

**DIGITALIZATION SYSTEMS AND
DIGITAL TRANSFORMATION
FOR SOMALI HUMANITARIAN
WORK**

**LEARNERS' HANDBOOK - TOT
EDITION**

ABOUT THE HANDBOOK

This Handbook provides practical guidance for integrating digital tools, systems, and mindsets into humanitarian and development programming. It is designed for field coordinators, sector leads, programme managers, MEAL teams, ICT officers, and Trainers of Trainers (ToTs) working in fragile, resource-constrained, and rapidly evolving contexts. The handbook supports organizations to strengthen data-driven decision-making, enhance accountability to affected populations, improve operational efficiency, and scale innovative solutions through responsible and inclusive use of technology. It offers practical frameworks, step-by-step approaches, case examples, and adaptable tools to help teams navigate digital change while ensuring data protection, safeguarding, equity, and sustainability remain central to programme delivery.



Towards Greater Effectiveness and Timeliness
in Humanitarian Emergency Response

TARGET PARTICIPANTS

- 1. PMWDO Technical and Programme Staff**
- 2. SOLO, CPD, AADSOM, and SYPD Officers**
- 3. Field Coordinators and Project Managers**
- 4. Sector Leads (Livelihoods, WASH, Health, Protection, Urban Resilience)**
- 5. TOTS**



EPR
Mo

UNIT 1. INTRODUCTION TO DIGITAL TRANSFORMATION IN HUMANITARIAN WORK

Learning Objectives:

- ❖ Understand digital transformation concepts
- ❖ Recognize its relevance to Somali humanitarian work
- ❖ Identify key digital opportunities

KEY CONCEPT

Digitization: The foundational step in any technological journey. It is the technical process of converting physical, analog information into a digital format that a computer, smartphone, or tablet can process. In the simplest terms, it is the act of "changing paper into computer or phone data." Without digitization, the benefits of modern technology such as instant sharing, long-term backup, and automated calculations remain out of reach.

THE EVOLUTION OF DATA

Step	Action	Result
Digitization	Scan a paper report.	You have a digital file (PDF/Image).
Digitalization	Use a mobile app for the report.	The process is faster and more accurate.
Digital Transformation	Use data to change your strategy.	The organization becomes more efficient and effective.

EXERCISE

Practical Exercise: Digital Mapping

Group work (5–7 people per group)

Step 1:

Mapping Current Tools (10 min)

- Each group lists:
- Tools currently used (paper, Excel, WhatsApp, Kobo)
- Purpose of each tool

Step 2: Who Uses What? (1 min)

Map:

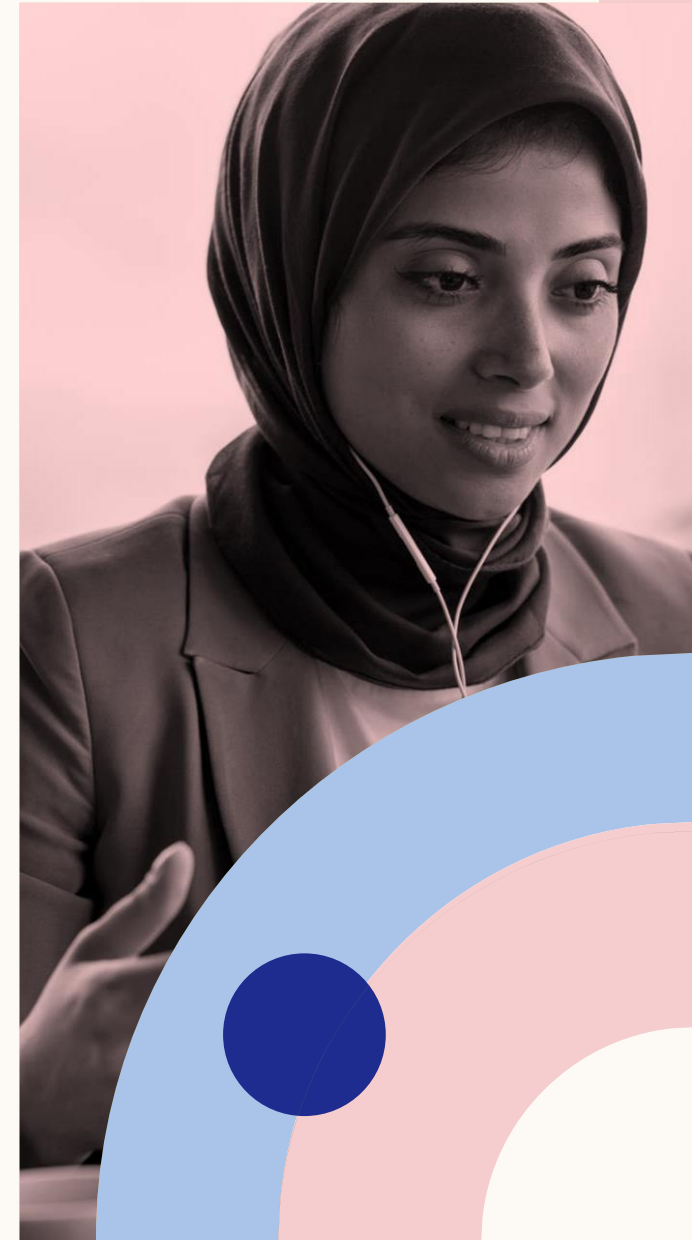
- ✓ Staff
- ✓ Volunteers
- ✓ Youth
- ✓ Women leaders

