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Non-technical survey

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Foreword

International standards for humanitarian mine clearance programmes were first proposed by working groups at an international technical conference in Denmark, in July 1996. Criteria were prescribed for all aspects of mine clearance, 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, in particular those of mine risk education and victim assistance, and to reflect changes to operational procedures, practices and norms. The standards were re-developed and have now been named *International Mine Action Standards* (IMAS).

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/>. 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

Non technical survey is a thorough investigation of new or previously recorded hazardous areas. A non-technical survey should be the starting point for recording hazardous areas as Confirmed Hazardous Areas (CHA). However, experience in many mine action programmes where there is already a database of suspected hazardous areas (SHA) indicates that a large number of SHA and large areas of many SHA are, in fact, hazard free when cleared. As a result stakeholders are increasingly aware of the requirement to eliminate the “suspicion” from these SHA using methods other than the commitment of limited clearance resources. One way suspicion can be removed is through the process of collecting and analysing existing and new information regarding a claim. Ideally, through proper non technical survey procedures in the initial gathering of information only confirmed and accurate information is recorded in databases and clearance can be focused on to accurately defined areas.

Some governments and organisations have not invested significantly in the process of accurately defining areas of suspicion through fear of liability issues which are complex to address. It has sometimes been considered easier to clear all areas than to dismiss them on the basis of evidence alone. This IMAS provides guidance for non-technical survey. It explains the context of non-technical survey and identifies criteria to be considered to allow CHA to be confirmed, and old SHA to be confirmed or cancelled. National Mine Action Authorities (NMAA) should investigate the relevance of these criteria and develop national policies based on the principles provided in this IMAS.

Non-technical survey which forms part of the broader land release process, as described in IMAS 08.20 may be a stand-alone activity, but it may also be integrated into the broader survey process and complement technical survey.

Non-technical survey is undertaken to collect the essential information about a new CHA or an existing SHA, which has in some way been identified through, perhaps, an emergency survey, an impact survey, military records or word of mouth etc, in order to allow a decision to be made as to what to do next in or with that area. Non-technical survey actions may include the following:

- a) Clarification regarding the local perception of the hazardous status of land, or parts of it;
- b) Identification of areas where further investigation is required;
- c) Priority setting of tasks that will require further mine action support;
- d) Placement of marking to identify the requirement for mine/ERW, including unexploded sub-munitions, removal, or clearance.
- e) Removal of suspicion associated with parts of that area.
- f) If there is an existing SHA, non-technical survey can lead to that suspicion being cancelled.

Non-technical survey activities can range from analysis of existing information and a few short site visits through to a more elaborate system of visits and meetings with a wide range of stakeholders.

While this document describes the concept and conduct of non-technical survey, there will always be a requirement to develop more detailed requirements for use in the individual country. Guidance is provided on the conduct of this work.

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 mine action 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 and definitions

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 or better define CHA and remove all suspicion of mines/ERW 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 a mine-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 “**Suspect Hazardous Area**” (**SHA**) refers to an area suspected of having a mine/ERW hazard. A SHA can be identified by an impact survey, other form of national survey, or a claim of presence of explosive hazard.

The term “**Confirmed Hazardous Area**” (**CHA**) refers to an area identified by a non-technical survey in which the necessity for further intervention through either technical survey or clearance has been confirmed.

The term “**Defined Hazardous Area**” (**DHA**) refers to an area, generally within a CHA, that requires full clearance. A DHA is normally identified through thorough survey.

The term “**Non-technical Survey**” describes an important survey activity which involves collecting and analysing new and/or existing information about a hazardous area. Its purpose is to confirm whether there is evidence of a hazard or not, to identify the type and extent of hazards within any hazardous area and to define, as far as is possible, the perimeter of the actual hazardous areas *without* physical intervention. A non-technical survey does not normally involve the use of clearance or verification assets. Exceptions occur when assets are

used for the sole purpose of providing access for non-technical survey teams. The results from a non-technical survey can replace any previous data relating to the survey of an area.

