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Designing and Deploying AI Tools to Support Humanitarian Practice: A Practical Guide

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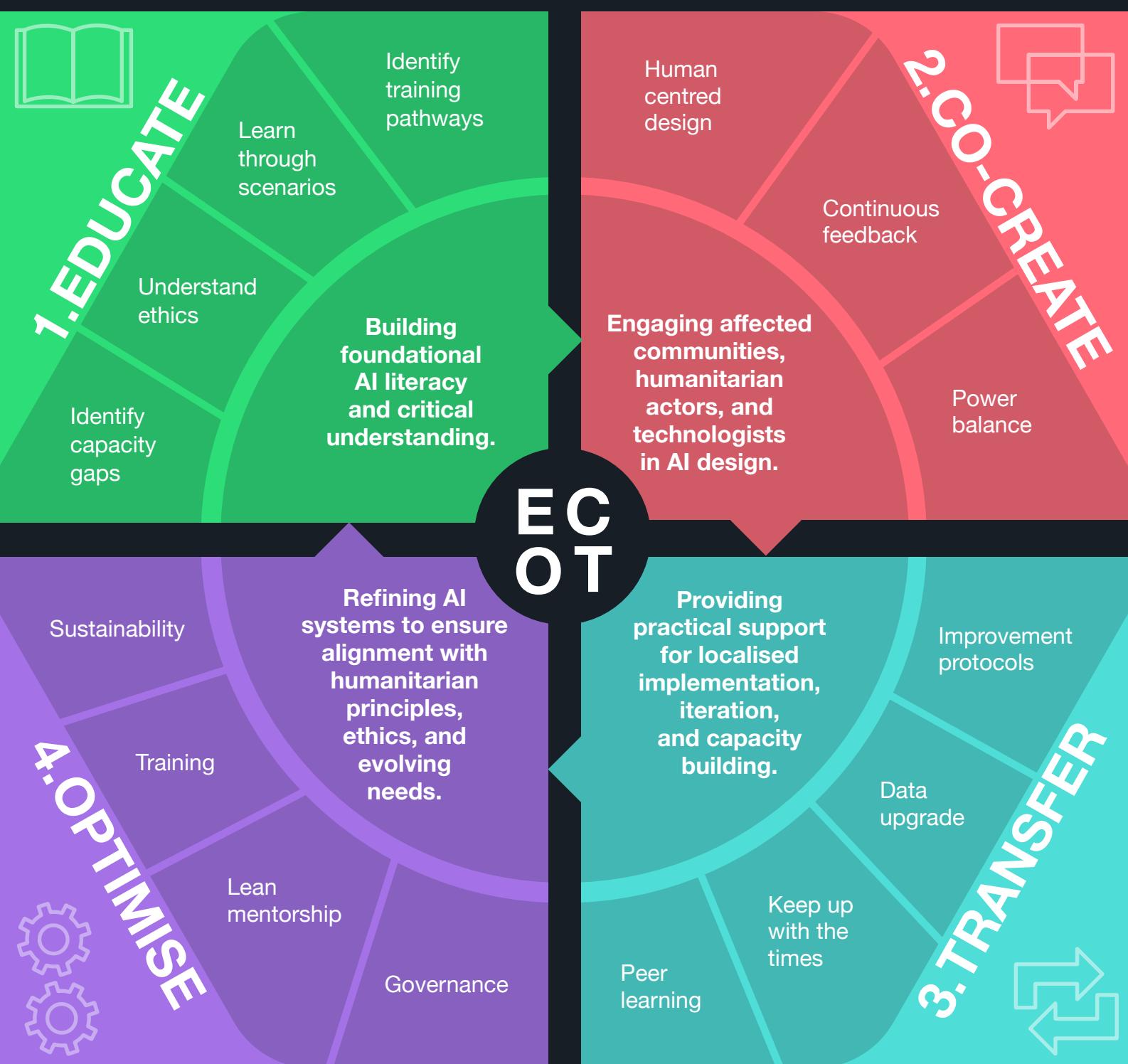
A structured framework for the responsible and sustainable adoption of AI in humanitarian applications.

