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Non-technical survey

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Contents

Foreword	iv
Introduction.....	1
Non-technical survey.....	2
1. Scope.....	2
2. Normative references.....	2
3. Terms, definitions and abbreviations	2
4. Purpose of non-technical survey.....	3
5. Non-technical survey output.....	4
6. Requirements for recording SHA and CHA.....	4
6.1. SHA and CHA criteria	4
6.2. Cancellation	6
6.3. All reasonable effort.....	6
6.4. Evidence-based decision making process.....	6
7. Non-technical survey methodology.....	7
8. Sources of information	9
8.1. General	9
8.2. Assessment and classification of sources	9
8.3. Land and road use	10
8.4. Sub-division of hazardous areas.....	11
9. Survey team requirements.....	11
10. Documentation.....	11
11. Community involvement.....	12
12. Liability issues	12
13. Responsibilities and obligations.....	12
13.1. National Mine Action Authority.....	12
13.2. Survey organisation	13
Annex A (Normative) References.....	14
Amendment record.....	15

Foreword

International standards for humanitarian demining programmes were first proposed by working groups at an international technical conference in Denmark in July 1996. Criteria were prescribed for all aspects of demining, standards were recommended and a new universal definition of “clearance” was agreed. In late 1996, the principles proposed in Denmark were developed by a UN-led working group and the International Standards for Humanitarian Mine Clearance Operations were developed. A first edition was issued by the UN Mine Action Service (UNMAS) in March 1997.

The scope of these original standards has since been expanded to include the other components of mine action and to reflect changes to operational procedures, practices and norms. The standards were re-developed and renamed as International Mine Action Standards (IMAS) with the first edition produced in October 2001.

The United Nations has a general responsibility for enabling and encouraging the effective management of mine action programmes, including the development and maintenance of standards. UNMAS, therefore, is the office within the United Nations responsible for the development and maintenance of IMAS. IMAS are produced with the assistance of the Geneva International Centre for Humanitarian Demining.

The work of preparing, reviewing and revising IMAS is conducted by technical committees, with the support of international, governmental and non-governmental organisations. The latest version of each standard, together with information on the work of the technical committees, can be found at <http://www.mineactionstandards.org/>. Individual IMAS are reviewed at least every three years to reflect developing mine action norms and practices and to incorporate changes to international regulations and requirements.

Introduction

This standard should be read in conjunction with IMAS 07.11 Land Release and 08.20 Technical Survey.

Non-technical survey is typically the starting point for the assessment of land, its categorisation as a suspected or confirmed hazardous area (SHA/CHA), and the associated processes of cancelling, reducing or clearing land for productive use. It involves a thorough investigation of new information about possible Explosive Ordnance (EO) contamination, or a previously recorded hazardous area, generally without the use of mine action assets inside the suspected area.

Non-technical survey is usually considerably less costly than technical survey and clearance, yet it can have the greatest impact, in terms of square metres, of all the activities associated with the definition and management of contaminated land.

The term non-technical survey encompasses all non-technical means, including desk assessments, analysis of historical records and a wide range of other information gathering and analysis functions, as well as physical visits to field locations. All elements of the non-technical process revolve around identifying, accessing, collecting, reporting and using information to help define where EO is to be found, as well as where it is not, and to support land cancellation, reduction and clearance decision making processes.

Resources for responding to EO contamination problems are costly, limited and precious. It is appropriate to expect that they will be used as efficiently as possible, within the graduated response described in IMAS 07.11. Expensive technical assets should not be deployed onto tasks unless there is sufficient evidence to justify their use, and the extent of the task has been defined as reliably and accurately as possible. Non-technical survey is the primary means for achieving that justification and for providing the evidence to support decisions to deploy technical assets.

At the same time, non-technical survey may yield enough evidence on its own to allow land to be cancelled, in line with the requirements to demonstrate that “all reasonable effort” has been applied. This standard provides guidance on the meaning of “all reasonable effort” in relation to non-technical survey.

