Policy brief

Local Ownership, Global Insight: Ending Data Blindspots in Humanitarian Response

Author: Joëlle Stocker

Date: 24 June 2026

Executive Summary

Decision-making at high institutional levels on the adoption of policies and strategies relies on information that reflects the situation on the ground. However, humanitarian data is often fragmented, siloed, and difficult to access, creating major gaps in reporting and analysis. The Humanitarian Data Space (HDS) addresses this by making sensitive data interoperable and machine-actionable while preserving privacy, ownership, and consent-based access.

In unstable and conflict-prone regions, such as the Horn of Africa, the discrepancy between what takes place on the ground, and what is known by the international community is high. This is in part due to the high fragmentation and isolation of humanitarian data collected by different organisations and institutions, and the inaccessibility of many areas. This latter is amplified by targeted lack of connectivity and internet access. These result in "information black holes", where information is unable to get out. Information black holes are pervasive across sensitive regions and populations, for instance in conflict areas and among refugee and displaced populations.

While data in information black holes remains trapped, other sensitive data is exploited, removed from the context and ownership of their communities, in which they hold real power, by extractive data practices. To address these issues, the Humanitarian Data Space (HDS) was set up, which facilitates structuring data in a FAIR-compliant way, whilst ensuring ownership, localisation and regulatory compliance. This is not only relevant on a granular level, to improve access to and extraction of insights from the data within vulnerable communities, but also at a broad level, where what happens in one place is linked to the other, for instance in conflict settings or along migration and trafficking routes.

The Humanitarian Data Space

In EEPA's *FAIR data stewardship for humanitarian data* project in cooperation with the *Data Governance in Africa* programme, the HDS was set up to increase data interoperability across the humanitarian sector. The HDS is the only federative data system that fully conforms to the FAIR Principles, where data is Findable, Accessible, Interoperable and

Reusable, and where data is stored locally, with ownership of the data and full local regulatory compliance. Its application focuses in particular on the protection of refugees, reporting of conflict-related sexual violence, reporting of human trafficking and healthcare patients data.

The need for interoperable reporting

Interoperable reporting is essential because fragmented reporting systems limit the reuse, comparison, and linking of sensitive humanitarian data. Within the HDS, data are standardised through a common data model and published in a machine-actionable format, allowing structured queries across datasets while preserving privacy, ownership, and consent-based access. The adoption of the HDS enables the creation of trusted sources of truth that policymakers and humanitarian actors can rely on. To facilitate this, standards must be established for the HDS, for instance relating to the terminology that is used, pipelines must be created that feed into the HDS, and strong access control mechanisms must be continuously revisited to ensure the highest level of security and privacy.