Where does ECTO come from?

ECTO is grounded in human and value-sensitive design, participatory approaches, explainability, and iterative refinement.

What does ECTO do?

The ECTO framework offers a clear, practical, adaptable roadmap for organisations looking to leverage AI in a way that is ethical, inclusive, and contextually relevant.



Designing and Deploying AI Tools to Support Humanitarian Practice:

A Practical Guide

Artificial Intelligence (AI) has the potential to significantly enhance humanitarian responses across various domains, including disaster preparedness, resource allocation, and needs assessment. While the technology offers transformative opportunities, it raises ethical challenges, such as biased data leading to inequitable decisions. Technology for humanitarian applications must uphold the principles of humanitarianism: Humanity, Impartiality, Neutrality and Independence.

This how-to guide is designed for humanitarian professionals—including sectoral specialists, field coordinators, and program managers—who want to integrate AI into their work responsibly and effectively. Whether you are mapping flood-risk zones, optimising aid distribution routes, or improving beneficiary registration systems, this guide offers a structured approach to harnessing AI ethically and impactfully.

This guide is built upon a rigorous, multi-method research process, drawing from:

- A **scoping literature review** of recent academic and grey literature on AI tools and applications in humanitarian settings.
- A **thematic analysis of 62 in-depth interviews** with AI technology experts, frontline humanitarian practitioners, policy developers, and technologists.
- Insights from a **23-week learning journey** co-designed and delivered with 10 humanitarian organisations, providing real-world perspectives on AI adoption.

At its core, the guide introduces ECTO, a structured framework for the responsible and sustainable adoption of AI in humanitarian applications.

ECTO stands for:

EDUCATE: Building foundational AI literacy and critical understanding. p.4

CO-CREATE: Engaging affected communities, humanitarian actors, and technologists in AI design. p.8

TRANSFER: Providing practical support for localised implementation, iteration, and capacity building. p.12

OPTIMISE: Refining AI systems to ensure alignment with humanitarian principles, ethics, and evolving needs. p.16

Grounded in human and value-sensitive design, participatory approaches, explainability, and iterative refinement, the ECTO framework offers a clear, practical, adaptable roadmap for organisations looking to leverage AI in a way that is ethical, inclusive, and contextually relevant.



EDUCATE

Identify Capacity Gaps

To use AI effectively and responsibly in humanitarian settings, staff first need a clear understanding of what AI is, its limitations, and the ethical challenges it presents. Organisations such as the International Committee of the Red Cross (ICRC) emphasise that even basic demographic data can become dangerous if warring parties misuse it¹. In such a high-stakes environment, humanitarian teams need to understand AI's capabilities, limitations, and ethical pitfalls. While it's not necessary to understand every technical detail—just as one doesn't need to know how a car engine works to drive safely—it is essential to know how to develop AI tools fairly and responsibly. This means understanding how AI generates its outputs, recognising potential risks, and ensuring its use aligns with humanitarian principles.

Key Action: Identify Skill Gaps

- Conduct a quick baseline survey or one-on-one interviews to gauge staff familiarity with AI.
- Determine key requirements and appetite for learning.
- Determine priority areas (e.g., data security, ethical review) where knowledge is lacking and is relevant for the organisation.

Understand Ethics

Humanitarian practitioners follow the Sphere Handbook and the Core Humanitarian Standard for guidance on accountability, protection, and community engagement². AI, on the other hand, is fundamentally about data and the algorithms that analyse that data for patterns and insights. By highlighting overlaps—for instance, between the Core Humanitarian Standard's commitments and the global ethics guidelines from the OECD and the EU AI Act^{3,4}—humanitarian staff can see how AI ethics interact with their existing responsibilities. A model predicting displacement trends, for instance, may produce erroneous or skewed outcomes if the data feeding it is incomplete or historically biased. Médecins Sans Frontières (MSF), for instance, has dealt with ethical challenges in conflict settings where sensitive patient geolocation data could compromise clinic locations if intercepted by armed groups⁵. Recognising such ethical red flags is central to the education dimension of the framework.