Carrying out non-technical survey to the highest standards is of fundamental importance to the effectiveness and efficiency with which the remainder of the land release process is applied. Inefficient non-technical survey can lead to the creation of excessive suspected hazardous areas (SHAs), preventing productive use of land and creating an unnecessary demand for follow on technical action. Effective non-technical survey not only addresses immediate questions about the nature and extent of hazardous areas, but provides information to help all subsequent stages of the land release process be more efficient and reliable.

Showing that relevant information has been identified, accessed, collected and analysed, to support decision-making is critical to the concept of “all reasonable effort” and underpins the basic aim of any land release process to achieve confidence amongst all stakeholders, including land users.

Non-technical survey should not take place in isolation from subsequent activities within the land release process. Continual improvement of non-technical survey processes and procedures relies upon review of performance in light of what was subsequently discovered within hazardous areas, including details of what hazard items were or were not found during technical interventions, and the results of longer term monitoring of areas following release.

Non-technical Survey

1. Scope

This standard establishes principles and provides guidance on the conduct of non-technical survey and details responsibilities and obligations of the organisations involved.

2. Normative references

A list of normative references is given in Annex A. Normative references are important documents to which reference is made in this standard and which form part of the provisions of this standard.

3. Terms, definitions and abbreviations

A complete glossary of all the terms and definitions used in the IMAS series of standards is given in IMAS 04.10.

In the IMAS series of standards, the words “shall”, “should” and “may” are used to indicate the intended degree of compliance. This use is consistent with the language used in ISO standards and guidelines.

- a) Shall is used to indicate requirements, methods or specifications that are to be applied in order to conform to the standard.
- b) Should is used to indicate the preferred requirements, methods or specifications.
- c) May is used to indicate a possible method or course of action.

The term “**Land Release**” describes 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. The criteria for “all reasonable effort” shall be defined by the NMAA.

The term “**National Mine Action Authority**” (NMAA) refers to the government entity, often an inter-ministerial committee, in an EO-affected country charged with the responsibility for the regulation, management and coordination of mine action.

Note: In the absence of a NMAA, it may be necessary and appropriate for the UN, or some other recognised international body, to assume some or all of the responsibilities, and fulfil some or all the functions, of a MAC or, less frequently, an NMAA.

The term “**Suspected Hazardous Area**” refers to an area where there is reasonable suspicion of EO contamination on the basis of indirect evidence of the presence of EO.

The term “**Confirmed Hazardous Area**” refers to an area where the presence of EO contamination has been confirmed on the basis of direct evidence of the presence of EO.

The term “**Non-technical Survey**” refers to the collection and analysis of data, without the use of technical interventions, about the presence, type, distribution and surrounding environment of EO contamination, in order to define better where EO contamination is present, and where it is not, and to support land release prioritisation and decision-making processes through the provision of evidence.

The term “**Technical Survey**” refers to the collection and analysis of data, using appropriate technical interventions, about the presence, type, distribution and surrounding environment of EO contamination, in order to define better where EO contamination is present, and where it is not, and to support land release prioritisation and decision making processes through the provision of evidence.

The term “**Explosive Ordnance**” is interpreted as encompassing **mine action’s** response to the following munitions:

- Mines
- Cluster Munitions
- Unexploded Ordnance
- Abandoned Ordnance
- Booby traps
- Other devices (as defined by CCW APII)
- Improvised Explosive Devices*

Note: **Improvised Explosive Devices (IEDs)** meeting the definition of **mines, booby-traps** or other **devices** fall under the scope of mine action, when their **clearance** is undertaken for humanitarian purposes and in areas where active hostilities have ceased.

The term “**All Reasonable Effort**” describes what is considered a minimum acceptable level of effort to identify and document mined 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.

The term “**Cancelled land**” (m²) refers to a defined area concluded not to contain evidence of EO contamination following the non-technical survey of a SHA/CHA.

The term “**Reduced Land**” (m²) refers to a defined area concluded not to contain evidence of EO contamination following the technical survey of a SHA/CHA.

The term “**Cleared land**” (m²) refers to a defined area cleared through the removal and/or destruction of all specified EO hazards to a specified depth.

