; adaptive pumping reduction.                            | O&M                                  | O&M / PIU                                  | No sustained decline beyond approved trigger without action     | WUA / water authority      | At least annual / as hydrogeology requires |
| GAL-13 | Water-quality deterioration        | Wellhead hygiene/protection; routine monitoring per approved water-quality protocol; incident-based testing.                     | Commissioning and O&M                | ESMP planning envelope / monitoring        | 100% potable sites pass before use                              | WUA / PIU                  | Laboratory / water authority               |
| GAL-14 | Inequitable water access           | Inclusive WUA; ≥30% women membership/leadership; IDP/minority inclusion; public access/allocation rules; GRM.                    | Before commissioning; O&M            | Capacity line                              | 13/13 management structures verified and trained                | PIU / WUA                  | 3/6/12-month and annual visits             |

| Code   | Impact / Risk              | Measure                                                                                                                                                                                      | Deadline                        | Cost / Funding               | KPI                                                   | Implementation             | Monitoring              |
|--------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------|-------------------------------------------------------|----------------------------|-------------------------|
| GAL-15 | Catchment re-sedimentation | Post-rainfall maintenance; annual inspection; desilt at >20% capacity reduction from the accepted post-works baseline or earlier where the approved O&M assessment requires; repair defects. | O&M                             | O&M                          | 6/6 annual condition inspections                      | WUA                        | PIU technical oversight |
| GAL-16 | Grievances unresolved      | Six-district multi-channel GRM; reconciled timelines; separate SEA/SH channel.                                                                                                               | Before mobilisation; all phases | ESMP planning envelope / GRM | ≥80% within controlled timeframe                      | PIU / Galmudug E&S Officer | Monthly; quarterly AfDB |
| GAL-17 | Weak assurance             | Weekly Supervision inspections, monthly PIU audits, quarterly AfDB safeguards reports; close corrective actions.                                                                             | Construction / project          | Supervision / PIU            | 100% scheduled reports submitted; overdue CAP tracked | Supervision / PIU          | AfDB supervision        |
| GAL-18 | Support-site impacts       | Associated Facilities Register, screening/access/permits/management/reinstatement before and after use.                                                                                      | Before use / closeout           | Works contract               | 100% support sites approved and closed                | Contractor / PIU           | Monthly register review |

### 9.15. Environmental monitoring matrix

The environmental monitoring matrix for Galmudug is the monitoring plan at Section 9.8, which specifies each parameter, indicator/method, frequency, responsible party, reporting route and corrective-action trigger. The Numeric Performance Standards and Thresholds table immediately following it defines supported quantitative or decision thresholds. Site-specific technical values are established through the approved hydrogeological, engineering or C-ESMP procedures before implementation.

### 9.16. Risk-management matrix

Table 20: ESMP Implementation Risk-Management Matrix — Galmudug

| Implementation Risk                                                  | Rating        | Consequence                                                            | Management Response                                                                                                                | Owner                          |
|----------------------------------------------------------------------|---------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Security deterioration limits site access                            | High          | Loss of supervision; unsafe mobilisation                               | Per-site assessment; valid clearance; phase updates; halt/evacuation thresholds; flexible work sequencing                          | PIU / Contractor               |
| Hydrogeological evidence delayed/inconclusive                        | High          | Borehole works cannot be safely designed/authorised                    | Treat approved hydrogeology as hard hold point; redesign, defer or drop source if viability not demonstrated                       | PIU / Technical Consultant     |
| Controlled site/design information is not issued before mobilisation | Moderate-High | Wrong site/type/design/control could be applied                        | Use the controlled 13-site register and design-safeguards crosswalk as a hard hold point before procurement/mobilisation.          | PIU                            |
| Annual safeguards allocation is not itemised/funded                  | High          | Monitoring, GRM, supervision or capacity measures could be underfunded | Use the USD 214,349 planning envelope and approve the itemised annual allocation before procurement; price contractor ESHS in BoQ. | PIU / Finance / Procurement    |
| Simultaneous dispersed work fronts exceed safeguards capacity        | Moderate-High | Reduced inspection frequency and delayed corrective action             | Cap active work fronts to verified oversight capacity or add field safeguards/supervision staff                                    | PIU / Supervision              |
| WUA capture by dominant group                                        | Moderate-High | Exclusion, water conflict, loss of benefits                            | Inclusive constitution/membership, women/IDP/minority representation, public rules, oversight and GRM                              | PIU / WUA / District           |
| Groundwater level or quality deteriorates after handover             | Moderate-High | Reduced supply or health risk                                          | Pumping logs, SWL and water-quality monitoring; adaptive pumping; technical review and alternate supply where required             | Water authority / PIU / WUA    |
| Contractor weak ESHS performance                                     | Moderate-High | OHS, pollution, community harm                                         | Prequalification/contract clauses, competent ESHS staff, weekly supervision, CAPs and suspension powers                            | PIU / Supervision / Contractor |
| SEA/SH pathway not accessible                                        | Moderate      | Under-reporting or survivor harm                                       | Female focal/CLO, confidential channel, mapped referrals, training and non-retaliation controls                                    | PIU GBV function               |
| GRM instruments use conflicting timelines/scope                      | Moderate      | Confusion and unresolved complaints                                    | Issue one controlled six-district GRM before mobilisation and align all disclosure/templates                                       | PIU / Galmudug E&S Officer     |

### 9.17. Key ESMP implementation indicators

- 13/13 sites with signed PIU readiness authorisation before mobilisation.
- 6/6 borehole sites with approved hydrogeological assessment and baseline groundwater/water-quality data before works.