Key Action: Link AI Ethics to Existing Codes and Standards

- Organise short sessions mapping relevant AI principles (e.g., transparency, accountability) to established humanitarian guidelines (e.g., Sphere Handbook) specific to the project and context.
- Provide simple guidance documents that show how AI ethics complement humanitarian principles.

Learn through Scenarios

AI education in humanitarian contexts must be both practically applicable and ethically comprehensive. At a basic level, staff should understand how AI models work, what kinds of biases can creep into datasets, and why it is risky to over-rely on algorithmic predictions. Interactive resources like the Digital Dilemmas Experience⁶ allow practitioners to walk through simulated AI pitfalls in a safe environment, so when they encounter similar situations in the field, they know how to respond. They should also be able to spot potential dual-use scenarios, where humanitarian data might be co-opted for surveillance or conflict-related targeting. Teaching modules should include scenario-based exercises to illustrate how poor data practices can lead to real-world harm.

Humanitarian organisations can also develop decision-support checklists, covering everything from data security steps to community consent procedures. They can also maintain a library of case studies and previous examples complimenting the education, highlighting lessons from AI failures and successes in humanitarian projects worldwide. These practical tools allow staff to transform theoretical knowledge into day-to-day practice, making them more confident in challenging or refining proposed AI interventions.

Key Action: Include Scenario-Based Exercises

- Use simulations (e.g., an AI tool that predicts cholera outbreaks but also reveals sensitive population clusters) to show how mishandled data can lead to harm.
- Discuss dual-use risks explicitly: how might a seemingly benign tool be repurposed in a conflict/emergency setting or misused?
- Justify the use of AI for the given application.
- Make a checklist of questions staff should ask before adopting AI (e.g., “Is informed consent feasible here?”).
- Maintain a shared drive or internal wiki with case studies and best practices⁷.

Training Pathways

A few generalised workshops won't be enough. Instead, organisations should layer training sessions according to staff roles. Introductory courses can clarify AI fundamentals for field officers, while more advanced topics might suit regional data focal points. Ongoing support is equally important: short monthly discussions or regular events can keep staff updated on the latest policies, technologies, and ethical concerns. Another key consideration is cultural and linguistic relevance. Learning materials should be adapted to local languages and contexts, especially where connectivity is limited, so that field teams are not left behind. Moreover, sustaining AI literacy requires it to become part of standard organisational policy. Leadership can ensure each new AI project undergoes an ethics review, akin to a medical ethics board. They can also integrate AI competencies into staff development plans and performance reviews. By giving AI training the same priority as security or safeguarding training, agencies signal that data responsibility is integral—not optional—in humanitarian settings.

Key Action: Build Progressive Training Paths

- Offer three tiers: Basic (field teams), Intermediate (coordination), and Advanced (data specialists).
- Schedule regular refreshers or informal “office hours” for real-time problem-solving.
- Illustrate potential bias scenarios using culturally relevant examples (e.g., clan-based conflict, religious tensions).
- Translate materials into local languages; provide offline modules where internet access is weak.
- Develop an ethical review process against a set framework for AI projects. Mandate an ethics sign-off or certification process for any new AI pilot.

Education protects against the trap of “techno-solutionism,” where complex social and political challenges are hastily delegated to an algorithm. It also curbs underfunding: many organisations fail to allocate resources for thorough training, only to face larger problems when ill-informed staff deploy AI incorrectly. A well-structured education program brings these vulnerabilities to light early, allowing teams to anticipate misuse or bias and take preventive action. Training sessions on humanitarian topics—whether short monthly gatherings or hands-on, scenario-based workshops—help staff not just spot red flags early but also be creative in driving innovation. However, there may be a few common pitfalls if education is not properly administered:

- **Overload & Burnout:** Attempting to teach too much technical detail at once, leading to confusion and disengagement.
- **Tokenistic Training:** One-off sessions without long-term mentorship or follow-up.
- **Unclear Leadership Commitment:** If senior managers do not champion AI literacy, staff may deprioritise learning.