4. Purpose of non-technical survey

The overall purpose of non-technical survey is to use all appropriate non-technical means, including visits to field locations, to identify, collect, analyse and report information/evidence in order to:

- make recommendations about the definition of SHAs/CHAs;
- make recommendations about cancellation and/or subsequent reduction/clearance of areas;
- support priority setting processes; and
- contribute to efficient and effective planning of subsequent technical interventions.

Detailed aims of non-technical survey include:

- a) to assess whether areas are contaminated by EO;
- b) to define SHAs where analysis of indirect evidence of the presence of EO justifies doing so;
- c) to define CHAs where direct evidence of the presence of EO justifies doing so;
- d) to cancel all, or part of, the area of SHAs/CHAs where there is no evidence of EO contamination;

- e) to identify socio-economic and threat factors that may be relevant to decisions about priority setting;
- f) to record, accurately and comprehensively, direct evidence of the presence of EO;
- g) to collect, as accurately and reliably as possible, available information about the characteristics and distribution of contamination that may assist in the effective and efficient planning of follow-on technical interventions, such as targeted technical survey and clearance;
- h) to collect, as accurately and reliably as possible, available information about accidents and incidents to people and animals;
- i) to collect information about physical changes to the environment, such as deposition of soil by flooding and wind, erosion, landslides etc. that may have modified the local situation after contamination was laid/deployed; and
- j) to collect information about the physical circumstances at the site, such as access routes, vegetation, soil, topography, infrastructure, agriculture, the local security situation, and other factors that may be relevant to decision-making processes.

Note that, where it is useful to do so, planners and surveyors should be prepared to make use of technical assets on ground outside SHAs/CHAs to collect evidence about terrain, soil types, contamination levels, vegetation and their effects upon progress rates, procedures and methodologies that may be employed during subsequent technical interventions.

5. Non-technical survey output

The outputs of the non-technical survey process should be based upon analysis of the findings of the survey, in the context of other information about the type, nature and distribution of contamination within the theatre of operations, and should include:

- a) Reports, detailing what non-technical survey activity was conducted, and where, forming inputs to subsequent planning processes and as evidence demonstrating the application of “all reasonable effort” in identifying, defining and removing all presence and suspicion of EO;
- b) Recommendations for the definition of SHAs/CHAs, including, where appropriate and justified on the basis of “all reasonable effort”, the cancellation of some or all of the area of existing SHAs/CHAs;
- c) Recommendations for further non-technical or technical action, including, where appropriate, details of recommended asset types and methodologies; and
- d) Data and information for analysis by other authorities, agencies and organisations.

Circumstances at the time of the survey, and the needs of other stakeholders, may require the delivery of other outputs. Non-technical survey managers should ensure that any such additional requirements are identified before the survey takes place and are reflected in the planning, conduct and documentation of the survey.

6. Requirements for recording SHA and CHA

6.1. SHA and CHA criteria

Criteria for creating, refining, differentiating between, and partially or wholly cancelling SHAs and CHAs should be clear, agreed and understood by all involved and are typically developed through a process of discussion and agreement between stakeholders.

Criteria should be developed in order to:

- a) Promote consistent definition of SHAs and CHAs;
- b) promote uniform application of land cancellation, reduction and clearance processes;
- c) simplify management of land cancellation, reduction and clearance processes;
- d) provide a framework for states that need to document and demonstrate compliance with international conventions; and
- e) provide an auditable framework to assist with resolving questions relating to liability in the case of EO incidents.

A SHA should be defined on the basis of analysis of indirect evidence of the presence of EO. NMAAs should agree criteria reflecting local circumstances and conditions and within the wider context of analysis of the characteristics of contamination within the theatre of operations. Examples of indirect evidence may include, but are not limited to:

- Potentially productive land not in use
- Verbal reports from local population, former combatants, and all other relevant actors
- EO records, where the reliability of such records remains open to doubt or has not been assessed
- Analysis of other known contamination areas, tactics and historical sources
- Former combatant zones
- Evidence from previous surveys, not supported by direct evidence of the presence of contamination
- EO accidents or incidents where the location of the event cannot be accurately determined
- Visible potential IED components – context specific depending on local construction of IEDs and their method of placement

A CHA should be defined on the basis of direct evidence of the presence of EO. NMAAs should agree criteria reflecting local circumstances and conditions and within the wider context of analysis of the characteristics of contamination within the theatre of operations. Examples of direct evidence may include, but are not limited to:

- EO records, where the reliability of such records has been confirmed during previous operations
- Visual observation of EO, EO parts, fragmentation or craters
- Detonations during fires or 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
- Visible evidence of IEDs appropriate to the context, for example this could include: partially exposed wires, pressure plates, locally manufactured main charges etc.