Step 3:

Challenges (15 min)

Identify:

- ✓ Skill gaps
- ✓ Power access
- ✓ Device availability
- ✓ Safety concerns



UNIT 2. ROLE OF DIGITAL TOOLS IN LOW-CONNECTIVITY HUMANITARIAN CONTEXTS

LEARNING OUTCOMES

By the end of this unit, participants will be able to:

- Select appropriate digital tools for low-bandwidth and no-internet settings
- Understand offline, SMS, USSD, and voice-based solutions
- Match digital tools to real connectivity conditions in Somalia
- Apply digital tools safely and realistically in humanitarian operations



UNDERSTANDING CONNECTIVITY IN SOMALIA

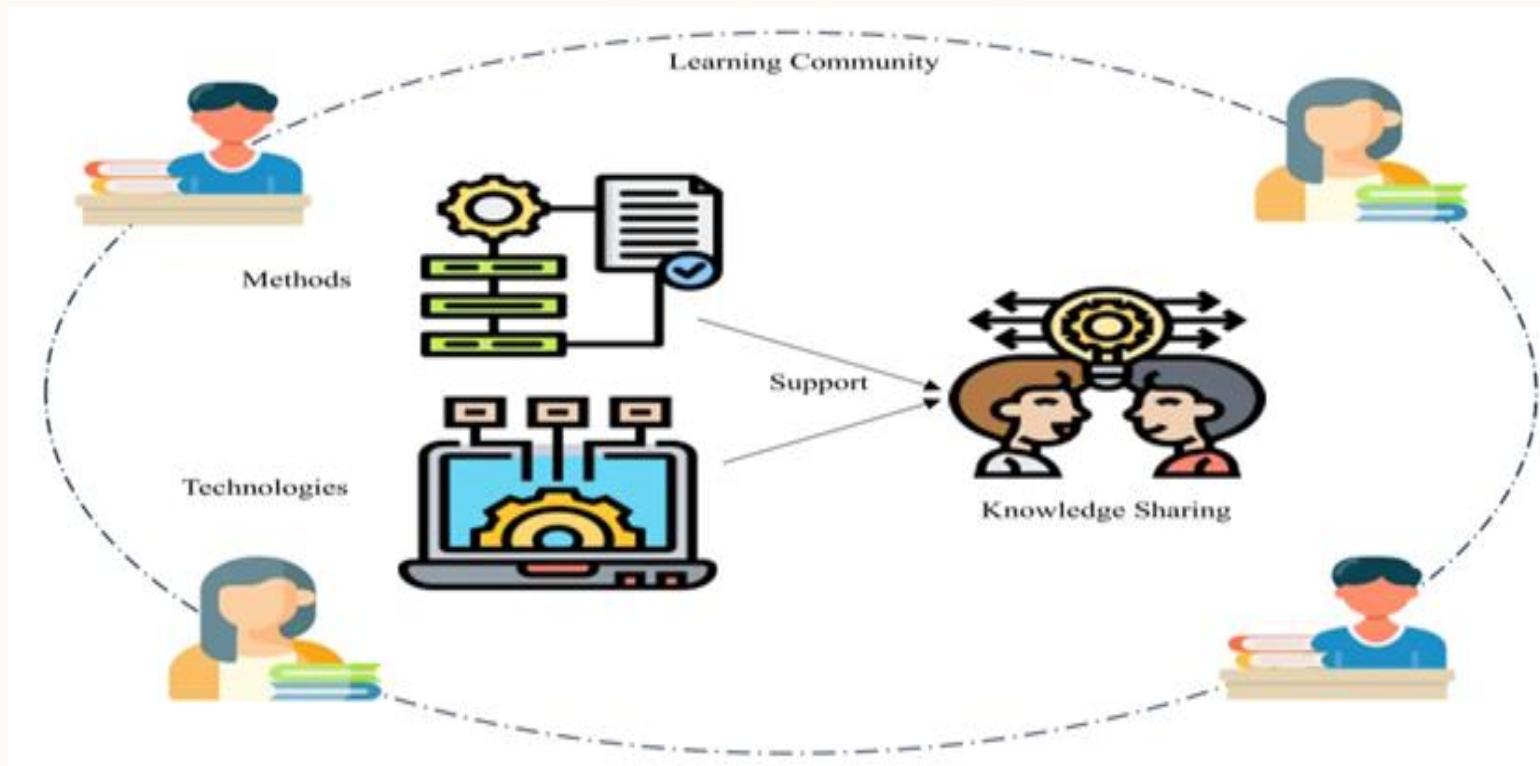
In Somalia, the "digital divide" is not just a technical hurdle—it is a daily reality for humanitarian workers. As of 2026, while urban hubs like Mogadishu and Baidoa see increasing fiber-optic links and 4G coverage, the vast majority of humanitarian interventions occur in areas where the internet is weak, expensive, or entirely unavailable.