FAQs and Troubleshooting



1. Our staff find AI too complicated. How can we keep them engaged?

Focus on scenario-based and hands-on learning rather than abstract theory. Demonstrate how AI can simplify daily tasks (e.g., spotting trends in beneficiary data) and use real examples that resonate with their work. Start small—staff are more receptive when they quickly see practical benefits.

2. Leadership doesn't see the value of AI training. How do we secure buy-in?

Present case studies where AI improved outcomes (e.g., more accurate targeting of resources). Emphasise risk avoidance—an untrained team could misuse data, harming both beneficiaries and organisational reputation. Propose short, cost-effective sessions that won't disrupt operations.

3. We don't have in-house data experts. Who handles the initial training?

Partner with local universities, tech volunteers, or specialised NGOs that offer short-term training. Build local “champions” from staff with a knack for technology, empowering them to train peers over time. This gradual approach avoids dependency on external consultants.

4. Our project sites have limited internet. How do we run e-learning modules?

Use offline-friendly training materials (flash drives, printed guides, or app-based tutorials that don't need constant connectivity). Schedule small-group gatherings where content can be shared via a local hotspot or an offline server.



CO-CREATE

Just as core humanitarian staff need to be equipped with a foundational understanding, local communities, frontline teams, and other relevant stakeholders in humanitarian responses should be included when shaping AI solutions.

Co-creation goes beyond simply asking communities for input; it aims to involve local stakeholders at every stage of AI development and deployment. It should begin as early as the ideation phase, inviting local stakeholders to define the problem statement, identify potential pitfalls, and shape key design principles. By actively engaging frontline staff, grassroots community groups, and affected populations, organisations create AI solutions that reflect genuine needs, socio-cultural dynamics, and operational constraints. This participatory approach aligns with the CHS (2), particularly the commitment to involving crisis-affected communities in decision-making processes that concern them.

Human Centred Design

AI tools and their outputs embed the assumptions, data, and design choices of their creators. Without local voices, biases and blind spots can go unnoticed, leading to tools that are inaccurate or even harmful to those they intend to serve. Practitioners can draw on methods from human-centred design⁸ and value-sensitive design⁹. These approaches emphasise iterative cycles of prototyping, user feedback, and redesign. By cycling through repeated testing and refinement, organisations minimise the risk of launching an AI tool that seems powerful on paper yet fails to address the community's lived realities.

Key Action: Identify & Map Stakeholders

- Include community representatives, frontline staff, local authorities, and especially marginalised subgroups (e.g., women, persons with disabilities, ethnic minorities etc.).
- Conduct field visits and contextual inquiries.
- Document their potential roles, interests, and unique insights.
- Host sessions where local stakeholders brainstorm AI use cases, share their concerns and prioritise community needs.
- Use simple tools (sticky notes, posters) to collect feedback that can guide initial prototypes.
- Map these individuals and organisations to understand connections and dynamics that affect the wider social landscape.

Continuous Feedback

Co-creation feedback mechanisms should be built into project timelines and governance structures so that community members can continuously shape how AI is used, refined, and monitored. Co-creation is an ongoing relationship. One-off engagements risk leaving communities with half-finished solutions or “pilot projects” that vanish when donor funding ends. Even seemingly technical choices—like selecting an open-source AI library vs. a proprietary platform—carry ethical and practical implications for local teams. Involving communities in these decisions ensures that infrastructure constraints (e.g., low connectivity, language barriers) and local priorities (e.g., need for offline functionality) guide technology adoption. Humanitarian guidelines reinforce the need for ongoing, accountable engagement with crisis-affected populations.