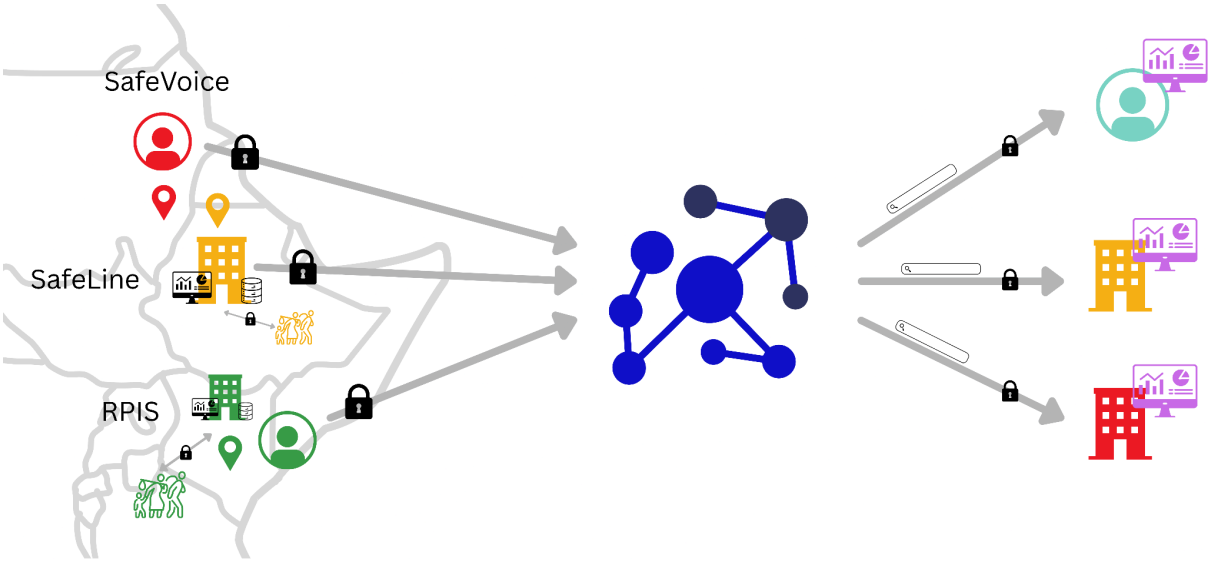

Figure 1. Diagram of organizations participating in the Humanitarian Data Space, with data being retained locally within the organization, but data visiting (depending on what organizations choose to make accessible and to who) enabling the extraction of insights from multiple sources.

Applications developed for reporting of information

To facilitate the participation of humanitarian actors in the HDS, seven applications were designed that support organisations and trusted field workers in documenting incidents related to sexual violence, refugee protection, and human trafficking. The applications were developed in a collaboration between humanitarian organisations, researchers and

developers of the Africa University Network on FAIR Open Science and researchers and students of Leiden University Institute of Advanced Computer Science.

The following applications were developed and have been deployed:

- **SafeLine:** a secure application that allows organisations to report, structure, and analyse sensitive data on conflict-related sexual violence in a systematic and standardised way.
- **FAIR-based Refugee Protection Data System:** a secure, user-friendly web platform for ethically recording and managing refugee protection incidents in a validated, standardised, and privacy-compliant format.
- **Thinx:** a privacy-focused, no-code research platform that enables humanitarian researchers to explore, visualise, and analyse human trafficking data using AI-supported tools without requiring programming skills.
- **SafeVoice:** a data pipeline tool that transforms raw field reports on human trafficking sources into structured semantic datasets, enabling integrated analysis of incidents, trends, and networks.
- **Emergency Diary:** a decentralised web application that lets individuals in emergency situations such as refugees or human trafficking victims securely store and control their personal data in their own Solid Pods, enabling ethical, consent-based sharing with trusted humanitarian organisations.
- **FAIR Data Sphere:** a decentralised reporting system for contextual events to support humanitarian analysis with geographic and temporal parameters.
- **COMPASS:** a real-time healthcare data integration system that converts new patient records into a standardised knowledge graph, enabling secure, incremental analysis and research in hospital and academic settings.
- **The Humanitarian Data Space:** a prototype dashboard that enables users to run predefined queries across distributed data sources and easily visualise results, streamlining access to humanitarian data insights.

Recommendations

For the wider humanitarian and international community, supported by governmental institutions and (inter)national policymakers:

- Define standards for the Humanitarian Data Space, ensuring interoperability across countries and localities. The standards should ensure that all information relates clearly to the original context that it was collected in, while being comparable at a larger scale to information from different sources and contexts.

- Implement privacy-preserving analytics (e.g., federated learning, differential privacy, secure multi-party computation) as default options for cross-site analysis to enable insights without exposing raw sensitive data.
- Require interoperable metadata and provenance capture at point of collection (standard templates and minimal required fields) to ensure context, consent, and lineage travel with data across systems.

For national policymakers:

- Support the development of pipelines to facilitate the participation in the HDS at a national level.

For international policymakers:

- Support international programmes that promote the HDS at local and global levels, with a focus on the representation of vulnerable communities within the data space to reduce the pervasiveness of information black holes.

For EU policymakers:

- Embed privacy-by-design and machine actionability as a technical condition for EU-funded humanitarian data systems, with data conforming to the FAIR Principles, and where data is stored locally, with ownership of the data and full local regulatory compliance.
- Create an interoperability certification and audit program (third-party audits) that verifies FAIR compliance, local storage/ownership guarantees, and security controls—make certification a condition for donor funding and platform procurement.
- Fund capacity-building grants for local organisations to deploy, maintain, and govern HDS nodes, including technical training, cybersecurity support, and legal/regulatory assistance.

Links:

The applications are documented here: https://github.com/VODAN-Development

The applications form the production tools for the local repositories that form the Humanitarian Data Space (HDS). The HDS is available here: https://www.humanitariandataspace.com/

The HDS is supported by the Africa Health Data Space: https://aun.mu.edu.et/ahds/