Understanding Low-Connectivity is essential because it shifts our focus from "high-tech" dreams to "right-tech" realities. In this context, the goal is not to wait for a perfect signal, but to deploy systems that work regardless of it

Level	Description	Example
No Connectivity	No internet, weak or no signal	Remote grazing areas
Low Connectivity	Mobile signal only	Rural villages
Medium Connectivity	Slow internet	District towns
High Connectivity	Stable internet	Major cities

TAKEAWAY

Digital tools must fit people's reality, not assumptions.



EXERCISE

TOOL SELECTION

- Method: Group work (5–6 people)
- Step 1: Scenario Cards (20 min)
- Each group receives 3 scenarios:
- Pastoral area – no internet
- Rural village – mobile signal only
- District town – weak internet
- 🖼️ Visual:
- Scenario cards with icons

- Step 2: Tool Matching (15 min)
- Groups decide:
- Which tools to use
- Why they fit the context
- Risks and mitigation
- 📄 Worksheet provided
- Step 3: Group Presentations (10 min)

UNIT 3. AFFORDABLE ELECTRONIC EPR SYSTEMS AND MOBILE MONEY PLATFORMS

Introduction

Somalia's ecosystem is unique; mobile money (USSD-based) often replaces physical cash and traditional banking entirely.

Learning Outcomes

- Define the architecture of an Electronic Payment and Registration (EPR) system.
- Navigate the specific USSD interfaces of EVC Plus, SAAD, and Sahal for NGO use.
- Execute a 5-step bulk payment workflow without compromising data security.
- Implement "Do No Harm" protocols for marginalized groups (Elderly, IDPs, PLWD).

Somalia's Mobile Ecosystem

Platform	Operator	Region Strength	NGO Feature
EVC Plus	Hormuud	South/Central	Most widely used; supports \$121\$ USSD menus.
SAAD	Telesom	Somaliland	High security; robust merchant integration.
Sahal	Golis	Puntland	Excellent coverage in northern rural areas.

Risk Mitigation Matrix

Risk	Impact	Mitigation Strategy
SIM Swapping	High	Use "SIM-Lock" features and verify identity via community leaders.
Wrong Number Entry	Medium	Conduct a \$1\$ USD "test payment" before sending the full amount.
Network Outage	Low	Schedule payments during off-peak hours (avoid Friday afternoons).
Inflation/Exchange	High	Set transfers in USD where possible (standard for EVC Plus/SAAD).

Roleplay Simulation (30 Mins)

Scenario: “A flash flood in Baidoa has displaced 200 families. You have 3 hours to register and pay them 60 USD each.”

Group A (The Team): Must create a "Clean List" on paper.

Group B (The Beneficiaries): Some have lost their SIMs, one is blind, one is a "gatekeeper" trying to take a cut.

The Challenge: The Team must navigate these "shocks" while maintaining the EPR logs.

UNIT 4: ICT FOR DEVELOPMENT (ICT4D) IN THE SOMALI CONTEXT

Introduction

In Somalia, technology is not the *solution*; it is the *delivery vehicle*. If the community doesn't trust the driver, they won't get on the bus.

Learning Outcomes

- ✧ Distinguish between "Technology for Technology's sake" and "ICT4D" (impact-driven).
- ✧ Apply Human-Centered Design (HCD) to create tools that work for non-literate users.
- ✧ Deploy "Hybrid Solutions" (combining digital tools with traditional community structures).
- ✧ Identify "Data Sovereignty" risks specific to the Somali humanitarian landscape.

The 4 Pillars Of ICT4D In Somalia:

Affordability: Does it work on a \$15\$ USD "Nokia" feature phone?

Infrastructure: Does it work offline or on \$2\$G Edge networks?

Language: Is it in the local dialect (*Af-Maay* or *Af-Maxaatiri*)?

Orality: Does it cater to an oral culture (voice/audio) rather than just text?

Note: *Many NGOs fail because they build apps for smartphones when the community uses USSD. Always design for the lowest common denominator.*

Mirroring The Somali Oral Tradition

To truly integrate ICT4D into the Somali context, organizations can utilize the following strategies:

- ❑ Digital "Shir" (Meetings): Using voice-note groups or IVR systems to replicate the traditional community gathering, allowing for decentralized, spoken debate.
- ❑ Poetry as Messaging: Since the "Gabay" (poem) is a traditional way to share news and wisdom, using poetic structures in health or safety recordings can make the information more memorable and respected.
- ❑ Peer-to-Peer Audio: Encouraging community leaders to record "Voice Testimonials" that can be shared via WhatsApp or radio, as people are more likely to trust the voice of a neighbor than a generic automated message.

Inclusion Strategies:

- ❑ **Interactive Voice Response (IVR):** Like a phone menu you listen to. *"Press 1 for Food Support, Press 2 for Health."* Great for illiterate users.
- ❑ **Visual Icons:** Use the "Camel" icon for livestock alerts or a "Mother/Child" icon for nutrition.
- ❑ **Audio-SMS:** Sending links to short voice clips.
- ❑ **The "Radio-Mobile" Link:** Using local FM radio to broadcast a code, which people then text to a short code.