Key Action: Establish Regular Feedback Loops

- Include multi-year strategies for joint monitoring, training updates, and iterative improvements. Seek donor support specifically earmarked for capacity-building and long-term local partnerships.
- Clarify roles and responsibilities - who collects data, where it is stored, who can delete or modify it, and how consent is obtained.
- Create easy-to-use feedback channels (e.g., phone lines, instant messaging groups) for reporting issues or suggestions. Use existing frameworks (IASC Operational Guidance on Data Responsibility, DSEG) to ensure transparency and respect for local concerns.
- Keep a living record of how and why tool selections are made, ensuring visibility for all partners. Translate key documents into local languages for accessible reference.
- Encourage local AI experts and communities to be more engaged.

Power Balance

Power imbalances can persist even when communities are formally invited to participate. If external actors retain control over data or final decision-making, local engagement remains superficial, and technology becomes a new form of colonialism. Drawing on guidelines such as the ICRC’s Handbook on Data Protection in Humanitarian Action¹⁰ ensures that vulnerable groups are not left powerless over the information collected about them. Effective co-creation sets up joint governance mechanisms where local voices hold real authority to shape or veto AI system changes.

Key Action: Create or Strengthen Local Oversight Committees

- Include community members, local NGOs, and possibly municipal officials.
- Give committees the authority to suggest significant modifications to data usage or model retraining.
- Train external experts to actively listen and take control where appropriate.
- Ensure language interpretation is available, and that each stakeholder has equal space to speak.
- If external consultants or agencies must leave, ensure local actors have the resources, contacts, and authority to manage the AI system independently.

Co-creation is not a cosmetic add-on; it's a foundational approach and a humanitarian commitment to ensuring that tools are both locally relevant and ethically grounded and ultimately safely used through shared governance. By actively involving diverse stakeholders—especially marginalised groups—in everything from initial design to ongoing oversight, humanitarian organisations can build trust, reduce bias, and create solutions that truly serve local needs.

FAQs and Troubleshooting



1. What if the community is reluctant to share data?

Start by building trust through transparent communication about how data is collected, stored, and used. Emphasise benefits (e.g., targeted aid) and discuss risk mitigation (like anonymisation or encryption). Offer a clear opt-out process to respect personal choice.

2. How do we handle language barriers in co-creation workshops?

Use professional interpreters, bilingual staff, and visual tools (posters, infographics) to facilitate input. Provide translated summaries or real-time interpretation. If resources allow, develop AI prototypes in multiple local languages so participants can meaningfully engage.

3. Some local stakeholders aren't comfortable speaking up against external experts. How can we ensure genuine feedback?

Offer confidential channels (e.g., suggestion boxes, private interviews). Explicitly emphasise that local input is crucial and that no negative repercussions will follow from voicing concerns. Appoint a trusted local mediator or community leader to encourage open dialogue.

4. Our co-creation process is taking too long. We have urgent deadlines!

Balance urgency with meaningful engagement: Hold focused, time-bound workshops with clearly defined objectives and deliverables. Set mini milestones (e.g., prototyping sessions every two weeks) so the community sees progress while still having opportunities to give input.



TRANSFER

Humanitarian contexts are dynamic, often requiring rapid adjustments to programs and tools.

While AI can enhance efficiency and quicken decision-making, the gains evaporate if local teams aren't fully equipped to manage and adapt these systems over time. The Transfer phase tackles this challenge by ensuring that skills, authority, and system adaptability gradually shift from external actors to the people who interact daily with the crisis environment.

Training

A well-designed AI tool will lose its relevance unless the people using it are trained to adapt, maintain, and troubleshoot it over time. In the humanitarian space, it's all too common for external consultants or donor-funded projects to set up sophisticated systems, only to leave local teams with insufficient capacity or governance structures to manage them. Meaningful and lasting impact arises when local ownership is nurtured through consistent investment and funding in training, mentorship, and authority-sharing, as well as buy-in from local champions to adopt and adapt AI tools to local contexts and for local benefits.

