Nine Applications of AI in Humanitarian Aid Delivery

Read online with charts and updates:
https://risalatconsultants.com/key-9-applications-of-ai-in-humanitarian-aid-delivery/

In short: AI can assist humanitarian teams with forecasting, mapping, logistics, translation and monitoring. Its use must be proportionate, transparent and safe for people affected by crises. The practical question is which institutional decisions, operating routines and safeguards are needed to produce results that can be independently checked.

What the evidence and original article tell us

Core concepts and what has changed

The original Risalat article identifies several useful building blocks, but an update must distinguish enduring principles from time-sensitive rankings, targets and technology claims. Historical examples can illustrate an approach; they should not be presented as proof that a current target was met. The source references below provide a starting point for checking contemporary policy and technical guidance.

With the rise of AI, data-driven solutions have progressively been transforming the humanitarian field. Data expansion and advances in computation power have opened up new gateways for the enhancement of aid operations. As a result, although at a relatively slower pace, AI in humanitarian aid has become mainstream.

With the help of AI technology, now humanitarian organizations can transition from a reactive to an anticipatory approach. This means they can respond to the evolution of natural disasters, conflicts, and other emergencies more efficiently and swiftly.

What are the applications of AI in humanitarian aid delivery?.

Define the decision before choosing the tool

For nine applications of ai in humanitarian aid delivery, the first task is to define the decision that needs improvement. A useful problem statement names the service or process, the people affected, the current failure mode, and the evidence needed to show progress. This prevents a project from equating the purchase of software, equipment or consultancy services with a measurable public benefit.

Governance responsibilities

Establish a steering owner who can resolve conflicts across functions, a delivery manager who maintains the implementation record, and an independent assurance route for material risks. Define what each party may approve and how unresolved matters reach senior management. Without decision rights, committees can record problems repeatedly while implementation stalls.

Early warning and anticipatory action

Operational choices and trade-offs

Early warning and anticipatory action requires more than a general policy commitment. Leaders should identify the operational owner, required skills, minimum data quality and maintenance

costs before selecting an intervention. A decision note should compare the status quo, a low-cost process change and a more substantial investment. The comparison should consider who benefits, who bears the cost, and which assumptions could invalidate the business case.

Where multiple agencies or contractors participate, specify how information and responsibilities pass between them. A shared register of decisions, dependencies and unresolved issues is often more useful than another dashboard. Governance arrangements should make it possible to identify the person authorised to accept a risk, release a payment or change a service standard.

Practical example and verification questions

Consider an agency piloting an improvement related to early warning and anticipatory action. Rather than deploying it across the organisation immediately, the team selects one service area, records the baseline, tests the intervention with staff and affected users, and logs each exception. It then checks whether performance improved without shifting the burden to another department or excluding people with limited access.

The project manager should ask: What is the measurable baseline? Which data can be independently verified? What would failure look like? What is the recurrent cost after external support ends? Who has authority to change the process? What safeguard protects affected people? Answers to these questions should appear in the business case and the monitoring plan.

AI has a vast potential for supporting aid operations. From disaster prediction and response to resource allocation, refugee support, and activity monitoring - the applications are manifold. The breadth of AI use has been rapidly expanding day by day making relief assistance faster, cheaper, and more accessible. The key areas include:

Better targeting of resources and services.

Procurement and contract design

Translate intended outcomes into testable requirements. Ask bidders to explain interoperability, accessibility, support, exit arrangements and the evidence they will provide at acceptance. Avoid specifying a proprietary product where functional requirements would allow competition. For complex procurements, evaluate whole-life cost and the institution's ability to manage the contract.

Needs analysis and mapping

Operational choices and trade-offs

Needs analysis and mapping requires more than a general policy commitment. Leaders should identify the operational owner, required skills, minimum data quality and maintenance costs before selecting an intervention. A decision note should compare the status quo, a low-cost process change and a more substantial investment. The comparison should consider who benefits, who bears the cost, and which assumptions could invalidate the business case.

Where multiple agencies or contractors participate, specify how information and responsibilities pass between them. A shared register of decisions, dependencies and unresolved issues is often more useful than another dashboard. Governance arrangements should make it possible to identify the person authorised to accept a risk, release a payment or change a service standard.

Practical example and verification questions

Consider an agency piloting an improvement related to needs analysis and mapping. Rather than deploying it across the organisation immediately, the team selects one service area, records the baseline, tests the intervention with staff and affected users, and logs each exception. It then checks whether performance improved without shifting the burden to another department or excluding people with limited access.

The project manager should ask: What is the measurable baseline? Which data can be independently verified? What would failure look like? What is the recurrent cost after external support ends? Who has authority to change the process? What safeguard protects affected people? Answers to these questions should appear in the business case and the monitoring plan.

A practical checklist is to document the owner, budget, evidence source, control, escalation route and review date for every major action. If one of these is missing, the activity is not yet ready for scale. The checklist can be incorporated into existing management systems rather than introduced as a separate reporting burden.

Capacity and sustainability

Training should follow an assessment of tasks staff actually perform. A useful plan distinguishes awareness, specialist capability and supervisory responsibility. Staff need protected time to practise, clear operating procedures and access to support after a supplier or external consultant leaves. Record capability gains through observed work rather than attendance alone.

Logistics and distribution

Operational choices and trade-offs

Logistics and distribution requires more than a general policy commitment. Leaders should identify the operational owner, required skills, minimum data quality and maintenance costs before selecting an intervention. A decision note should compare the status quo, a low-cost process change and a more substantial investment. The comparison should consider who benefits, who bears the cost, and which assumptions could invalidate the business case.