A CHA should only be created after direct evidence of EO contamination has been found.

SHAs and CHAs may be sub-classified, or divided into internal zones, to reflect likely variations in hazard type, the confidence associated with different evidence, or other factors that may be relevant to subsequent planning and decision-making processes.

Boundaries should be assessed as clearly and accurately as possible, based on the available evidence.

6.2. Cancellation

A condition for the cancellation of an area through non-technical survey is that “all reasonable effort” has been applied up to and including the non-technical survey and that it can be demonstrated with high confidence that there is no evidence of EO contamination in the area. For absence of evidence to be taken as justification for cancellation it must be shown that, had contamination in fact been present, the totality of efforts applied could reasonably have been expected to identify evidence in relation to the area.

6.3. All reasonable effort

The term “all reasonable effort” is widely used in many industries and legal systems. It refers to the level of effort required to be expended to achieve a desired level of confidence in the output of a system.

Non-technical survey may be the only activity applied to an area, or it may be one amongst a number of activities within a wider process of land release. To satisfy the requirement to demonstrate that “all reasonable effort” has been applied to identify, define, and remove all presence and suspicion of EO, non-technical survey should not only apply “all reasonable effort” in its own right, but should also apply “all reasonable effort” in relation to all other associated activities within the land release process.

Examples of effort that should reasonably be expected in relation to non-technical survey include, but are not limited to:

- a) Making efforts to understand the nature and characteristics of contamination within the area of operations;
- b) Identifying and gaining access to all relevant sources of information, including where available historical records, former combatants, affected populations, other relevant actors and field locations;
- c) Demonstrating that the collection of information in the field was planned and conducted by competent and accredited survey teams, with the capability to reach all relevant information sources including women, girls, boys and men;
- d) Analysing information using all appropriate means to support decision-making;
- e) The taking of decisions by competent and authorised people, on the basis of analysis and review of all available information; and
- f) Applying appropriate quality management efforts to the people, equipment, procedures and information associated with the non-technical survey process.

The application of “all reasonable effort” relies upon an integrated system that addresses all aspects of the planning, operational, review and decision making stages. Applying a great deal of effort in one respect alone is unlikely to satisfy the requirement if effort is not also applied in all other respects.

IMAS 07.11 further explains the concept of “all reasonable effort”.

6.4. Evidence-based decision making process

Decisions about defining SHAs and CHAs and progressing through the land release process efficiently and effectively should be taken on the basis of available evidence. The quality, quantity and detail of available evidence will determine to a great extent the quality and reliability of decisions.

Authorities, agencies, organisations and individuals involved in EO programmes should be alert to all sources of evidence including, but not limited to:

- a) evidence relating to types of contamination present in the theatre of operations, tactics associated with their use, and the effect of time on their condition, distribution and detectability;
- b) evidence collected during non-technical surveys, including desk assessments;
- c) evidence relating to what was discovered during survey and clearance operations at other sites and areas;
- d) evidence about the reliability of different information sources;
- e) evidence about the relationship between findings and recommendations arising from other surveys and what was subsequently discovered during technical interventions;
- f) evidence relating to accidents and incidents on previously cancelled, reduced or cleared land;
- g) evidence arising from quality management systems about processes and their products associated with EO programmes; and
- h) evidence arising from monitoring and evaluation of land-release programs, including non-technical survey.

The use of all appropriate evidence in support of decision-making should be documented in order to establish and maintain confidence in non-technical surveys and in the overall land release process. Such evidence should also be made available to support investigations into matters relating to liability.

7. Non-technical survey methodology

Non-technical survey should be carried out within the context of an up-to-date understanding of the type, nature and characteristics of contamination within the theatre of operations.