Key Action: Assess Local Capacity Early

- Use a simple assessment tool and training packages to impart technical skills, digital literacy, and leadership readiness among local staff.
- Identify institutional funding to support the transfer process.
- Identify “champions” who can help lead capacity-building efforts and sustain momentum once external support ends.

Sustainability

Even the most advanced AI system is only as valuable as the team that maintains and refines it. In humanitarian settings, it's common for donor-funded technology projects to be set up and then left in stasis once the project cycle closes. Transfer prevents this by embedding

ongoing mentorship, incremental skill-building, and clear governance structures. Moreover, instead of launching a complex predictive model from the start, organisations might begin with simpler features—like data dashboards or alert systems—allowing local staff to gain confidence step by step. Each phase of system expansion can be accompanied by targeted training sessions and real-world practice, reinforcing new skills in context.

Key Action: Plan for Post-Deployment from Day One

- Map out how and when external experts will gradually hand over key responsibilities (e.g., data cleaning, model retraining) to local teams.
- Align this timeline with donor expectations, ensuring that capacity-building and exit strategies are officially recognised as deliverables.
- Include a line of funding for local training and technology transfer.
- Use each new feature rollout as a training milestone—staff gain familiarity with one module before tackling the next.
- Schedule monthly one-on-one or small-group sessions to identify challenges, knowledge gaps, and opportunities for deeper training.
- Encourage staff to share tips or shortcuts on what they've discovered.

Lean Mentorship

Classroom-based training has a limited impact if staff can't apply what they learn in real-world scenarios. Transfer emphasises on-the-job mentorship, where data experts and local staff collaborate directly on AI tasks—cleaning data, interpreting outputs, and tweaking parameters. Peer-to-peer exchanges such as staff rotations can also accelerate learning.

Key Action: Establish a Mentoring Program

- Pair each local staff member with an experienced “mentor” (internal or external) who offers daily or weekly guidance.
- Define clear mentorship goals (e.g., by month's end, staff can independently run data quality checks).
- Organise site visits or online knowledge-sharing sessions where teams can discuss challenges and best practices.
- Recognise success stories—like a local team that solved a tricky data pipeline issue—and invite them to present their methods.

Governance

Skill transfer alone doesn't guarantee true local ownership if the power to make decisions remains with external stakeholders. Establishing a local governance committee that includes community representatives, municipal authorities, and frontline staff can ensure shared oversight. This committee can periodically review AI outputs, address concerns about bias or data misuse, and approve significant changes—like retraining models when contexts shift.

Key Action: Form a Multi-Stakeholder Board

- Identify representatives from relevant groups (community leaders, local NGOs, government, etc.).
- Give the board genuine authority to halt or modify AI deployments if they spot ethical or operational issues.
- Document how decisions on data handling or new features will be made (e.g., majority vote, consensus).
- Keep records of committee meetings and outcomes for accountability.

The Transfer pillar encourages humanitarian AI initiatives not to follow the “deploy-and-abandon” pattern and instead transfer knowledge to build local capabilities to monitor and govern AI tools. In fast-changing humanitarian environments, even a well-trained team may struggle if the AI tool itself is too rigid or opaque. Whenever possible, the system should be explainable (so local staff can interpret its outputs) and modifiable (so staff can update data sources or parameters as needed). Regular user feedback loops help teams identify system flaws early and propose improvements. By transferring skills, decision-making power, and system adaptability to the people who know the local context best, organisations cultivate resilience, ownership, and long-term impact. Transfer cements the place of AI as a tool in local hands but requires additional funding and planning.

FAQs and Troubleshooting



1. What if staff turnover is high? Won't we lose AI expertise?

Maintain comprehensive documentation and SOPs. Encourage peer mentoring: If one trained staff member leaves, others can continue the knowledge chain. Regular “refresher” mini trainings ensure new arrivals catch up quickly.