The ICT4D Toolbox

Tool	Best Used For...	Somali Context Tip
KoboToolbox	Rapid Needs Assessments	Use the "Offline" feature; sync when back in the office.
WhatsApp/Telegram	Community Engagement	The #1 tool in Somalia. Use "Broadcast Lists" for privacy.
*USSD (123#)	Feedback & Surveys	Works without internet. Zero cost to the beneficiary.
Viamo/3-2-1	Mass Education	Providing health info via toll-free voice calls.

PRACTICAL EXERCISE – THE "DESIGN SPRINT"

Objective: Solve a specific problem using a "No-Tech" or "Low-Tech" ICT solution.

Scenario Options:

Option A: A youth group wants to report "Peace-building" incidents safely.

Option B: A Women's Cooperative needs to track their daily savings.

Option C: An IDP camp needs to announce food distribution dates without causing a stampede.

Group Tasks:

- 1. Map the User Journey:** How does the person find out about the tool?
- 2. Identify the Barrier:** Is it battery life? Is it a "Gatekeeper" husband?
- 3. Choose the Tech:** SMS, Voice, or WhatsApp?

UNIT 5. DIGITAL LITERACY AND SAFEGUARDING FOR VULNERABLE COMMUNITIES

Introduction

In Somalia, a mobile phone is a lifeline, but for a woman in an IDP camp or a marginalized youth, it can also be a "digital window" for predators.

Objectives

- ❑ **Participants to be able to conduct** a Digital Risk Assessment for specific vulnerable groups (IDPs, Women, PLWD).
- ❑ **Participants to be able to Teach** "Digital Hygiene" (PIN management, SMS verification) to non-literate users.
- ❑ **Participants to be able to Implement** PSEA (Protection from Sexual Exploitation and Abuse) protocols within digital cash workflows.
- ❑ **Participants to be able to Detect and Counter** "Social Engineering" scams common in the Somali mobile money ecosystem.

Digital Hygiene & Local Literacy

- ❑ **Digital Literacy is a Shield.** We must move beyond "how to use a phone" to "how to stay safe."
- ❑ **Core Skills for the Somali User:**
- ❑ **The "Golden Rule" of PINs:** Never share the 4-digit code, even with NGO staff or shopkeepers.
- ❑ **SMS Verification:** Learning to distinguish a "System Message" (e.g., from Hormuud/Telesom) from a "Private Message" scam.
- ❑ **Physical Security:** Deleting sensitive transaction SMS after the money is withdrawn to prevent "taxation" at checkpoints.

Countering Scams And Misinformation

The "NGO Impersonator" Threat:

Scammers often call beneficiaries claiming to be "The UN" or "The NGO," asking for a "registration fee" to unlock their cash aid.

The "S.A.F.E." Verification Method:

- **S – Sender:** Is the number a hidden shortcode or a regular mobile number?
- **A – Ask:** NGOs will **never** ask for money to give money.
- **F – Fact-Check:** Call the official NGO hotline (show them the number).
- **E – Exit:** If they ask for your PIN, hang up immediately.

Gender-sensitive Digital Safeguarding

Safeguarding Strategies:

- ✧ **The "Private Booth" Concept:** During cash registration, provide a female-only space where women can set their mobile money PINs without men watching.
- ✧ **Sim-Card Ownership:** Assist women in registering SIMs in *their* legal names to ensure they maintain control over the "Digital Wallet."
- ✧ **Discreet Notifications:** If possible, schedule disbursements during daylight hours when women are more likely to have access to the phone.

PSEA in the Digital Era

Digital tools create new power dynamics. We must prevent **Digital Extortion**.

Critical Safeguards:

- **No "Phone for Favors"**: Ensure community volunteers understand that asking for a beneficiary's number for personal reasons is a breach of PSEA.
- **Anonymized Reporting**: Use a "Shortcode" (e.g., 444) for reporting abuse so that the caller's identity is protected from local staff.
- **Data Minimization**: Only collect the phone number. Do not store photos of beneficiaries alongside their financial data unless absolutely necessary.

Practical Exercise – The "Security Audit"

Objective: Identify the "Weakest Link" in a digital program.

Activity (60 Mins):

Step 1: Give each group a "Beneficiary Persona" (e.g., Halima, 60, illiterate; or Ahmed, 19, IDP youth).

Step 2: Walk through a "Digital Day." How do they get the message? Who sees the phone? Where do they keep the PIN?

Step 3: Groups must identify three "Leakage Points" where the beneficiary could be scammed or harassed.

Step 4: Groups present one "Low-Tech" fix (e.g., a sticker on the phone with the NGO hotline).