The term “**Technical Survey**” describes a detailed intervention with clearance or verification assets into a CHA, or part of a CHA. It should confirm the presence of mines/ERW leading to the definition of one or more DHA and may indicate the absence of mines/ERW which could allow land to be released when combined with other evidence.

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 mines/ERW. “All reasonable effort” has been applied when the commitment of additional resources is considered to be unreasonable in relation to the results expected.

Note: Unexploded sub-munitions are included in ERW and are therefore, not mentioned separately.

4 Purpose of non-technical survey

A non-technical survey involves the collection and analysis of new and old information about a SHA. This is done by investigation of hazardous areas and the review of any existing data available. A non-technical survey does not normally involve physically entering a hazardous area or the use of mine action assets inside the CHA. An exception would be when mine action assets are used to gain safe access to areas that would otherwise be inaccessible.

A non-technical survey may serve the following purposes:

- a) to assess whether areas are contaminated by mine/ERW, or to refine the limits of previously reported hazardous areas ;
- b) to cancel incorrect reports of mines/ERW
- c) to identify socio-economic and threat factors that may influence future priority setting;
- d) to collect information about accidents, the type and pattern of hazards, burial depth, soil properties, vegetation, access routes, local infrastructure, the security situation and other factors that may influence priority setting and method of following up with additional mine action support. A non-technical survey may further serve as a planning tool for future mine action (i.e. technical survey and/or clearance).

5 Non-technical survey output

Non-technical survey is normally carried out on an area that has somehow been identified as possibly containing mines/ERW or upon a new claim of presence of an explosive hazard. Upon completion of the non-technical survey the suspected area should be reclassified into one or more CHA. It should also be noted that it is possible, if the information from the non-technical survey is strong enough, to move straight from a non-technical survey directly to clearance. Non-technical survey therefore has the following two outputs:

- Identify Confirmed Hazardous Area (CHA)
- Provide more exact estimations of actual hazardous areas and the removal of suspicion about parts or all of an original CHA

A CHA should only be created after a non-technical survey has been undertaken and evidence of hazards has been found which will require further action. A CHA may be sub-classified if the amount and quality of information is variable within the CHA and if this variation implies different follow-up requirements or different priorities for additional mine action support.

A non-technical survey may not be able to define clear boundaries of the area and, if this is the case, approximate boundaries should be assessed. A lack of survey detail should not inflate these boundaries. Annex C provides an illustrated example of a non-technical survey process.

6 Requirements for recording CHA by non-technical survey

6.1 CHA criteria

Criteria for declaring ground a CHA or refining a previously recorded CHA through non-technical survey should be clear, agreed and understood by all involved and are typically developed through a process of discussion and agreement between stakeholders. Well-defined criteria are important because:

- a) they resolve questions relating to liability in the case of mine or ERW incidents;
- b) they promote a uniform application of the process;
- c) they simplify management of the process and make it easier to adjust due to increased empirical experience; and
- d) they provide a credible framework for states that need to document and demonstrate compliance with the AP Mine Ban Convention and other international conventions.

Depending on the national situation, there are differing degrees of criteria that may be defined as having to be fulfilled in order to record ground as a new or refined CHA through the survey process and the release of land. The NMAA should develop its own set of criteria. Each country will have different criteria based on terrain, climate, history of conflict, and a number of other factors. Reasons for deciding that an area should not be recorded as a CHA may include, but not be limited to, the following:

- No evidence of previous armed conflicts in the area;
- No obvious tactical reason for using mines in the area;
- The land has been used by people and/or farm animals for a specific period with no evidence of mines and ERW;
- No mine and ERW accidents in the area (including animal accidents); or
- Land indicated by local communities (and landowner/landuser) as posing no hazard.

Further details of basic survey criteria are shown at Annex B

6.2 All reasonable effort

The principle of “all reasonable effort” is widely used in many industries and legal systems and leads to a desired level of confidence in the output of a system. The principle of all reasonable effort is that there is a point at which no further investigation into a suspected hazard area is deemed to be reasonable.