2. We have limited funds for ongoing mentorship and capacity-building.

Build these costs into project budgets from the outset, stressing the long-term savings of having a self-sufficient local team. Include capacity development in grant proposals and highlight how local ownership reduces future reliance on expensive external consultancy and increases long-term impact.

3. Some staff members doubt the AI tools or fear they'll become obsolete.

Emphasise AI as an aid, not a replacement—it handles data-heavy tasks, freeing staff up for deeper human engagement. Show success stories where staff roles became more impactful after AI took on tedious data processing. Celebrate small wins and present staff as co-owners of the system.



OPTIMISE

Humanitarian crises evolve rapidly—conflict lines shift, natural disasters intensify, and populations move.

An AI tool that works well today might become ineffective or even harmful if it cannot adapt to these changes.

Improvement Protocols

In humanitarian AI, a “deploy-and-abandon” mindset can be particularly damaging, as models degrade over time, data sources change, and previously unforeseen biases may emerge. Regular improvements, throughout the lifetime of the project, can avoid reliance on outdated models, leading to incorrect targeting of aid, overlooked communities, and skewed decision making. Counter complacency by requiring routine updates, user-driven feedback channels, and ethical reassessments—preventing small issues from snowballing into larger crises. Instead of treating deployment as a final milestone, this stage weaves it into the continuous cycle of humanitarian planning and funding.

Key Action: Schedule Regular “Health Checks”

- Depending on programme length, set clear intervals (e.g., quarterly) to review AI performance, data validity, and user experiences.
- Assign responsibilities for these audits so they don’t get neglected under emergency pressures.
- Track metrics like prediction accuracy, user satisfaction, or coverage of different demographic groups.
- Investigate any sudden drops or disparities (e.g., a spike in complaints from a specific population).
- Periodically simulate “what-if” situations (e.g., new conflict, sudden influx of refugees) to see if the AI system holds up or needs retraining.

Data Upgrade

Many humanitarian AI tools rely on datasets that quickly become obsolete. In general, humanitarian data can be quite poor in terms of its disaggregation, its regularity, and its accuracy and reliability due to the difficulties of collecting data in crises. Routine data audits—carried out internally or by neutral third parties—help identify model drift, data biases, new data updates or newly emerging vulnerabilities. Where needed, teams can recalibrate (adjust existing parameters) or retrain (feed the model fresh data) to maintain accuracy and fairness. Frontline staff and affected communities are often the first to notice if an AI tool starts producing problematic outputs. Easy-to-use feedback channels, in-app reporting features, or dedicated email addresses—empower them to escalate issues quickly.

Key Action: Implement Version Control

- Treat AI models like software releases: track changes over time, note when and why retraining occurred, and keep records of old versions for reference.
- Document who authorised each change to maintain accountability.
- Agree on specific metrics (e.g., model accuracy dipping below 80%, new government policy affecting data use) that automatically prompt re-evaluation.
- Especially where cultural or security constraints might deter open criticism, consider an anonymous system to gather honest feedback.
- Publicise how feedback leads to real changes, building community trust.
- Define a process for logging complaints, assigning them to relevant staff, and providing updates to the person or group that reported the issue.

Keep up with the Times

External factors—like new data protection laws or evolving conflict dynamics—can necessitate swift changes in AI protocols and programming. If a region moves from a relatively stable environment to active conflict, data handling protocols might need immediate tightening to prevent sensitive information from falling into the wrong hands. Likewise, the sudden introduction of new data protection laws could require rapid policy and technical adjustments. A well-structured Optimise phase ensures teams remain agile in responding to these shifts. This might include imposing stricter access controls, updating consent procedures, or even halting data collection temporarily to avoid ethical breaches.

Key Action: Maintain a Risk Register

- Conduct regular contextual analysis to track changes in political, social, and economic dynamics.
- Update regularly with potential threats: political changes, data leaks, and regulatory updates.
- Assign risk owners who monitor developments and propose countermeasures.
- Schedule sessions with legal advisers or ethics committees whenever major operational or policy changes arise.
- Align with frameworks like the IASC Operational Guidance on Data Responsibility to ensure compliance and best practice.