UNIT 6: MOBILE-BASED DATA COLLECTION AND REPORTING

Target Participants:

MEAL officers, programme staff, youth enumerators, community volunteers, women-led CSOs

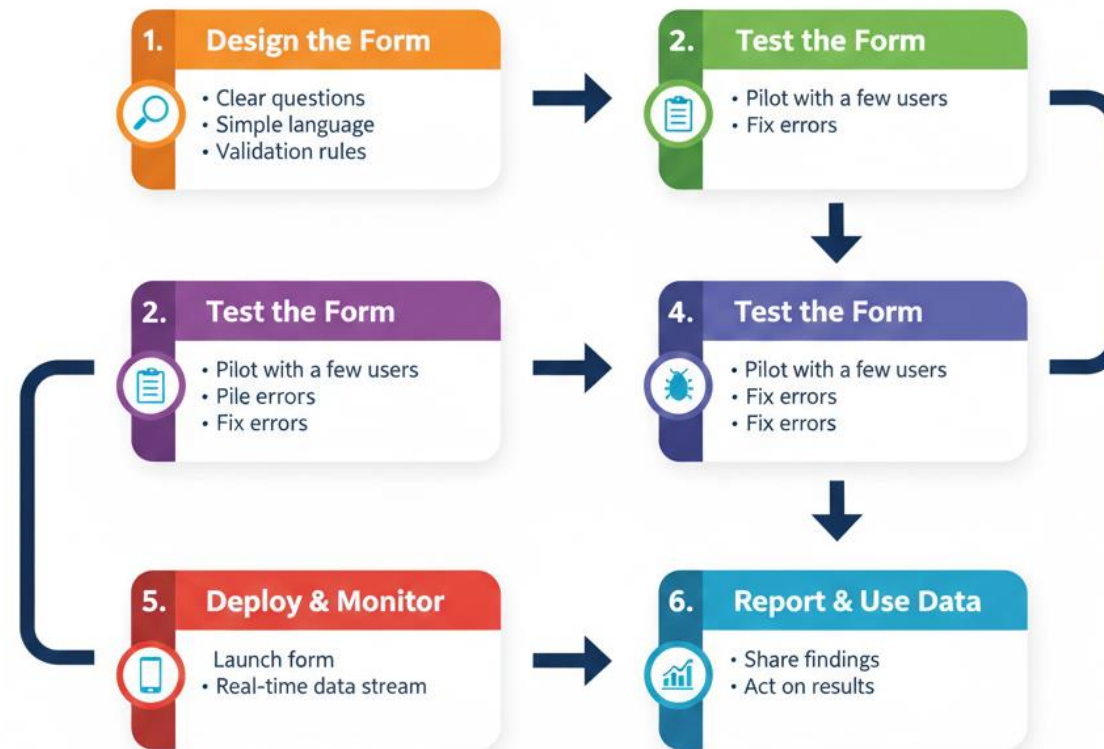
Objectives

- Use of mobile-based data collection tools confidently
- Selection of appropriate tools for low-connectivity settings
- Improved data quality, accuracy, and timeliness
- Application of mobile reporting in hard-to-reach areas

Key Mobile Data Tools

- KoboToolbox
- ODK (Open Data Kit)
- SMS-Based Reporting Systems

Mobile Data Collection Workflow



Simulation – Mobile Data Collection Practice

Objective:

Practice using mobile tools to collect, sync, and review data.

Simulation Steps

Participants form small groups

Each group receives:

- A sample Kobo/ODK form
- A mock monitoring scenario

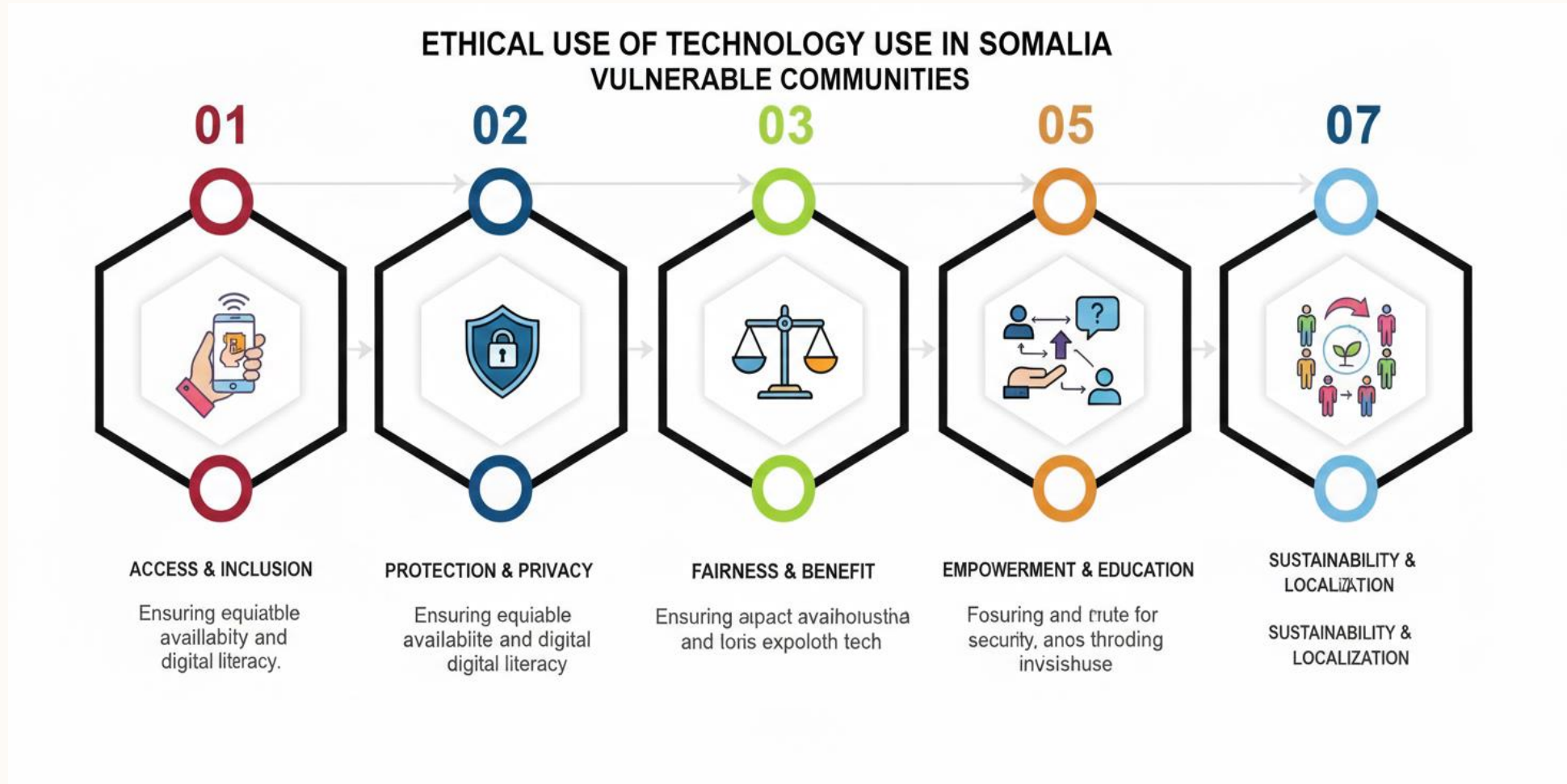
Groups:

- ❖ Conduct mock interviews
- ❖ Enter data offline
- ❖ Sync data (simulated)



Participants practicing data collection in pairs

UNIT 7: ETHICAL USE OF TECHNOLOGY IN VULNERABLE COMMUNITIES






Reasons For Ethics

1. High-Stakes Targeting Risks: Somalia's complex social fabric means that data leakage isn't just a privacy breach—it's a physical threat. If a digital database identifying minority clans, female-headed households, or internally displaced persons (IDPs) falls into the wrong hands (such as local militias or extremist groups), it can be used as a "hit list" for taxation, forced recruitment, or targeted violence.
2. Preserving Human Dignity: Humanitarian aid should never feel like a "transaction" where the price is one's biometric identity. When we demand fingerprints or facial scans from a mother in exchange for a food voucher, we risk stripping away her agency. Ethics forces us to ask: *Are we treating her as a human being or as a data point?*
3. The Fragility of Trust: In many regions of Somalia, rumors spread faster than data. If a community perceives that their information is being shared with intelligence agencies or used to "track" them, they will stop participating in programs. Once this trust collapses, humanitarian access is lost, and the mission fails.

Pillar Framework

Always operate within the, 'Do No Harm' principle: Technology is never neutral; it can create new risks even with the best intentions.

Pillar	Core Question
 Consent	Did they truly agree?
 Purpose	Do we really need this data?
 Transparency	Can they question or correct it?

Practical Exercise – The Ethical Dilemma Lab

Scenario

A donor offers **\$500,000 USD** but demands:

- ✓ Full GPS locations
- ✓ Phone numbers of every mother assisted

Group Tasks

1. Identify the Risk

- ✓ What happens if data is hacked?
- ✓ Who could be harmed?

2. Propose a Compromise

- ✓ Aggregated maps
- ✓ Anonymized IDs
- ✓ Third-party verification

3. The Pitch

Role-play explaining to the donor:

“Data collection is not a panacea for ethical dilemmas. It is a tool that can be used for good or ill.”





UNIT 8: DATA PROTECTION AND SECURITY IN FRAGILE CONTEXTS

Objectives:

Participants to be able to:

- ❖ Classify data based on Somali-specific sensitivity levels
- ❖ Implement secure storage for physical and digital records
- ❖ Apply strong password, encryption, and device security practices
- ❖ Execute safe data-sharing protocols with partners and donors
- ❖ Respond effectively to data loss or security incidents

Data Classification Table

Category	Type of Data	Security Requirement
 Public	Flyers, press releases	No restriction
 Internal	Staff schedules, meeting notes	Password protected
 Sensitive	Budgets, staff IDs	Encrypted, restricted
 Highly Sensitive	Beneficiary names, GPS, biometrics	Highest encryption, strict access

Practical Exercise – Data Protection Checklist

Duration: 30 Minutes

Objective: Create a **localized Data Safety Checklist**

- **Group Task**
- Develop a **10-point checklist** for your office or project.

Example Items

- Is my device encrypted?
- Have I deleted old beneficiary data?
- Is 2FA enabled?
- Am I using public Wi-Fi safely or with VPN?
- Do I know who to contact if my device is lost?

UNIT 9: DIGITAL CROWDFUNDING AND SOMALI DIASPORA ENGAGEMENT

Definition of Crowdfunding:

Crowdfunding is the digital evolution of the traditional Somali *Hagbad* or *Aaur* (community pooling). Instead of just local neighbors, your "crowd" is now the millions of Somalis living in London, Minneapolis, Dubai, and beyond.

