Early impact analysis
Most impactful project

Problem statement

How can early impact assessments in mine action be enhanced to improve evidence-based planning and resource allocation, enabling humanitarian operators to prioritize areas where the explosive ordnance impact is most critical?

Key challenges include limited integration of explosive ordnance contamination data with socio-economic and environmental data; resource constraints such as insufficient equipment, personnel, and time; the absence of effective prioritization tools; and underutilized opportunities for blending diverse data sources to support strategic decision-making.

Key factors/requirements

- Data processing and integration: explosive ordnance contamination (accident reports, bombing data, open source, and social media), socio-economic (e.g. population, income, access to services), and environmental (e.g. climate, biodiversity) data.
- Scope-agnostic functionality: operates across all mine action levels (from country level to confirmed hazardous areas/suspected hazardous areas).
- Impact scoring: provides both summary and component-level results.
  Inference and visualization capabilities: supports multi-level analysis for effective planning.

Proposed response

Development of a web application platform to enhance early impact assessments, enabling data upload, automated inference, and visualization for improved planning. The platform calculates impact scores by comparing benchmarks with input data, integrating explosive ordnance contamination, socio-economic, and environmental information. A mapping tool overlays regions with zones, using colour-coded impact scores (e.g. heat maps) to identify priorities and guide resource allocation.

Road map for implementation

- Phase 1 – minimum viable product (MVP) creation (0–6 months): define MVP scope focusing on areas with highest data quality; assemble a multi-stakeholder working group (mine action organizations, AI experts); clarify data sources, schemas, and outputs; finalize technical architecture and design; implement basic user journey; validate utility with target users.
- Phase 2 – production phase (6–12 months): incorporate pilot user feedback; refine user experience to gold standard; expand use cases to additional regions; conduct extensive quality testing; prepare the system for real-world deployment.