Analysis of contamination information, and the effectiveness and efficiency of responses to it, should be an on-going process, receiving updated information whenever it becomes available, incorporating it into analysis processes and disseminating improved information to relevant stakeholders. Authorities, agencies and organisations with responsibility for the analysis of data should ensure that up to date information is available to organisations responsible for non-technical survey. They should consider confirming the consent of parties for mine action activities to be conducted in the region, particularly when conducting survey following recent conflict. This will mitigate the chance of neutrality breaches and mine action personnel becoming subsequently targeted as a result;

Desk studies should make use of information from all relevant sources, including historical records, police, military, hospitals, provincial authorities, landowners, aerial imagery/GIS, and the results of analysis of other sites and tasks. Information should be assessed and classified, where appropriate, and used as the basis for an analysis of evidence relating to the area/site.

Identifying, accessing and making use of such information constitutes part of the application of "all reasonable effort". Desk studies should be specific to the circumstances associated with the area or site.

Planning of non-technical survey requires, as a minimum:

- a) Review of concepts, criteria, policies and procedures relevant to non-technical survey, and as approved by the NMAA;

- b) Review of all available information relating to the area, including the results of desk assessments;
- c) Confirmation of information collection requirements, as defined in NMAS, as well as any additional requirements specific to the site or circumstances;
- d) Consideration of the requirements of the survey and the need for specific resources, skills and/or capabilities, including the ability to access all relevant sources of information, including women, girls, boys and men;
- e) Identification of any aspects of the survey requiring additional safety measures; and
- f) Development of an appropriate and effective methodology for the survey.

Survey procedures should be developed to discourage subjective statements by surveyors, encourage the objective collection of evidence, and to satisfy specified safety, information and quality requirements.

During the non-technical survey there should be frequent reviews in light of what is discovered, or when significant additional information becomes available from other sources. In particular reviews should be conducted whenever any new information becomes available that implies a change in any of the assessments and assumptions used in the development of the non-technical survey plan. Any changes to the non-technical survey plan resulting from such reviews should be documented, including the reasons for the changes.

Information should be collected from a range of sources, cross-referenced and classified to support decision-making. Where insufficient information is collected to allow for confident decision-making about hazardous areas, managers should consider whether additional non-technical or technical activities are likely to yield additional information. SHAs/CHAs should not be defined on the basis of a lack of information, but instead on the basis of indirect or direct evidence. Recommendations to reject new information, or cancel existing areas, should only be made on the basis that "all reasonable effort" has been applied to identifying, defining and removing suspicion of the presence of EO.

Data and information should be collected and recorded, using reporting formats specified in NMAS, and taking into account any additional requirements specific to the site/area. Survey organisations should establish and implement appropriate quality management processes in relation to non-technical survey and the collection, recording and reporting of information. Reports should be forwarded to the designated authority or agency on completion of the survey for entry into relevant databases.

Database managers should provide survey team leaders and managers with copies of database entries, including maps, for review prior to their formal acceptance into the database. Any identified discrepancies, errors or inconsistencies should be addressed before reports are further disseminated. Associated corrective and preventive action should be managed within a formal documented process.

Any marking or fencing associated with the non-technical survey should be established in accordance with the requirements of IMAS 08.40.

The results of technical interventions, including clearance, carried out in the area following the non-technical survey should be used as the basis for analysis of the quality of non-technical survey and should be made available to support continual improvement processes.

Results from the monitoring of land following cancellation, reduction or clearance should be used to assess the effectiveness of non-technical survey, to identify areas for improvement and to maintain confidence in non-technical survey within the land release process.

8. Sources of information

8.1. General

Survey organisations should ensure that all relevant evidence sources are identified and that information from these sources is appropriately collected and recorded.

The survey should be structured in such a way that both male and female informants who have specific knowledge about potentially EO contaminated areas are interviewed as part of the process. Where appropriate separate meetings should be arranged with households, family groups, female informants and children respectively, as these groups might be prevented from participating fully in mixed group meetings.

It may prove difficult to return to the same informants many times for information about new areas, and repeated visits may lead to 'survey fatigue'. Plans for the systematic collection of information should include measures to address these issues, recognising the great value of survey information.