- 6/6 catchment sites with condition assessment and approved earthworks/drainage method before mobilisation.
- Gudheys dug-well rehabilitation supported by condition assessment and baseline/post-works water-quality results.
- 100% of active contractor work fronts covered by approved C-ESMP, OHS plan, Code of Conduct and competent ESHS/OHS responsibility.
- 100% of workers inducted before work; zero child labour; zero fatalities; all incidents investigated and corrective actions tracked.
- 100% of water intended for potable use released only after approved pre-commissioning water-quality pass.
- 13/13 operational management structures formed and trained before handover, with at least 30% women in membership and leadership.
- ESMP labour targets monitored: at least 80% local unskilled labour where feasible and at least 20% youth within the unskilled workforce, subject to the approved Labour Management Plan.
- ≥80% of grievances resolved within the controlled GRM timeframe; no unresolved case >60 days without written explanation.
- All associated facilities/support sites recorded, approved before use and formally closed/reinstated.
- Weekly Supervision inspections, monthly PIU audits and quarterly safeguards reports completed as scheduled.
- Groundwater-level and water-quality monitoring completed to the approved schedule, with adaptive action where triggers are reached.
- Annual and post-rainfall catchment condition inspections completed; major desilting triggered at more than 20% storage loss from the accepted post-works baseline or earlier where the approved O&M assessment requires.
- USD 214,349 safeguards planning envelope incorporated into annual work planning and all contractor ESHS obligations priced/funded before mobilisation.

#### **9.18. Integration of the ESMP into project design, planning, procurement, budget and implementation**

- Design: hydrogeological, catchment-condition, water-quality, access and security findings must be reflected in final design, technical specifications and site method statements before works.
- Planning: construction sequencing must account for site readiness, seasonal rainfall/flash-flood risk, continuity of existing water access, security and the capacity of supervision teams.
- Procurement: all contractor obligations in Sections 9.3–9.5 are incorporated into tender and contract documents, including staffing, method statements, training, monitoring, reporting, reinstatement and stop-work provisions.
- Budget: PIU safeguards, monitoring, engagement, technical studies and capacity measures are financed through the reconciled ESMP budget; contractor ESHS items are priced in works contracts/BoQs and are not left unfunded.
- Implementation: no site proceeds past an ESHS hold point without written approval. Non-compliance is managed through corrective action and, where warranted, suspension.

- Supervision and reporting: ESMP performance is reviewed through daily/weekly site controls, monthly PIU audits, quarterly AfDB reporting and periodic management review, with the ESMP updated when monitoring or project changes require it.
- Handover: commissioning certificates include technical, water-quality, safety, reinstatement and WUA-readiness evidence; unresolved safeguards defects prevent handover.
- O&M: WUA obligations, monitoring schedules, access rules, GRM and escalation arrangements are transferred into the O&M manuals and post-handover oversight programme.

### 9.19. Associated management plans

The following management instruments are required by the assessed Galmudug risks and shall be maintained as controlled documents covering all six districts and all thirteen sites:

- Stakeholder Engagement Plan (SEP) — Galmudug, covering all six districts and all thirteen sites.
- Project-level Grievance Redress Mechanism procedures — one reconciled controlled version for all six districts.
- Gender and Social Inclusion / Vulnerable Groups measures — updated to the full Galmudug scope.
- Labour Management Procedures (LMP), including Workers' GRM, age verification and written employment conditions.
- Contractor Environmental and Social Management Plan (C-ESMP) and site/activity-specific method statements.
- Occupational Health and Safety Plan, including drilling, excavation, heat-stress, electrical/solar, emergency and remote-work requirements.
- Waste Management and Spill Prevention Plan.
- Community Health and Safety / Traffic Management arrangements.
- SEA/SH Prevention and Response arrangements and Code of Conduct.
- Security Management Plan and UXO/ERW clearance procedure where applicable.
- Land Access Protocol and access/reinstatement records.
- Chance Finds Procedure.
- Climate Risk Assessment — Galmudug and any design/monitoring actions carried into implementation.
- Environmental and Social Monitoring Plan — updated to all six districts and aligned with Section 9.8.
- Environmental, Social and Capacity-Building Training Plan — updated to the full 13-site/six-district scope.
- Associated Facilities and Support-Sites Register with site-specific screening and close-out records.
- Water-quality, groundwater and WUA/O&M monitoring records required by the commissioning and operation framework.

No standalone resettlement plan or biodiversity management plan is required under the currently screened footprint. If implementation changes trigger involuntary acquisition/displacement, material access restriction, or an unassessed biodiversity impact, the relevant additional instrument must be prepared and approved before the affected activity proceeds.

## CHAPTER 10: CONCLUSION AND RECOMMENDATIONS

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### 10.1 Overall Conclusion

The Environmental and Social Impact Assessment for the Galmudug State component of the Beero oo Barwaaqee Soomaaliya (BBS) Irrigation Project concludes that the proposed works at the confirmed 13 sites can be implemented in an environmentally and socially acceptable manner provided the mitigation, management, monitoring and pre-works controls defined in this ESIA are implemented as binding project requirements. Environmental and social acceptability is therefore conditional on completion of the required technical and safeguards verification before mobilisation, effective contractor and supervision performance during construction, and sustained groundwater, water-quality, governance and operation-and-maintenance controls after handover.

The Galmudug component comprises six boreholes, six water catchments and one dug well across Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb Districts. The principal risk profile is characteristic of dryland water infrastructure in an arid and pastoral setting: groundwater sustainability and water quality; catchment erosion and sedimentation; drilling and excavation OHS; extreme heat; community safety; temporary water-access interruption; land and pastoral access; equitable water allocation; SEA/SH; security and UXO/ERW; and the long-term capacity of WUAs or community water-management structures.

The impact assessment finds that, after mitigation, most construction-phase residual impacts are Minor to Minor-Moderate. The principal operational residual risks - groundwater over-abstraction and inequitable water access - remain Moderate and require continuing monitoring and governance support rather than a one-time construction response. Residual climate risk also requires adaptive management because drought, extreme heat, flash flooding and reduced recharge can exceed design assumptions.