Learning Objectives:

By the end of this unit, participants will be able to:

- ✓ Navigate specific crowdfunding platforms like *Bulshokaab* and *Tarmiye*.
- ✓ Build Trust with the diaspora through "Proof of Impact" digital storytelling.
- ✓ Design a "Social-for-Change" campaign that balances local needs with diaspora interests.
- ✓ Maintain 100% financial transparency using digital dashboards and bank-linked systems.

Diaspora Engagement Strategies

The Somali diaspora doesn't just want to give "charity"; they want to see Sustainable Change and Partnership.

How to Engage Them:

- 1) Localized Messaging: Use the *Af-Soomaali* dialect of their home region to build an emotional connection.
- 2) Celebrate the "Homegrown": Highlight that the project was designed by locals.
- 3) The "Liaison" Model: Identify "Diaspora Champions"—influential people in the US or Europe who can vouch for your project to their networks.

Practical Exercise – Campaign Design

The Task: Your group is a "Youth Climate Committee." You need **\$5,000** to plant 1,000 trees and install a water tank in your district.

- **Step 1: The Hook.** Write a 3-sentence "Emotional Pitch."
- **Step 2: The Transparency Plan.** How will you show the diaspora the trees are actually growing in 6 months?
- **Step 3: The Call to Action.** Which platform will you use (Bulshokaab, GoFundMe, or local USSD)?
- **Step 4: The Presentation.** Pitch your campaign to the "Diaspora Jury" (the other participants).





UNIT 10: MONITORING, EVALUATION, AND LEARNING (MEL) FOR DIGITAL INTERVENTIONS

Learning Objectives:

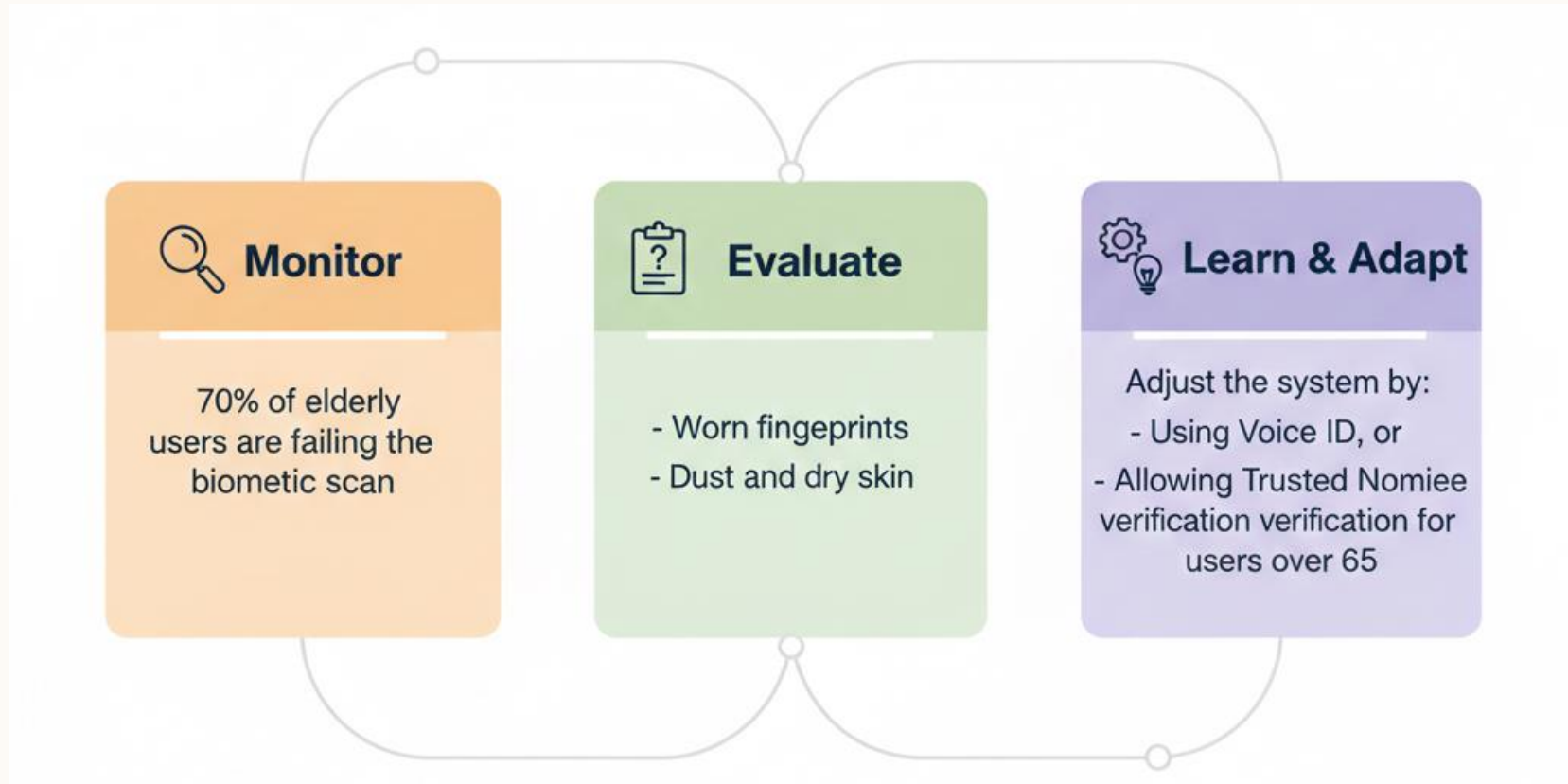
By the end of this unit, participants will be able to:

- Design a Digital MEL Framework using SMART indicators for technology-based programs.
- Measure efficiency gains (time and cost) when using digital systems instead of paper.
- Track inclusion, especially for women and marginalized groups, in digital platforms.
- Apply Adaptive Management by using real-time data to adjust programs quickly.