Peer Learning

No organisation works alone in a humanitarian crisis. Sharing lessons—failures included—across agencies accelerates sector-wide learning. Platforms like the ALNAP, CDAC network or HNPW conferences facilitate exchanges on best practices, newly discovered pitfalls, and emerging tools. This cross-pollination fuels a collective improvement in how AI is applied to humanitarian challenges.

Key Action: Participate in Networking and Knowledge Sharing Events

- Build new collaborations with peer organisations and networks to learn and share ways to use tools.
- Produce joint “lessons learned” briefs to inform the wider humanitarian community.
- Invite local and international partners to virtual roundtables or webinars to discuss successes and setbacks.
- Capture actionable ideas and feed them back into your own Optimise processes.

Optimise is the final (and ongoing, funding contingent) step that ensures humanitarian AI tools remain fit for purpose in unpredictable environments. By embracing continuous feedback, periodic recalibration, and sector-wide learning, organisations prevent technology from devolving into a “black(er) box” that’s neither transparent nor accountable. Ultimately, Optimise keeps AI systems agile and community-focused, ensuring they continue to uphold humanitarian values—fairness, impartiality, and respect for human dignity—even as conditions on the ground change.

FAQs and Troubleshooting



- 1. We lack resources for ongoing audits and model updates. How can we still optimise?**
- Schedule light-touch performance checks (even if less frequent) and let data-savvy staff handle basic recalibrations. Demonstrate to donors that iterative improvements maintain the AI's effectiveness, preventing more costly failures down the line.
- 2. We're already overstretched responding to emergencies. Updates and feedback loops feel like a luxury.**
- Frame Optimise as risk prevention: an outdated or biased model can lead to wrong decisions, causing more work and reputational damage. Integrate checks into existing operational routines (e.g., during weekly staff meetings) instead of creating separate processes.
- 3. What if results from audits or user feedback reveal biases or errors? Isn't that embarrassing?**
- Emphasise a culture of learning—uncovering flaws early is far better than perpetuating harm or inefficiency. Document how findings are addressed and improvements made, turning potential “embarrassments” into credibility boosters that show you take accountability seriously.
- 4. New data protection laws keep changing our compliance requirements. How do we stay updated?**

Maintain a “risk register” that includes legal and regulatory shifts. Assign and budget for staff to monitor policy updates and engage with local legal advisors or relevant agencies, standards, or frameworks for guidance.

Conclusion

In an era where data-driven tools promise to transform crisis response, the ECTO framework—Educate, Co-CREATE, Transfer, and Optimise—offers a holistic roadmap for humanitarians to integrate AI ethically and effectively. Each pillar plays a distinctive role.

By investing in Educate, organisations equip staff with the literacy needed to spot biases, handle sensitive data responsibly, and advocate for ethical standards. Co-CREATE ensures that local voices, frontline experts, and community members guide project design and implementation, preventing top-down technology imposition and fostering genuine trust. Through Transfer, the focus shifts to building robust local capacity and shared governance structures, ensuring that AI solutions thrive well beyond initial deployments. Finally, Optimise weaves iterative audits, feedback loops, and transparent updates into the project's DNA, keeping pace with evolving contexts and safeguarding beneficiary interests over the long term.

When assembled into one cohesive process, ECTO is more than a checklist—it's a system for continuous, ethically grounded innovation. The real-world examples, practical action steps, and troubleshooting FAQs presented in this guide reveal not only the potential of AI in crisis settings but also the responsibility it entails. By weaving these pillars into humanitarian operations—from project proposal through to long-term development—humanitarian actors can harness AI's capabilities while upholding the core principles of impartiality, humanity, neutrality and accountability to affected populations. In doing so, ECTO helps ensure that we do not merely deploy technology but rather empower communities and staff to use AI as a force for inclusive, dignified, and lasting humanitarian impact.

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