Where multiple agencies or contractors participate, specify how information and responsibilities pass between them. A shared register of decisions, dependencies and unresolved issues is often more useful than another dashboard. Governance arrangements should make it possible to identify the person authorised to accept a risk, release a payment or change a service standard.

Practical example and verification questions

Consider an agency piloting an improvement related to logistics and distribution. Rather than deploying it across the organisation immediately, the team selects one service area, records the baseline, tests the intervention with staff and affected users, and logs each exception. It then checks whether performance improved without shifting the burden to another department or excluding people with limited access.

The project manager should ask: What is the measurable baseline? Which data can be independently verified? What would failure look like? What is the recurrent cost after external support ends? Who has authority to change the process? What safeguard protects affected people? Answers to these questions should appear in the business case and the monitoring plan.

Monitoring and learning

Use a small set of indicators that answer management questions. Separate inputs, outputs, service outcomes and unintended consequences. Where attribution is difficult, explain the contribution of the intervention and competing explanations. Schedule reviews early enough to change course before the budget or contract is exhausted.

Communication and protection

Operational choices and trade-offs

Communication and protection requires more than a general policy commitment. Leaders should identify the operational owner, required skills, minimum data quality and maintenance costs before selecting an intervention. A decision note should compare the status quo, a low-cost process change and a more substantial investment. The comparison should consider who benefits, who bears the cost, and which assumptions could invalidate the business case.

Where multiple agencies or contractors participate, specify how information and responsibilities pass between them. A shared register of decisions, dependencies and unresolved issues is often more useful than another dashboard. Governance arrangements should make it possible to identify the person authorised to accept a risk, release a payment or change a service standard.

Practical example and verification questions

Consider an agency piloting an improvement related to communication and protection. Rather than deploying it across the organisation immediately, the team selects one service area, records the baseline, tests the intervention with staff and affected users, and logs each exception. It then checks whether performance improved without shifting the burden to another department or excluding people with limited access.

The project manager should ask: What is the measurable baseline? Which data can be independently verified? What would failure look like? What is the recurrent cost after external support ends? Who has authority to change the process? What safeguard protects affected people? Answers to these questions should appear in the business case and the monitoring plan.

Inclusion and complaints

Test the design with people who experience the greatest access barriers, including those with disabilities, limited connectivity or language needs. Maintain a workable offline route where services are essential. Explain how complaints are received, protected, investigated and used to improve service quality.

Application in public agencies and donor-funded projects

How ministries and implementing agencies should proceed

A ministry or project implementation unit should translate the strategy into a funded delivery plan with named owners. Start with a baseline, a small number of outcome indicators and an agreed reporting cycle. Check legal mandates, procurement thresholds, environmental and social obligations, data protection requirements and the conditions of the financing agreement before committing funds.

A useful implementation file contains a problem statement, options appraisal, stakeholder map, risk register, procurement plan, cost estimate, results framework and a schedule for management review. Evidence should distinguish activities completed from benefits actually

experienced by service users.

Example: a 90-day improvement cycle

Days 1 to 30: interview frontline teams and users, verify the baseline, map the process and identify the main bottleneck. Days 31 to 60: test one proportionate intervention, document exceptions and track cost and service performance. Days 61 to 90: compare results with the baseline, publish lessons, assign corrective actions and decide whether to adapt, stop or expand the pilot. This is an illustrative management sequence, not a claim about a specific financed project.

Donor-financed teams should also ensure that monitoring evidence is accessible to the financier and independent reviewers, that complaints are handled safely, and that procurement and contract variations are traceable. Where people may be excluded, disaggregate results appropriately and provide non-digital access channels.

Risalat offers relevant tools through its diagnostic centre and can discuss tailored institutional support through the proposal request form.

What to check before scaling

Readiness checklist

- Confirm the public problem and establish a defensible baseline.
- Verify applicable legislation, policy, standards and funding conditions.
- Assess accessibility, distributional effects and safeguards.
- Cost implementation, maintenance, staff time and independent assurance.
- Assign accountable owners and a realistic monitoring schedule.
- Pilot, evaluate, correct and publish a decision on scale-up.

Evidence and limitations

The sources listed with this article are institutional starting points for checking the policy and technical context. The scenarios and checklists above are illustrative recommendations. They are not evidence that a particular country, ministry or project has adopted them. Historical claims in the original article, especially dated rankings and projections, should be checked against the latest primary data before they are reused.

Frequently Asked Questions

What is the main objective of nine applications of ai in humanitarian aid delivery?

AI can assist humanitarian teams with forecasting, mapping, logistics, translation and monitoring. Its use must be proportionate, transparent and safe for people affected by crises.

What should an organisation assess first?

Start with a documented problem, baseline, responsible owner, user needs, legal requirements and the cost of doing nothing.

How can managers judge whether a pilot worked?

Compare outcomes with a credible baseline, check unintended effects, verify costs and gather feedback from the people using the service.

What are the main implementation risks?

Common risks include poor data, unclear accountability, weak procurement, insufficient staff capability, exclusion and unfunded maintenance.

How does this apply to donor-funded projects?

Project teams should connect the intervention to approved results, procurement arrangements, safeguards, reporting obligations and independent verification.

Related Risalat programmes

- AI Governance, Ethics and Risk in Istanbul, Istanbul (18 Jan 2027)
- Generative AI for Government Productivity Training in Singapore, Singapore (1 Feb 2027)
- Training on Green Public Procurement (GPP), Berlin (1 Feb 2027)
- Inclusive Public Procurement: Engaging CSOs, SMEs, Women-Owned, and Local Businesses, Seville (1 Feb 2027)

Talk to us about your institution or project: https://risalatconsultants.com/reach-risalat/