

INNOVATION SESSION: AI APPLICATIONS FOR MA Land Release Made Simple: Key Principles and Overview

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Understanding the context





Where to start?











IMAS 7.11 Land Release

LAND RELEASE

The process of applying all reasonable effort to identify, define, and remove all presence and suspicion of EO through non-technical survey, technical survey and/or clearance.

EVIDENCE-BASED

ALL REASONABLE **EFFORT**

What is considered a minimum acceptable level of effort to identify and document contaminated areas or to remove the presence or suspicion of EO. "All reasonable effort" has been applied when the commitment of additional resources is considered to be unreasonable in relation to the results expected.

OPERATIONAL EFFICIENCY

How economically resources (such as funds, expertise, and time) are converted into results (outputs and outcomes). This concept emphasizes the effective use of financial, human, and material resources in land release operations to achieve maximum productivity and impact. It focuses on identifying areas for improvement and making evidence-based decisions to enhance performance in complex environments. **Operational Efficiency in Mine Action - GICHD**

"Resources for responding to Explosive Ordnance (EO) contamination problems are costly, limited and precious"

НЕБЕЗПЕЧНО МІНИ!



Land release activities

- Non-technical survey (NTS)
- Technical survey (TS)
- Clearance









Non-technical survey

- Refers to the collection and analysis of data, without the use of technical interventions.
- Focus on identifying where the hazard is present, its nature and extent (evidence-based).
- Essential for the priorisation of areas to be cleared.





Non-technical survey

It includes:

- Interviews with the local population.
- Tools such as binoculars, compasses and drones.
- Area mapping using Geographic Information Systems.





Search for evidence

- What is an evidence?
- Land is **not guilty**











What is considered evidence?

INDIRECT EVIDENCE

- ✓ Potentially productive land not in use.
- ✓ Verbal reports from local population/former combatants.
- ✓ EO records, where the reliability of such records remains open to doubt or has not been assessed.
- ✓ Former battle zones.
- Evidence from previous surveys, not supported by direct evidence. EO accidents or incidents where the location of the event cannot be
- accuratelydetermined.

DIRECT EVIDENCE Information that confirms mine/ERW contamination:

- ✓ EO records, where the reliability of such records has been confirmed.
- ✓ Visual observation of EO parts, fragmentation or craters.
- ✓ Detonations during fires or caused by animals.
- ✓ Mine signs, fencing, ancillary equipment (boxes, canisters) etc. associated with contamination.
- ✓ EO accidents or incidents where the location of the event can be accurately determined.

Information that indicates the **suspicion of mine/ERW contamination**:



Is this a direct or indirect evidence?









Path that is no longer in use by the community/detour

Dead animal with injuries consistent with an EO detonation

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Suspected hazardous area (SHA) or confirmed hazardous area (CHA)?







Technical survey (TS)

- Collection and analysis of data, using appropriate technical interventions, about the presence, type, distribution and surrounding environment of EO contamination, in order to better define where EO contamination is present, and where it is not.
- Support land release prioritization and decision-making processes through the provision of evidence.









Technical survey: Targeted Investigation







Technical survey: Systematic Investigation





Technical survey methods

- Manual
- Mechanical
- Animal detection





Mine clearance

Aims to return secured land to the population, through the location, neutralisation and disposal of explosive devices (manually, with machines and/or dogs).

Clearance tasks

- Clearance
- Battle area clearance
- EOD spot task

Level of confidence

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Operational efficiency

Dynamic Process

- Continuous collection of
 evidence
- Analyse/Plan/Adjust

Liability and mine action standards

It's important that NMAA develops a policy that details liability aspects, including the shift of liability from the demining operator to the government or the local community when certain criteria have been fulfilled.

LABLITY Internationa/ Mine Action Standards ISSUE

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