“All reasonable effort” for the release of previously suspected land through non-technical survey, is reached at a point where sufficient and reliable information has been obtained to conclude, with the desired level of confidence, that there is no evidence of mines/ERW. IMAS 8.20 provides further guidance on “all reasonable effort”.

Note: These same principles may be applied to assess and quantify information from a technical survey, sometimes undertaken concurrently or as an integrated part of a wider survey.

6.3 Evidence-based decision making process

An essential component of the survey and land release methodology is to assess and classify land based on the evidence (amount and reliability) of mines/ERW. An evidence based decision process can help in making appropriate and credible decisions, and in defining a minimum requirement for non-technical survey in order to further release land. An evidence-based decision making process that aids future decision making on the required level of mine action support should be considered.

Annex B provides guidance on developing an evidence-based decision making process.

7 Non-technical survey methodology

A non-technical survey typically involves a desk study of information coupled with collecting information from past records, seeking information from central institutions and other relevant sources of information (police, military, hospitals, provincial authorities, landowners, etc.) and inspections of the suspected area in the field.

After the information has been collected and documented, it should be included in the mines/ERW information database. This will assist in preparation of the annual work programme and the tasking orders.

All non-technical survey concepts should be approved by the NMAA prior to implementation of the survey. While there may be scope for acceptance of different non-technical survey methodologies in a country, at the national level, there should be standardised terminology, classification systems, and survey and reporting forms.

To promote objective and accurate survey the following principles should apply:

- a) A high quality of information should be ensured by applying unambiguous survey procedures that:
 - prevent subjective statements by surveyors;
 - encourage objective collection of quantifiable information; and
 - facilitate improved decision making.
- b) Sufficient information obtained from a wide range of information sources, needs to be cross-referenced and should be available to make credible conclusions.
- c) If there is insufficient information available during the survey, this should not generate a CHA but rather identify a need for additional survey.
- d) A confidence rating system should be considered to allow quantification of survey information to facilitate improved decision making. The information needs to be reliable.
- e) A forward-thinking approach should be adapted during the planning phase. Some information may seem less important at the time of the survey but may prove very useful in the future. Careful consideration should be given to a detailed analysis, together with all relevant stakeholders, of the desired output(s) from the non-technical survey.

Note: Survey teams should be carefully selected to ensure access to both men and women as important separate information sources.

8 Sources of information

8.1 General

The survey organisation should ensure that all relevant information sources are identified and that information from these sources is appropriately collected and recorded.

The survey should be structured in such a way that male and female informants who have specific knowledge about several potentially mined areas are interviewed as part of the process. Separate meetings should be arranged with female informants and children respectively, as these groups might be prevented from participating fully in mixed group meetings. It may prove difficult to repeatedly return to the same informants many times for information about new areas. A plan for the systematic collection of information should address this issue.

8.2 Classification of sources

It may be useful to sub-classify sources of information based on type and importance of the collected information. This may prove particularly useful when using an evidence based classification where each source of information is quantified and given a unique value. Annex B provides a more detailed example of how non-technical survey information sources can be listed and validated. There is, however, no uniform way to classify information and other classification systems may be found equally appropriate. The following broad classification should, however, be considered:

- **First-hand sources of information:** people and institutions with first hand knowledge of when and where mines were laid. This information may be considered more accurate than second and third hand information. First hand sources of information may include men, women and children in the affected communities, military, police, mine victims and others who observed mine laying or accidents etc.
- **Second-hand sources of information:** people and institutions that did not form part of, or observe the mine laying or accidents but have been told about the mine/ERW hazard. Second-hand sources of information may also include men, women and children in the local communities, pedestrians, local authorities, farmers, hunters, hospitals etc.
- **Physical evidence of mines:** physical observable information that indicate various degrees of evidence of mines. Physical evidence may include craters, military positions, trench lanes, local mine marking etc.