8.2. Assessment and classification of sources

An evidence-based assessment of information sources should be carried out on the basis of:

- a) relevant experience gained in non-technical operations elsewhere in the country/region and in other countries;
- b) an understanding of historical, social, economic, political and cultural factors relating to the retention and reporting of information by different information sources;
- c) comparisons between different information sources;
- d) comparisons between information received and evidence discovered during subsequent technical interventions (where such interventions take place);
- e) review of information sources in light of the results of monitoring of land following cancellation, reduction or clearance; and
- f) other relevant information specific to local circumstances and conditions.

Where authorities, agencies and organisations choose to develop classification systems in relation to different information sources, they should do so on the basis of objective evidence, rather than subjective considerations.

Classification systems should be reviewed at appropriate intervals to ensure that they reflect the up to date results of analysis of evidence from all relevant sources.

Where classification systems are established, the following broad classifications should be considered:

- g) direct physical evidence of the presence of EO, observed and recorded by survey team members;
- h) indirect physical evidence of the presence of EO, observed and recorded by survey team members;
- i) information from historical sources and records shown to be reliable and accurate through comparison with direct evidence obtained at other sites/areas;

- j) information from people and institutions offering first-hand sources of information. Such sources of information may include women, girls, boys and men in the affected communities, military, police, EO victims and all relevant witnesses to the deployment of EO or accidents etc.;
- k) information from people and institutions offering second-hand sources of information. Such sources did not observe or take part in laying or deployment/use of EO, but may have been told about the hazard by first hand sources;
- l) information from historical sources and records, the reliability and accuracy of which have not been assessed, or where assessment indicates unreliability or inaccuracy; and
- m) information from other people and institutions who did not observe or take part in the laying or deployment/use of EO, but who have been told about the hazard by other parties that cannot be confidently identified as first-hand sources;

Direct evidence can generally be classified as offering greater confidence than indirect evidence and first-hand information is likely to offer greater confidence than second-hand, or more informal, information.

Authorities, agencies and organisations should make use of other classifications where it is effective and efficient to do so in response to local circumstances and conditions.

Authorities, agencies and organisations should identify and make use of every opportunity to check the quality of information through comparisons with direct evidence resulting from technical interventions and monitoring of land. The results of such checks should be taken into account during reviews of classification systems.

8.3. Land and road use

The fact that land, or a road, is in use by local communities is a factor that may be taken into account when assessing new information, or when considering the cancellation of part or all of existing hazardous areas.

In assessing the confidence that should be associated with such information, a systematic approach should be adopted, taking into account:

- a) An understanding of the type, nature and distribution of any contamination present elsewhere within the region, and especially within the immediate vicinity;
- b) A clear and accurate definition of which land/road is being assessed, which is in use and which is not;
- c) how the land/road has been used, including the depth of any intrusive activities, and the density and intensity of human and mechanical traffic;
- d) how long the land/road has been used for, and whether different densities and intensities of activity have taken place at different times;
- e) the results of monitoring of other areas that have been similarly assessed;

Whenever it is useful and effective to do so, subsidiary zones or sections should be defined to identify different areas that have been subject to different use or that have different usage histories.

8.4. Sub-division of hazardous areas

Hazardous areas (SHA/CHA) should be subdivided whenever it is useful to do so in order to identify, define and describe more clearly:

- a) the presence of different contamination types or combinations of types;
- b) different confidence levels associated with sources of evidence, and the analysis of that evidence;
- c) areas suitable for different technical assets types and/or methodologies;

Hazardous areas should be defined and described in enough detail, and with sub-divisions where appropriate, to assist in the efficient and effective subsequent deployment of resources to conduct further technical and non-technical activity, leading to reliable and confident cancellation, reduction and/or clearance of land for productive use.

Sub-divisions should be used to guide and assist in the planning of targeted technical survey.

Sub-divisions should be further reviewed during the conduct of technical interventions, in light of new evidence as it is encountered.

9. Survey team requirements

Non-technical survey should be carried out by competent staff, using suitable equipment (accredited where appropriate), in compliance with prevailing safety and operational standards, and in accordance with approved methodologies satisfying the requirements of NMAS.