### 10.2 Basis for Environmental and Social Acceptability

The basis for acceptability is the combination of relatively small and dispersed infrastructure footprints, predominantly rehabilitation of existing community water assets, the absence of anticipated physical displacement under the screened footprint, and the availability of practical avoidance and mitigation measures. The project is expected to produce substantial benefits through improved water reliability, livestock and household water security, reduced drought vulnerability, local employment and strengthened water governance.

This conclusion depends on enforceable safeguards decision points throughout the project cycle. Borehole construction or rehabilitation must not proceed without approved hydrogeological and baseline water-quality evidence. Catchment earthworks must not proceed without an approved condition assessment and site-specific erosion/drainage method. Gudheys dug-well rehabilitation requires a condition assessment and baseline water-quality result. All works require documented access, community notification, security clearance, approved contractor management plans, operational GRM and SEA/SH arrangements, and adequate supervision. Commissioning is conditional on water-quality clearance where potable use is intended, physical safety and reinstatement, and the readiness of the responsible WUA or management committee.

### 10.3 Conditions to be Satisfied Before Mobilisation

- Confirm and issue one controlled 13-site register covering Xerale, Cadado, Wisil, Hobyo, Galkacyo South and Dhusamareeb, including the final site name, district, coordinates, intervention type, rehabilitation/new-work status and approved engineering package for each site.
- Complete and approve a hydrogeological assessment for each of the six borehole sites, including baseline static water level, aquifer conditions, sustainable abstraction basis, baseline water quality and the monitoring requirements that will govern pump sizing and operation.
- Complete a pre-works condition assessment for each of the six water catchments covering sediment depth and storage loss, embankment/bund integrity, inlet/outlet and spillway condition, liner requirement where applicable, drainage/erosion pathways and downstream receptors.
- Complete a condition and safety assessment of the Gudheys dug well and obtain baseline water-quality results before cleaning, repair or pump works.
- Document land and temporary access arrangements for each works footprint, access route and support site; identify actual land/resource users and pastoral movement constraints; establish the compensation and reinstatement process for verified project-caused loss.
- Complete the site-specific security assessment and obtain the required security clearance for every site; prepare or update the Security Management Plan where required, and obtain formal UXO/ERW clearance confirmation before excavation on previously unworked or uncertain ground.
- Approve the Contractor ESMP, OHS Plan, waste/spill controls, community health and safety arrangements, Labour Management Procedures implementation measures, SEA/SH Code of Conduct and referral arrangements, Chance Finds Procedure and all activity-specific method statements.
- Establish and test the project GRM in all six districts, including accessible low-literacy channels, district focal arrangements and the separate confidential SEA/SH pathway.
- Hold pre-works community meetings at each site to explain scope, schedule, recruitment criteria, access arrangements, water-supply disruption measures, safety controls, GRM and expected handover/O&M responsibilities.
- Reconcile the technical and document-control issues identified in Section 10.6 where they affect the relevant work package, particularly final site nomenclature, budget, GRM procedure, OHS numeric provisions and groundwater-monitoring requirements.

### 10.4 Conditions During Construction

- Implement the approved C-ESMP and activity-specific method statements at every active work front and maintain weekly Supervision Consultant verification and monthly PIU safeguards review.
- Apply task-specific OHS controls for borehole drilling, rotating/high-pressure equipment, excavation and catchment earthworks, lifting, pump/solar electrical installation, manual handling and remote work. Unsafe excavation, uncontrolled high-risk drilling activity or failure of essential safety controls is a stop-work condition.

- Apply the approved heat-stress management regime based on competent OHS assessment, with potable water, shade, rest, adjusted work schedules, first aid and emergency evacuation arrangements appropriate to Galmudug conditions.
- Protect boreholes, wells and surrounding soils from fuel, lubricant, chemical and drilling-fluid contamination through wellhead exclusion, secondary containment, spill preparedness, controlled drilling waste management and prompt clean-up of any release.
- Control erosion and sediment at catchments through minimum disturbance, phased earthworks, controlled spoil placement, runoff diversion/sediment controls, compaction and rapid stabilisation/reinstatement, with enhanced inspection after rainfall.
- Maintain community safety through barriers, Somali-language warnings, secure excavations, traffic controls, safe access routes and advance notification of disruptive activities.
- Where existing water supply will be interrupted, activate the agreed alternative water arrangement before shutdown, minimise the interruption and test water quality as applicable before potable community use resumes.
- Implement transparent local recruitment and employment grievance arrangements; maintain worker Codes of Conduct, the Workers' GRM and SEA/SH prevention and confidential reporting measures.
- Use only screened and approved borrow, spoil, camp, lay-down, water-abstraction and other associated/support sites, and reinstate them before close-out.
- Apply the Chance Finds Procedure to all ground disturbance and maintain the required security/UXO/ERW controls throughout excavation and remote-site activities.

### 10.5 Conditions for Commissioning and Operation

- Do not commission any borehole or the dug well for potable community use until the approved post-works water-quality tests have passed and the PIU has documented the commissioning release.
- Establish the baseline and operational groundwater monitoring records for each borehole, including the approved static-water-level, pumping/yield and abstraction parameters; operate within the sustainable-yield and pumping regime established by the hydrogeological assessment.
- Do not hand over any catchment until embankments/bunds, inlets/outlets, spillway, liner where applicable, drainage, livestock/user access and safety measures have been inspected and any defects closed.
- Confirm that the responsible WUA or community water-management structure is established or strengthened and trained before handover, with documented non-discriminatory water-access rules and at least 30% women in membership and leadership.
- Maintain source-protection, water-quality, groundwater-level, catchment-condition, infrastructure-safety, GRM and governance monitoring specified in Chapter 9.
- Apply adaptive pumping reduction and technical review if groundwater monitoring reaches the approved action trigger or indicates unsustainable decline, deteriorating water quality or reduced yield.