Key Indicators For Digital Success

Category	Sample SMART Indicator	Why It Matters in Somalia
 Efficiency	% reduction in 'Time-to-Transfer' (from registration to cash in hand)	During sudden floods or droughts, a delay of 3 days vs. 10 days is a matter of survival.
 Inclusion 	Ratio of female-to-male users accessing the digital feedback hotline help-desk intervention	Prevents the "Digital Divide" from making women's voices invisible in a matter of for te local context.
 Trust	% of digital complaints resolved and closed within a 48-hour window	If we ask for digital feedback but never reply, we destroy community trust in the system.

The 3-step Learning Loop



Case Study – Real-time WASH Monitoring

Context

2025 drought response in **Mudug region**

Intervention

Solar-powered boreholes with digital sensors

MEL in Action

Tool:

Sensors sent SMS alerts when water flow dropped.

Data Insight:

Dashboard showed **3 remote boreholes failing every Friday**.

Learning:

Youth volunteers found solar panels were covered in dust from passing livestock.

Adaptive Response:

NGO trained local youth as **Solar Maintenance Teams** to clean panels every Thursday evening.

Outcome

- **30% increase in water availability**
- No additional NGO staff visits required

Field Practical – Digital MEL Framework Design

Method: Group Strategy Session

UNIT 11: DESK REVIEW – LHP GAPS & OPPORTUNITIES

Learning Objectives:

This unit provides a strategic "reality check" on the current state of Digital Transformation for Local Humanitarian Partners (LHPs) in Somalia. By identifying where the systems are breaking down (Gaps) and where the environment is naturally strong (Opportunities), organizations can build a roadmap that is both realistic and ambitious.

ANALYZING THE GAPS (THE ROADBLOCKS)

Gap 1: The Digital Literacy Divide

There is a significant disconnect between the "Tools" available and the "Talent" using them.

- ❖ **The Risk:** When senior management doesn't understand analytics, they cannot make data-driven decisions. When field staff struggle with tablets, they revert to paper, creating "shadow systems."
- ❖ **Root Cause:** Learning is often informal and "ad-hoc" rather than a core part of staff development.

Gap 2: Vulnerable Data Protection

Speed often comes at the expense of security. Shared passwords and lack of encryption are common.

- **The Risk:** In Somalia, a data leak isn't just a fine—it's a threat to life. If sensitive beneficiary lists are exposed, it undermines the "Do No Harm" principle.

Gap 3: The "Security Blanket" of Paper

Many organizations suffer from "Digital Duplication"—doing the work on a tablet but keeping a paper copy "just in case."

- ✓ **The Risk:** This doubles the workload, increases the chance of errors, and slows down reporting.
- ✓ **Root Cause:** A lack of trust in digital backups and fear of donor audits that still prioritize physical signatures.

Gap 4: Institutional Memory Loss

When a tech-savvy staff member leaves, the "knowledge" often leaves with them because adaptations aren't documented.

- **The Risk:** The organization repeats the same technical mistakes project after project.

Strategic Opportunities (The Accelerators)



Mobile Money Mastery

With high trust in EVC Plus/Sahal/Zaad, LHPs can integrate cash transfers directly into digital MEL MEL systems for instant verification



The Youth Dividend

75% the population is under 30. These "Digital Natives" can be the engine for data quality checks and peer-to-peer training



Diaspora Expertise

The Somali diaspora holds world-class ICT skills. Remote mentorship and audits can bridge the local technical gap at a low cost

UNIT 12: ACTION PLANNING AND APPLICATION

Objective: Translate digital learning into practical, ethical, and context-appropriate action

The Action Plan Core Pillars:

1. **Process:** What specific task are we improving?
2. **Safeguarding:** How are we protecting the people behind the data?
3. **Measurement:** How do we prove it actually worked?

Exercise – Develop an Action Plan Framework

Participants to work in clusters (MEL, Program, and ICT) to design a 3–6 month roadmap.

The Selection Criteria (The "Realistic" Check):

- ❖ Does it use existing local resources?
- ❖ Does it solve a recurring "pain point" (e.g., slow payments or messy data)?
- ❖ Does it increase inclusion for marginalized groups?

Select One Digital Process

- Instead of overhauling an entire NGO's infrastructure, we focus on a single workflow.
- **Common Digital Shifts in Somalia:**
 - **Registration:** Moving from paper books to **KoboCollect** with GPS verification.
 - **Payments:** Transitioning from cash-in-envelopes to **Mobile Money (EVC/Sahal/Zaad)**.
 - **Feedback:** Moving from physical suggestion boxes to an **IVR or WhatsApp** hotline.

**THANK
YOU**

