ACLAIM Africa Limited

Recruitment of MIS Officer

Practical Interview – Final Submission

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Executive Summary

This submission presents data cleaning, MIS design and integration, indicator reporting, IT troubleshooting, and database structuring aligned to NGO field operations. Outputs are designed for practical district and national reporting.

Q1: Data Quality & Cleaning (VSLA)

• Removed duplicate records to prevent inflated group/meeting counts (de-duplication key: group_name + meeting_date + enumerator).
• Standardized meeting_date to a consistent YYYY-MM-DD format; invalid dates were flagged.
• Converted financial and GPS fields to numeric; missing numeric values were filled with 0 for totals while retaining the original columns.
• Flagged unsynced submissions and invalid GPS coordinates for follow-up.
• Retained a set of data-quality flag fields to support ongoing validation and supervision.

Q2: MIS Design & Integration

1) End-to-end MIS data flow & validation points
• Field data collection (Kobo/ODK) with form-level validation (required fields, ranges, skip logic, dropdowns).
• Submission/sync to server when connectivity allows (basic submission checks and monitoring).
• Office/District review (completeness, duplicates, outliers) before reporting deadlines.
• Central storage as *Raw Layer* (read-only exports, versioned backups).
• Transformation to *Clean Layer* (standardize dates/locations/IDs, handle missing values, flag anomalies).
• *Reporting Layer* (indicator tables, pivots, dashboards) for management decisions.

2) Where datasets sit within the MIS
• VSLA / Education / Agriculture each exist in: Raw → Clean → Reporting layers.
• Raw: original CSV exports; Clean: standardized datasets; Reporting: aggregated tables and dashboards.

3) Linking fields across datasets & enforcing consistency
• Common linking fields: District, Subcounty, Reporting period (date/month).
• Consistency enforced via a master location reference list, controlled dropdowns (no free text), and central validation rules (reject unknown codes, standard formats).

4) Data access by role
• Field Officers: enter data (limited edits under supervision).
• MEAL: clean/validate/merge datasets (edit + approve cleaning).
• Program Teams: view and interpret reports (view only; raise queries).
• Management (Country Director): dashboard view/export only.
• IT/Admin: permissions, backups, uptime monitoring (no program edits).

Q3: Key Agriculture Indicators

Indicator	Value

Total Quantity Distributed	19,095 kg
Total Farmers Reached	2,500
Highest Seed Type	Groundnuts (5,075 kg)
Peak Distribution Date	29 Jan 2025 (800 kg)

Q4: IT & Network Troubleshooting

• Likely office-level causes: (1) bandwidth congestion during peak hours; (2) router/Wi■Fi overload or poor signal quality.
• Immediate checks: run a speed test during failure; restart router and check device load; verify DNS/proxy settings if applicable.
• Workarounds: use mobile hotspot/alternate ISP; schedule uploads during off■peak hours; allow offline collection then batch sync.

Q5: Database Structure & Controls

• Structure: Raw tables (vsla_raw, edu_raw, agri_raw) → Clean tables → Reporting tables (district/monthly summaries, dashboard indicators).
• Risk 1 (Accuracy): duplicate or inconsistent records. Control: unique constraints/IDs, validation rules, audit logs.
• Risk 2 (Availability): server downtime or data loss. Control: daily backups, redundancy, role-based access, monitoring/alerts.