- Maintain post-rainfall silt-trap clearance, annual catchment condition assessment and major desilting where the accepted storage-loss trigger is reached.
- Keep the project GRM, SEA/SH confidential pathway, stakeholder engagement, security coordination and PIU oversight operational after commissioning, particularly during the first 12 months of WUA operation.

## 10.6 C-ESMP and Pre-Construction Confirmation Requirements

The remaining site-specific and method-dependent matters are assigned to the pre-construction, C-ESMP and commissioning process. They do not prevent ESIA submission because Chapter 9 establishes binding hold points that must be closed before the affected activity proceeds.

| Requirement                                   | Assessment Position                                                                        | C-ESMP / Final-Control Action                                                                                                                                             |
|-----------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Controlled site scope and intervention status | The ESIA controls the project as 13 sites: 6 boreholes, 6 catchments and 1 dug well.       | Before mobilisation, issue one controlled site/design register confirming final new-versus-rehabilitation status, coordinates, drawings and BoQ and use it in the C-ESMP. |
| Groundwater design and monitoring             | Borehole sustainability is site-specific and cannot be governed by a generic >5 m trigger. | Approved hydrogeological assessment shall set sustainable yield, monitoring frequency and groundwater-level/yield trigger and the C-ESMP/O&M plan shall use that basis.   |
| Heat-stress management                        |                                                                                            | C-ESMP Heat Stress Management Plan shall establish evidence-based hydration, acclimatisation, work/rest, shade, triggers and emergency response consistent with GIIP.     |
| Water-quality acceptance                      | Potable commissioning requires one approved water-quality protocol.                        | C-ESMP commissioning plan shall use the approved project/applicable drinking-water criteria, accredited laboratory method, retesting and response to non-compliance.      |
| GRM and incident management                   | One consistent six-district procedure is required for implementation.                      | Use the controlling Section 9.7 GRM and the applicable AfDB/Financing Agreement incident-notification protocol in all contractor, disclosure and reporting documents.     |
| Safeguards financing                          | The detailed ESMP annual totals provide an indicative USD 214,349 planning envelope.       | PIU shall itemise the envelope in annual work plans and fully fund contractor ESHS obligations through works contracts before mobilisation.                               |

## 10.7 Recommendations

- Make Chapter 9 ESMP, the associated management plans and the pre-works hold points contractual requirements and link mobilisation, payment and handover to demonstrable safeguards compliance.
- Prioritise hydrogeological and groundwater-quality evidence as the principal technical safeguard for the six borehole sites and maintain adaptive pumping controls throughout operation.
- Strengthen Galmudug field safeguards capacity where simultaneous dispersed work fronts exceed the ability of the Galmudug E&S Officer and Supervision Consultant to inspect and close corrective actions effectively.
- Complete and finance the six-district GRM, stakeholder-engagement, SEA/SH and WUA inclusion arrangements before construction begins, with particular attention to women, IDPs, minority-clan households, poor pastoralists and persons with disabilities.

- Require transparent local recruitment and track the ESMP targets for local unskilled labour and youth participation through monthly contractor reporting.
- Maintain security and UXO/ERW readiness as active implementation controls rather than one-time approvals, allowing works to be resequenced or suspended where safe supervision cannot be maintained.
- Use annual ESMP review and periodic AfDB safeguards reporting to update monitoring thresholds, O&M support and corrective actions based on actual groundwater, water-quality, catchment, social-governance and climate performance.
- Maintain the USD 214,349 safeguards planning envelope in annual work planning, fund contractor ESHS obligations in the works contracts and close all C-ESMP/pre-construction hold points before the affected work begins.

## 10.8 Final Statement

Subject to implementation of the ESMP, closure of the applicable pre-mobilisation/C-ESMP hold points and continued monitoring during operation, the Galmudug component of the BBS Irrigation Project is considered environmentally and socially feasible and consistent with the risk profile of an AfDB Category 2 operation.

This conclusion does not remove the need for site-by-site readiness confirmation. No site should proceed simply because it appears in the project list. Each work package must demonstrate adequate technical, land/access, security, stakeholder, contractor-readiness and safeguards controls before mobilisation; commissioning must be linked to water-quality, safety and management readiness; and residual groundwater, water-allocation, security and climate risks require continuing monitoring and adaptive management through operation.

# APPENDIX

## ENVIRONMENTAL AND SOCIAL SCREENING FORMS

### Cadado and Xerale Sites

#### Screening Forms Included

| No. | District / Area | Site / Community         | Original Screening Form                                          |
|-----|-----------------|--------------------------|------------------------------------------------------------------|
| 1   | Cadado          | Biyo-Guduud              | AfDB E&S Screening form - Cadado - Biyo-Guduud.docx              |
| 2   | Cadado          | Biyo-Guduud (Aroog Farm) | AfDB E&S Screening form - Cadado - Biyo-Guduud (Aroog Farm).docx |
| 3   | Cadado          | Biyo-Guduud (Kaafi Farm) | AfDB E&S Screening form - Cadado - Biyo-Guduud (Kaafi Farm).docx |
| 4   | Cadado          | Gidheys                  | AfDB E&S Screening form - Cadado - Gidheys.docx                  |
| 5   | Cadado          | Hulkujir                 | AfDB E&S Screening form - Cadado - Hulkujir.docx                 |
| 6   | Cadado          | Laswardere               | AfDB E&S Screening form - Cadado - Laswardere.docx               |
| 7   | Cadado          | Qorya-Addo               | AfDB E&S Screening form - Cadado - Qorya-Addo .docx              |
| 8   | Xerale          | Hurshe                   | AfDB E&S Screening form - Xerale - Hurshe.docx                   |
| 9   | Xerale          | Hog-dugaag               | AfDB E&S Screening form - Xerale - Hog-dugaag.docx               |
| 10  | Xerale          | Mirhayley                | AfDB E&S Screening form - Xerale - Mirhayley.docx                |