8.3 Land use

Local communities may have taken land into use knowing, or not knowing, if the area contained mines or ERW, or after conducting their own clearance activities (sometimes referred to as village demining). When this has occurred, the use of land by the community may serve as one of the factors in the confirmation of whether or not a SHA contains landmines or ERW. Depending on the degree of use by the local population, wrongly recorded areas may be removed in part or completely. Usage of land varies significantly, from intensive cultivation to infrequent use by hunters. The level of usage determines how reliable the information is. For example, if land has been used extensively for cultivation over a number of seasons and no evidence of mines has occurred, this should be deemed sufficient information to clarify the true situation on the database of suspect areas. If land has been used only marginally, a longer period may be required before the same confidence can be assured. The use of land may not, in isolation, be sufficient to release land. If past and current use can be quantified and classified it may be combined with additional information or a reassessment of survey information to allow land release. When assessing past and current use of land, the following broad requirements should apply:

- a) A systematic assessment of how land has been used, how long it has been used, and how many people have used it should be made. Attention should be given to the precise limits of areas used, together with any areas which have not been used.
- b) A systematic assessment should be made of whether mines or ERW have been found during the use of the land, the circumstances under which these hazards were found, and how long ago they were found.
- c) A qualitative system should be in place to classify confidence in the information provided by assessing use of the land. Further guidance is contained at Annex B.

8.4 Road use

Extensive use of a road may provide sufficient evidence to conclude that the road, or parts of it, is no longer suspected of being hazardous due to mines and ERW, even though it may not have been physically cleared.

It is rare that roads are mined along their entire length, so they should be divided into smaller sections that may form part of a longer CHA. Some sections may be released by assessing the use of the road while other sections may not be released and may require further investigation. This may apply to linear road sections as well as to the areas on the side of the road, particularly as requirements develop for certainty about safety at greater distances from the centre line of the road.

When assessing past and current use of roads, the requirements in paragraph 8.3, Land use, should be adapted and applied.

8.5 Sub-dividing CHA into smaller sections

Sometimes it may be difficult to find the balance between the requirement for non-technical and technical survey. The requirement for technical survey largely depends on the accuracy of the non-technical survey. Typically, one CHA may have sections within it that will more likely contain hazards than other sections. Some sections may in fact be hazard free but there is insufficient evidence to release these sections, and document this process, with sufficiently high confidence.

By dividing CHA into smaller sections, any technical survey can be focused more appropriately. This helps to define the requirement for technical survey in each of the sections.

A CHA can be subdivided into a number of sections depending on the information available and the characteristics of the CHA.

When the aim of the non-technical survey is to define the most appropriate requirement for technical survey, sub-division may be based on two main principles:

- varying degrees of evidence of the presence or absence of hazards;
- the suitability of technical survey assets in different parts of a CHA.

When sub-dividing a CHA based on evidence of hazards, the process of sub-division is part of the non-technical survey process. It should ideally be undertaken during the early stage of the survey, after an initial assessment of the field site and the hazard situation in the CHA.

Examples of non-technical survey polygons, and sub-division, are shown at Annex C.

9 Survey team requirements

When a non-technical survey is undertaken in the field, the following should be considered.