Non-technical survey teams should include sufficient resources, skills, knowledge and capabilities to carry out non-technical activity effectively and efficiently, and in particular to be able to engage in communication with local authorities, other interested parties and all sources of information, including women, girls, boys and men.

Non-technical survey operations should be subject to internal and external Quality Management. IMAS 07.40 provides further guidance.

10. Documentation

The information that is collected, recorded and reported by non-technical survey teams is an essential component of the land release process. If the quality of the data or information gathered during the non-technical survey is poor, or if high quality data is poorly recorded and reported, then the land release process will be inefficient and may lose credibility with stakeholders.

Authorities, organisations and agencies should ensure that non-technical survey documentation satisfies quality requirements and reflects the needs of all information users. Appropriate quality management systems (including QA and QC of information aspects) should be established and implemented in relation to the collection, recording, reporting and analysis of information associated with non-technical survey. Any shortcomings in the quality of non-technical survey data, information and documentation should be investigated and appropriate corrective and preventive action taken.

The format of reports used during non-technical survey should be defined in NMAS. The report should identify and explain decisions made during the survey, as well as the evidence that was the basis for the decisions. The evidence obtained from a technical survey may be summarised in a survey report, but all raw data/evidence should be retained and safeguarded by an appropriate authority.

Information should be collected and recorded in a systematic manner. Whenever possible, use should be made of standard and proven information management systems and GIS. Guidance on information management can be found in IMAS 05.10.

Location maps should be used to indicate the extent of recommended SHA/CHA boundaries, and to locate and identify survey markers and the hazard marking system. Other relevant information to assist planners, analysts and decision-makers should be included. Information should be recorded electronically, or marked on a topographical map, a satellite image or on a trace. If topographical maps are not available information should be recorded on locally produced maps. Detailed maps should show the location of any direct evidence of EO contamination and other specific features of significance.

The information recorded during non-technical survey should form part of the documentation required for handover to organisations conducting further technical survey or clearance and for the final release of land. Names, age, sex, appointments and signatures of key informants should be recorded.

Non-technical survey teams should be given the opportunity to compare the results of their surveys with any subsequent information resulting from clearance or other technical interventions.

11. Community involvement

Local participation should be fully incorporated into all stages of the land release process, including non-technical survey, in order to obtain agreement from all relevant stakeholders and to ensure that land is used appropriately after it has been released. Community involvement should include men, women and children living or working in or near the suspected area and where appropriate, owners of land.

A process to monitor land following its cancellation, reduction or clearance should be established. Monitoring should be properly planned and agreed between the different parties to help measure the impact of cancelled land on local life and to clarify issues related to liability and land status in case of any subsequent EO accidents.

12. Liability issues

Readiness to take efficient decisions within land release processes, and including in respect of cancellation of land through non-technical survey, is strongly influenced by perceptions of liability issues. A well-documented, transparent, evidence-based approach to identifying, defining and removing all presence and suspicion of EO, through the application of “all reasonable effort” provides the primary means to address questions of liability, to create confidence amongst stakeholders and to encourage efficient decision-making.

NMAA shall ensure that liability issues, as they relate to the cancellation of land through non-technical survey, as well as to other aspects of land release, are addressed through legislation, policies, standards and other documentation as appropriate.

This standard does not define conditions for resolving liability issues. General liability principles are, however, outlined in IMAS 07.11

13. Responsibilities and obligations

13.1. National Mine Action Authority

The NMAA shall:

- a) develop national standards for non-technical survey consistent with the land release policy;

- b) accredit organisations to undertake non-technical survey;
- c) prepare and publish standards and guidelines for non-technical survey including:
 - Quality management to be applied to non-technical survey contracts and agreements
 - Documentation for non-technical survey
 - Accuracy requirements for positional data
- d) utilise the information collected through the non-technical survey process to understand better the nature, extent and distribution of contamination, and to prepare tasking orders and annual works programmes;
- e) define liability issues relating to survey/clearance operators, individuals undertaking non-technical survey, and the local community, in accordance with national legislation; and
- f) monitor the quality of land release outputs through non-technical survey.