*The merged sequence below follows the order listed above. Each original screening form is seven pages.*

## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                     |
|------------------------------------------------------------|---------------------|
| Screening Date                                             | 21/12/2025          |
| District/Region                                            | Adado               |
| Village/Community                                          | Biyo-Guduud         |
| GPS Coordinates (lat, long)                                | 6.319570, 46.569350 |
| Type of Activity (new construction, rehabilitation, other) | Water Catchment     |
| E&S Safeguards Officer                                     | Mohamed Abdi        |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 3                   |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                                   |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                                   |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                                   |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                                   |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                                   |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                                   |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                                   |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                                   |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                                   |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                                   |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will need to be addressed in ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                                   |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                                   |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                                   |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                                   |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                                   |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                                   |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                                   |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                                   |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                                   |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                                   |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                                   |

|                                                                                                                        |   |   |  |                                   |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                                   |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             |   | X |  | Will need to be addressed in ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                                   |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                                   |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                                   |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                                   |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                                   |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                                   |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                                   |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  | Will not be needed                |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                                   |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                                   |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                                   |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                                   |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                                   |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                                   |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                                   |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                                   |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                                   |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                                   |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                                   |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                                   |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                                   |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

#### PART 4: SITE PHOTOS



## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                          |
|------------------------------------------------------------|--------------------------|
| Screening Date                                             | 21/12/2025               |
| District/Region                                            | Adado                    |
| Village/Community                                          | Biyo-Guduud (Aroog Farm) |
| GPS Coordinates (lat, long)                                | 6.319200, 46.568680      |
| Type of Activity (new construction, rehabilitation, other) | Water Catchment          |
| E&S Safeguards Officer                                     | Mohamed Abdi             |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 2                        |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                                   |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                                   |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                                   |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                                   |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                                   |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                                   |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                                   |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                                   |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                                   |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                                   |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will need to be addressed in ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                                   |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                                   |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                                   |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                                   |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                                   |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                                   |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                                   |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                                   |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                                   |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                                   |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                                   |

|                                                                                                                        |   |   |  |                                   |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                                   |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             |   | X |  | Will need to be addressed in ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                                   |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                                   |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                                   |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                                   |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                                   |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                                   |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                                   |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  |                                   |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                                   |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                                   |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                                   |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                                   |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                                   |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                                   |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                                   |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                                   |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                                   |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                                   |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                                   |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                                   |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                                   |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

#### PART 4: SITE PHOTOS



## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                          |
|------------------------------------------------------------|--------------------------|
| Screening Date                                             | 20/12/2025               |
| District/Region                                            | Adado                    |
| Village/Community                                          | Biyo-Guduud (Kaafi Farm) |
| GPS Coordinates (lat, long)                                | 6.306120, 46.583450      |
| Type of Activity (new construction, rehabilitation, other) | Water Catchment          |
| E&S Safeguards Officer                                     | Mohamed Abdi             |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 2                        |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                                   |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                                   |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                                   |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                                   |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                                   |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                                   |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                                   |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                                   |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                                   |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                                   |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will need to be addressed in ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                                   |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                                   |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                                   |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                                   |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                                   |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                                   |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                                   |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                                   |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                                   |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                                   |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                                   |

|                                                                                                                        |   |   |  |                                   |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                                   |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             |   | X |  | Will need to be addressed in ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                                   |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                                   |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                                   |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                                   |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                                   |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                                   |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                                   |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  |                                   |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                                   |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                                   |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                                   |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                                   |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                                   |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                                   |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                                   |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                                   |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                                   |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                                   |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                                   |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                                   |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                                   |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

#### PART 4: SITE PHOTOS



## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                     |
|------------------------------------------------------------|---------------------|
| Screening Date                                             | 22/12/2025          |
| District/Region                                            | Adado               |
| Village/Community                                          | Gidhees             |
| GPS Coordinates (lat, long)                                | 6.306120, 46.583450 |
| Type of Activity (new construction, rehabilitation, other) | Dug Well            |
| E&S Safeguards Officer                                     | Mohamed Abdi        |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 3                   |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                             |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                             |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                             |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                             |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                             |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                             |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                             |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                             |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                             |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                             |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will be needed through ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                             |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                             |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                             |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                             |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                             |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                             |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                             |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                             |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                             |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                             |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                             |

|                                                                                                                        |   |   |  |                             |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                             |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             | X |   |  | Will be needed through ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                             |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                             |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                             |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                             |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                             |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                             |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                             |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  |                             |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                             |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                             |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                             |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                             |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                             |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                             |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                             |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                             |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                             |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                             |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                             |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                             |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                             |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

#### PART 4: SITE PHOTOS



## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                     |
|------------------------------------------------------------|---------------------|
| Screening Date                                             | 20/12/2025          |
| District/Region                                            | Adado               |
| Village/Community                                          | Hulkujir            |
| GPS Coordinates (lat, long)                                | 6.394540, 46.590900 |
| Type of Activity (new construction, rehabilitation, other) | Water Catchment     |
| E&S Safeguards Officer                                     | Mohamed Abdi        |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 3                   |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                             |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                             |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                             |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                             |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                             |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                             |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                             |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                             |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                             |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                             |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will be needed through ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                             |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                             |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                             |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                             |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                             |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                             |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                             |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                             |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                             |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                             |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                             |

|                                                                                                                        |   |   |  |                             |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                             |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             | X |   |  | Will be needed through ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                             |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                             |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                             |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                             |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                             |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                             |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                             |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  |                             |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                             |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                             |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                             |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                             |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                             |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                             |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                             |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                             |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                             |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                             |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                             |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                             |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                             |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

## PART 4: SITE PHOTOS



## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                     |
|------------------------------------------------------------|---------------------|
| Screening Date                                             | 21/12/2025          |
| District/Region                                            | Adado               |
| Village/Community                                          | Laswardere          |
| GPS Coordinates (lat, long)                                | 6.176130, 46.726470 |
| Type of Activity (new construction, rehabilitation, other) | Water Catchment     |
| E&S Safeguards Officer                                     | Mohamed Abdi        |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 3                   |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                             |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                             |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                             |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                             |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                             |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                             |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                             |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                             |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                             |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                             |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will be needed through ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                             |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                             |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                             |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                             |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                             |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                             |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                             |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                             |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                             |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                             |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                             |

|                                                                                                                        |   |   |  |                             |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                             |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             | X |   |  | Will be needed through ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                             |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                             |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                             |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                             |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                             |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                             |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                             |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  |                             |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                             |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                             |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                             |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                             |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                             |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                             |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                             |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                             |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                             |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                             |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                             |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                             |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                             |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

#### PART 4: SITE PHOTOS



## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                    |
|------------------------------------------------------------|--------------------|
| Screening Date                                             | 22/12/2025         |
| District/Region                                            | Adado              |
| Village/Community                                          | Qorya-Addo         |
| GPS Coordinates (lat, long)                                | 6043139, 46.642448 |
| Type of Activity (new construction, rehabilitation, other) | Water Catchment    |
| E&S Safeguards Officer                                     | Mohamed Abdi       |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 3                  |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                             |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                             |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                             |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                             |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                             |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                             |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                             |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                             |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                             |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                             |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will be needed through ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                             |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                             |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                             |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                             |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                             |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                             |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                             |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                             |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                             |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                             |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                             |

|                                                                                                                        |   |   |  |                             |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                             |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             | X |   |  | Will be needed through ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                             |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                             |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                             |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                             |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                             |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                             |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                             |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  |                             |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                             |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                             |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                             |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                             |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                             |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                             |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                             |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                             |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                             |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                             |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                             |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                             |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                             |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

#### PART 4: SITE PHOTOS



## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                     |
|------------------------------------------------------------|---------------------|
| Screening Date                                             | 24/12/2025          |
| District/Region                                            | Xerale              |
| Village/Community                                          | Hurshe              |
| GPS Coordinates (lat, long)                                | 6.114120, 46.323760 |
| Type of Activity (new construction, rehabilitation, other) | Borehole            |
| E&S Safeguards Officer                                     | Mohamed Abdi        |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 3                   |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                             |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                             |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                             |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                             |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                             |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                             |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                             |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                             |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                             |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                             |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will be needed through ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                             |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                             |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                             |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                             |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                             |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                             |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                             |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                             |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                             |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                             |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                             |

|                                                                                                                        |   |   |  |                             |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                             |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             | X |   |  | Will be needed through ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                             |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                             |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                             |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                             |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                             |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                             |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                             |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  |                             |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                             |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                             |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                             |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                             |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                             |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                             |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                             |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                             |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                             |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                             |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                             |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                             |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                             |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

#### PART 4: SITE PHOTOS



## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                     |
|------------------------------------------------------------|---------------------|
| Screening Date                                             | 24/12/2025          |
| District/Region                                            | Xerale              |
| Village/Community                                          | Hog-Dugag           |
| GPS Coordinates (lat, long)                                | 6.148760, 46.386650 |
| Type of Activity (new construction, rehabilitation, other) | Borehole            |
| E&S Safeguards Officer                                     | Mohamed Abdi        |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 3                   |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                             |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                             |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                             |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                             |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                             |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                             |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                             |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                             |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                             |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                             |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will be needed through ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                             |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                             |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                             |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                             |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                             |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                             |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                             |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                             |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                             |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                             |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                             |

|                                                                                                                        |   |   |  |                             |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                             |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             | X |   |  | Will be needed through ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                             |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                             |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                             |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                             |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                             |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                             |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                             |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  |                             |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                             |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                             |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                             |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                             |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                             |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                             |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                             |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                             |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                             |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                             |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                             |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                             |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                             |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

## PART 4: SITE PHOTOS



## PART 1: RISK CATEGORIES (ISS 2023)

| Risk Category                    | Definition (per ISS 2023 Glossary)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Examples                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1: High Risk</b>     | Operations likely to cause significant and/or irreversible adverse environmental and/or social impacts on a large scale, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. This includes projects classified as high risk under national legislation or moderate-risk projects financed by the Bank in a low E&S implementation capacity or fragile context.                                  | Large-scale infrastructure (dams, highways); significant involuntary resettlement; projects affecting critical habitats; projects in conflict-affected or fragile states; major GHG emitters. |
| <b>Category 2: Moderate Risk</b> | Operations likely to cause adverse E&S impacts that are lower than in Category 1, medium-scale, easily reversible, and readily minimized by applying appropriate management and mitigation measures, or incorporating internationally recognized design criteria and standards. This includes projects classified as moderate risk under national legislation, or low-risk projects financed by the Bank in a lack of E&S implementation capacity or fragile context. | Rehabilitation of existing infrastructure with limited land acquisition; medium-scale agro-processing; projects with temporary labour influx; localized community impacts.                    |
| <b>Category 3: Low Risk</b>      | Operations that do not directly or indirectly adversely affect the environment and that are unlikely to induce adverse social impacts. This category does not require a formal ESA, although E&S mitigation or maximization measures may be included/recommended in the project design.                                                                                                                                                                               | Capacity building/training with no physical works; minor repairs within existing footprint; activities with no land acquisition, habitat conversion, or significant resource use.             |