National Mine Action Authorities should set out specific criteria for the cancellation of previously recorded suspect land, or the rejection of new information, by a non-technical survey. The criteria that are to be met should be agreed between the key stakeholders, which will include the individuals or organisation conducting the non-technical survey process, the MAC, the NMAA, and the local community responsible for receiving the land (which may be an individual or local government representative).

13.2. Survey organisation

The organisation undertaking a non-technical survey shall:

- a) gain (from the NMAA, mine Action Centre, or equivalent) accreditation needed to conduct non-technical survey;
- b) apply the national standards for non-technical survey. In the absence of national standards, the organisation shall apply the IMAS standards, or such standards as are specified in their contract or agreement;
- c) develop SOPs for the implementation of non-technical survey;
- d) collect the necessary information as required by the non-technical survey documentation;
- e) where applicable, conduct a formal handover of assessed sites to organisations conducting follow-on activities;
- f) maintain and make available documentation as specified by the NMAA or Mine Action Centre or equivalent;
- g) consult closely with men and women in the affected communities, as required, with regards to all decisions made by non-technical survey; and
- h) seek feedback from report recipients in terms of quality, timeliness and content of the reports.

In the absence of an NMAA or similar Authorities, the organisation should assume additional responsibilities. This includes assisting the host nation during the establishment of a NMAA and Mine Action Centre or equivalent and in framing standards for non-technical survey, including quality assurance and quality control.

Annex A (Normative) References

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this part of the standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of the standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid ISO or EN:

- a) IMAS 04.10 Terms and definitions
- b) IMAS 07.30 Accreditation of demining organizations
- c) IMAS 07.40 Monitoring of demining organizations
- d) IMAS 08.10 Non-technical Survey
- e) IMAS 08.20 Technical Survey
- f) IMAS 09.10 Clearance requirements
- g) IMAS 09.11 Battle area clearance
- h) IMAS 05.10 Information management for mine action
- i) IMAS 08.30 Post-clearance documentation
- j) IMAS 08.40 Marking mine and ERW hazards
- k) IMAS 09.50 Mechanical application

The latest version/edition of these references should be used. GICHD hold copies of all references used in this standard. A register of the latest version/edition of the IMAS standards, guides and references is maintained by GICHD, and can be read on the IMAS website (<http://www.mineactionstandards.org/>).

National mine action authorities, employers and other interested bodies and organisations should obtain copies before commencing mine action programmes.

Amendment record

Management of IMAS amendments

The IMAS series of standards are subject to formal review on a three-yearly basis. However this does not preclude amendments being made within these three-year periods for reasons of operational safety and efficiency or for editorial purposes.

As amendments are made to this IMAS they will be given a number, and the date and general details of the amendment shown in the table below. The amendment will also be shown on the cover page of the IMAS by the inclusion under the edition date of the phrase “incorporating amendment number(s) 1 etc”.

As the formal reviews of each IMAS are completed new editions may be issued. Amendments up to the date of the new edition will be incorporated into the new edition and the amendment record table cleared. Recording of amendments will then start again until a further review is carried out.

The most recently amended IMAS will be the versions that are posted on the IMAS website at www.mineactionstandards.org.

Number	Date	Amendment Details
1	1 Mar 2010	1. UNMAS address updated. 2. NMAA definition updated. 3. Inclusion of a note in Clause 3 that ERW includes cluster munitions. 4. Minor changes throughout to ensure gender issues. 5. Removal of Annex B from the IMAS series. Renaming Annex C to B and D to C,
2	1 Mar 2013	1. Reviewed for impact of IATG development (Aug 2012) 2. Updated introduction 3. Inclusion of new definitions for NTS, TS, cancelled land, reduced land and cleared land 4. Incorporation of term 'reduce/reduction' throughout the document 5. General editing of text throughout 6. Relabelled the IMAS 08.10 7. Updated normative references in Annex A 8. Removed Annex B, C and D.
3	26 July 2018	1. 'Mines/ERW' replaced with 'explosive ordnance' or 'EO' throughout 2. Include example of direct evidence of IEDs, page 5 3. Reference to community consent, page 7 4. Minor wording adjustments, pages 9 and 12 5. Updated normative references in Annex A.