## PART 2: GENERAL INFORMATION

|                                                            |                     |
|------------------------------------------------------------|---------------------|
| Screening Date                                             | 24/12/2025          |
| District/Region                                            | Xerale              |
| Village/Community                                          | Mirhayley           |
| GPS Coordinates (lat, long)                                | 6.043220, 46.642570 |
| Type of Activity (new construction, rehabilitation, other) | Water Catchment     |
| E&S Safeguards Officer                                     | Mohamed Abdi        |
| Proposed AfDB E&S Category (1, 2, or 3)                    | 3                   |

## PART 3: DETAILED OPERATIONAL SAFEGUARD SCREENING

Instructions: Answer each question without considering magnitude of impact at this stage. Mark Yes, No, or Don't Know. Add comments to clarify responses.

| Screening Question                                                                                                                | Yes | No | Don't Know | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|----|------------|----------|
| <b>OS1 - ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS</b>                                              |     |    |            |          |
| Is the subproject located in or near environmentally sensitive areas (e.g., wetlands, riverbanks, steep slopes, protected areas)? |     | X  |            |          |
| Is the subproject located in or near socially sensitive areas (e.g., dense settlements, IDP/refugee sites, conflict zones)?       |     | X  |            |          |
| Does the project context (conflict, security, governance, human rights) require a Contextual Risk Assessment?                     |     | X  |            |          |
| Does the project require a Climate Change Vulnerability and Adaptation Assessment?                                                |     | X  |            |          |
| Is there a risk of cumulative impacts with other past, present, or reasonably foreseeable projects?                               |     | X  |            |          |
| Could the project significantly alter local water regimes or cause significant landscape-level land-use change?                   |     | X  |            |          |
| Have gender-specific and vulnerability-disaggregated baseline data been collected?                                                | X   |    |            |          |
| Has the mitigation hierarchy (avoid, minimize, restore, compensate/offset) been applied in project design?                        | X   |    |            |          |
| Does the project require an Environmental and Social Management System (ESMS) or Environmental and Social Management Plan (ESMP)? | X   |    |            |          |
| Is the Borrower's E&S implementation capacity adequate, or is capacity strengthening required?                                    | X   |    |            |          |
| <b>OS2 - LABOUR AND WORKING CONDITIONS</b>                                                                                        |     |    |            |          |
| Will contractors/sub-contractors employ workers, creating labour management responsibilities?                                     | X   |    |            |          |
| Are Labour Management Procedures (LMPs) required covering terms of employment, non-discrimination, and worker protections?        | X   |    |            |          |
| Is there a risk of child labour in any project activity or supply chain?                                                          | X   |    |            |          |
| Is there a risk of forced labour, modern slavery, or human trafficking in any project activity or supply chain?                   |     | X  |            |          |
| Will there be a labour influx creating potential risks of social tension or pressure on local services?                           |     | X  |            |          |
| Are specific measures required to prevent and respond to Sexual Exploitation, Abuse and Harassment (SEAH) by project workers?     | X   |    |            |          |

|                                                                                                                                              |   |   |  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Are Occupational Health and Safety (OHS) measures required, including provision of PPE and safe working conditions?                          | X |   |  |                             |
| Is a confidential and accessible worker grievance mechanism required?                                                                        | X |   |  |                             |
| Has the project screened primary suppliers for child labour, forced labour, or serious safety issues?                                        | X |   |  |                             |
| <b>OS3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT</b>                                                                     |   |   |  |                             |
| Will the project be a significant consumer of energy requiring energy efficiency measures?                                                   |   | X |  |                             |
| Will the project be a significant consumer of water or affect water quality?                                                                 |   | X |  |                             |
| Will the project be a significant consumer of raw materials?                                                                                 |   | X |  |                             |
| Will construction or operations generate significant pollution (dust, noise, vibration, waste) affecting communities or sensitive receptors? | X |   |  |                             |
| Is there a risk of soil or water contamination from hazardous materials, spills, or inadequate waste management?                             |   | X |  |                             |
| Will the project require management of hazardous materials or hazardous waste?                                                               |   | X |  |                             |
| Has the waste management hierarchy (avoid, minimize, reuse, recycle, treat, dispose) been applied?                                           |   | X |  | Will be needed through ESMP |
| Will the project lead to increased use of pesticides or agro-chemicals requiring a Pest Management Plan?                                     |   | X |  |                             |
| Has the project assessed and committed to managing its greenhouse gas (GHG) emissions?                                                       | X |   |  |                             |
| Could the project significantly affect environmental flows for downstream ecosystems and communities?                                        |   | X |  |                             |
| <b>OS4 - COMMUNITY HEALTH, SAFETY AND SECURITY</b>                                                                                           |   |   |  |                             |
| Will the project create physical hazards for communities (e.g., open excavations, increased traffic, unsafe structures)?                     |   | X |  |                             |
| Is a traffic and road safety assessment required for project-related vehicle movements?                                                      | X |   |  |                             |
| Does the project involve new or existing dam(s) requiring safety assessments?                                                                |   | X |  |                             |
| Does the project require an Emergency Preparedness and Response Plan (EPRP)?                                                                 |   | X |  |                             |
| Is there a risk of project-related conflict over resources?                                                                                  |   | X |  |                             |
| Will the project use private or public security personnel requiring a Security Management Plan?                                              | X |   |  |                             |
| Could the project affect ecosystem services (provisioning/regulating) on which communities depend?                                           |   | X |  |                             |

|                                                                                                                        |   |   |  |                             |
|------------------------------------------------------------------------------------------------------------------------|---|---|--|-----------------------------|
| Is there a risk of community exposure to communicable diseases due to labour influx?                                   |   | X |  |                             |
| Has a specific SEA/H and Gender-Based Violence (GBV) risk assessment been conducted for community members?             | X |   |  | Will be needed through ESMP |
| Is a Labour Influx Management Plan required?                                                                           |   | X |  |                             |
| <b>OS5 - LAND ACQUISITION, RESTRICTIONS ON ACCESS TO LAND AND LAND USE, AND INVOLUNTARY RESETTLEMENT</b>               |   |   |  |                             |
| Will the project cause physical displacement (relocation, loss of residential land or shelter)?                        |   | X |  |                             |
| Will the project cause economic displacement (loss of land, assets, access to assets, income sources, or livelihoods)? |   | X |  |                             |
| Are there existing land disputes, unclear tenure, or complex customary land rights in the project area?                |   | X |  |                             |
| Will the project restrict access to natural resources, protected areas, or common property resources?                  |   | X |  |                             |
| Has the project committed to avoiding forced eviction under all circumstances?                                         | X |   |  |                             |
| Will compensation be provided at full replacement cost for all affected assets?                                        |   | X |  |                             |
| Is a Resettlement Action Plan (RAP) required?                                                                          |   | X |  |                             |
| Is a Livelihood Restoration Plan required?                                                                             |   | X |  |                             |
| Has an assessment of impacts on host communities receiving displaced persons been conducted?                           |   | X |  |                             |
| Is a resettlement-specific grievance mechanism required for affected persons?                                          |   | X |  |                             |
| <b>OS6 - HABITAT AND BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>              |   |   |  |                             |
| Is the project located in or near critical natural habitats?                                                           |   | X |  |                             |
| Is the project located in or near protected areas or Key Biodiversity Areas (KBAs)?                                    |   | X |  |                             |
| Could the project lead to the conversion or degradation of natural habitat?                                            |   | X |  |                             |
| Could the project lead to measurable adverse impacts on critical habitat?                                              |   | X |  |                             |
| Will the project significantly affect ecosystem services on which communities depend?                                  |   | X |  |                             |
| Is there a risk of introducing or spreading invasive alien species?                                                    |   | X |  |                             |
| Has the mitigation hierarchy (avoid, minimize, restore, offset) been applied to biodiversity impacts?                  | X |   |  |                             |
| Are biodiversity offsets required to achieve no net loss or net gain for critical habitat?                             |   | X |  |                             |

|                                                                                                                                   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has the project screened primary suppliers for significant biodiversity conversion or degradation?                                |   | X |  |  |
| Does the project involve sustainable management of living natural resources (forestry, fisheries, agriculture)?                   |   | X |  |  |
| <b>OS7 - VULNERABLE GROUPS</b>                                                                                                    |   |   |  |  |
| Are there vulnerable or marginalized groups in the project area of influence?                                                     | X |   |  |  |
| Could project impacts fall disproportionately on vulnerable or marginalized groups?                                               |   | X |  |  |
| Could project benefits be inaccessible to, or not shared equitably with, vulnerable groups?                                       |   | X |  |  |
| Are there Highly Vulnerable Rural Minorities (HVRM), including Indigenous Peoples, in the project area?                           |   | X |  |  |
| Do project circumstances warrant Free, Prior, and Informed Consent (FPIC)?                                                        |   | X |  |  |
| Is a standalone Vulnerable Groups Plan required?                                                                                  |   | X |  |  |
| Is a Gender Action Plan required?                                                                                                 |   | X |  |  |
| Is an Indigenous Peoples Plan required?                                                                                           |   | X |  |  |
| Are culturally appropriate and accessible consultation methods required for vulnerable groups?                                    |   | X |  |  |
| Have differentiated measures been designed to ensure vulnerable groups benefit from the project?                                  | X |   |  |  |
| <b>OS8 - CULTURAL HERITAGE</b>                                                                                                    |   |   |  |  |
| Are known tangible cultural heritage features (archaeological sites, historic structures, monuments) present in the project area? |   | X |  |  |
| Could the project affect intangible cultural heritage (practices, knowledge, traditions)?                                         |   | X |  |  |
| Are there areas of cultural or spiritual significance to local communities in the project area?                                   |   | X |  |  |
| Is there a chance that works may uncover previously unknown cultural resources?                                                   |   | X |  |  |
| Is a Chance Finds Procedure required?                                                                                             |   | X |  |  |
| Does the project involve commercial use of cultural heritage requiring benefit-sharing?                                           |   | X |  |  |
| Is a Cultural Heritage Management Plan required?                                                                                  |   | X |  |  |
| Has consultation with communities on cultural heritage impacts been conducted?                                                    | X |   |  |  |
| <b>OS10 - STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE</b>                                                                   |   |   |  |  |
| Is a Stakeholder Engagement Plan (SEP) required?                                                                                  | X |   |  |  |

|                                                                                                                 |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|---|---|--|--|
| Has stakeholder identification and analysis been conducted, including disadvantaged or vulnerable stakeholders? | X |   |  |  |
| Has project information been disclosed in accessible formats and local languages?                               | X |   |  |  |
| Has information been disclosed in a timely manner to allow stakeholders to provide meaningful input?            | X |   |  |  |
| Have meaningful consultations (free from coercion, with sufficient time to respond) been conducted?             | X |   |  |  |
| Is a project-level grievance mechanism required?                                                                | X |   |  |  |
| Is the grievance mechanism accessible, culturally appropriate, and trusted by stakeholders?                     | X |   |  |  |
| Has a reprisal risk assessment been conducted for stakeholders and project complainants?                        |   | X |  |  |
| Are measures in place to protect stakeholders from retaliation for raising concerns?                            | X |   |  |  |
| Is ongoing stakeholder engagement planned throughout the project lifecycle?                                     | X |   |  |  |

#### PART 4: SITE PHOTOS