- a) Safety. Survey teams should not take unnecessary risks by walking or driving on land/roads where there is a risk of mines. When surveyors work on foot, credible local advice should be sought prior to walking on land, paths or roads. Local guides should only be trusted after a careful assessment has determined that the guide has sufficient knowledge of hazards in the area to safely guide the survey team on mine-free land. Non-technical survey teams should not normally enter the suspected area.
- b) Training. Non-technical survey should *only* be undertaken by mine action personnel who are suitably trained, experienced and accredited to carry out the activity. Proper training of survey staff will have a major impact on the accuracy of the survey. Survey teams should be sufficiently tested in conducting non-technical surveys prior to becoming operational. A good indicator is whether the survey concept is unambiguous and the teams are able to provide objective assessments.
- c) Staffing. The size of a survey team can vary depending on the local situation and the complexity of the survey. Survey teams doing field work should, as a minimum, be composed of two survey officers provided that they are both sufficiently trained to provide the necessary medical back-up, can maintain the required communication, can repair and drive the survey vehicle and perform other duties related to safety and security. Larger survey teams are however preferable. It is beneficial to have both male and female staff members in the survey teams. Gender balanced survey teams enable access to both male and female information sources, which leads to more accurate and non-discriminatory data collection.
- d) Communication. This should be tested prior to survey work.
- e) Liaison with local authorities and/or other stakeholders. Survey teams shall coordinate with appropriate local or competent authorities to ensure that it is safe to conduct survey work in an area and to avoid disruptions in the work of the authority, the police or the military.
- f) Medical backup and evacuation. When conducting a non-technical survey a qualified medic is normally not required however it is up to the national authority to set the minimum standard.

10 Documentation

Information should be collected and recorded in a systematic manner. Data should always be collected and analysed in a sex and age disaggregated manner, in order to identify gender specific land-uses, needs, accidents, etc. Whenever possible, use should be made of standard and proven information management systems and GIS, such as IMSMA. Guidance on information management can be found at IMAS 05.10 Management of Information (to be published).

General location maps should be used to indicate the approximate size of the CHA, and in particular to mark the reference points (or landmarks). Such information should be recorded electronically using GIS, or marked on a topographical map, a satellite image or on a trace. If GIS or topographical maps are not available, such information should be recorded on locally produced maps. The documentation should also record the methodology and decisions made throughout the non-technical survey process.

A sketch map of the CHA shall include sufficient detail on the location and identification of the survey markers and the hazard marking system. Other relevant information which will assist future technical survey and clearance activities should be included.

The information recorded during non-technical survey shall also form an important part of the documentation required for the handover to the organisation conducting technical survey or clearance, if required, and for the final release of the land.

11 Community involvement

Local participation should be fully incorporated into the main stages of the process of releasing land. Community involvement should include men, women and children living in or near the CHA. Local participation including where appropriate the owner of the land will ensure that land is used appropriately after it has been released.

Names, age, sex, appointments and signatures of the key informants should be recorded as part of the non-technical survey for future reference. The involvement of the local communities in the process leading to the release of land can often be reinforced by a formal process of handing over land. It should include a detailed description of the survey methodology and the risk assessment. A handover document should ideally be signed by the local community authorities, the future users of the land, representatives from the organisation that carried out the assessment/clearance and the national authorities.

An ongoing monitoring process after the release of land should be established. Post-release monitoring should be properly planned and agreed between the different parties to help measure the impact of released land on local life and to clarify issues related to liability and land status in case of any subsequent mine/ERW accidents.

12 Liability issues

A major impediment to the release of land through non-technical survey is the question of liability for the consequences of a mine or ERW being found, or causing an accident, following land release. This standard does not define conditions for resolving liability issues. General liability principles are, however, outlined in IMAS 08.20

13 Responsibilities and obligations

13.1 National Mine Action Authority

The NMAA shall:

- a) develop national standards for non-technical survey;
- b) develop a land release policy for non-technical survey;
- c) accredit organisations as fit to undertake non-technical survey;
- d) 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.
- e) utilise the information collected through the non-technical survey process to prepare tasking orders and annual works programmes;
- f) define liability issues relating to the clearance operator, the individuals undertaking the non-technical survey, and the local community, in accordance with national legislation; and
- g) monitor the effectiveness of land release outputs through non-technical survey.

National Mine Action Authorities should set out specific criteria for the release of land by a non-technical survey. The criteria that are to be met shall 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 the organisation conducting follow-on activities;
- f) maintain and make available documentation as specified by the NMAA or Mine Action Centre or equivalent; and
- g) consult closely with men and women in the affected communities, as required, with regards to all decisions made by non-technical survey.

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:

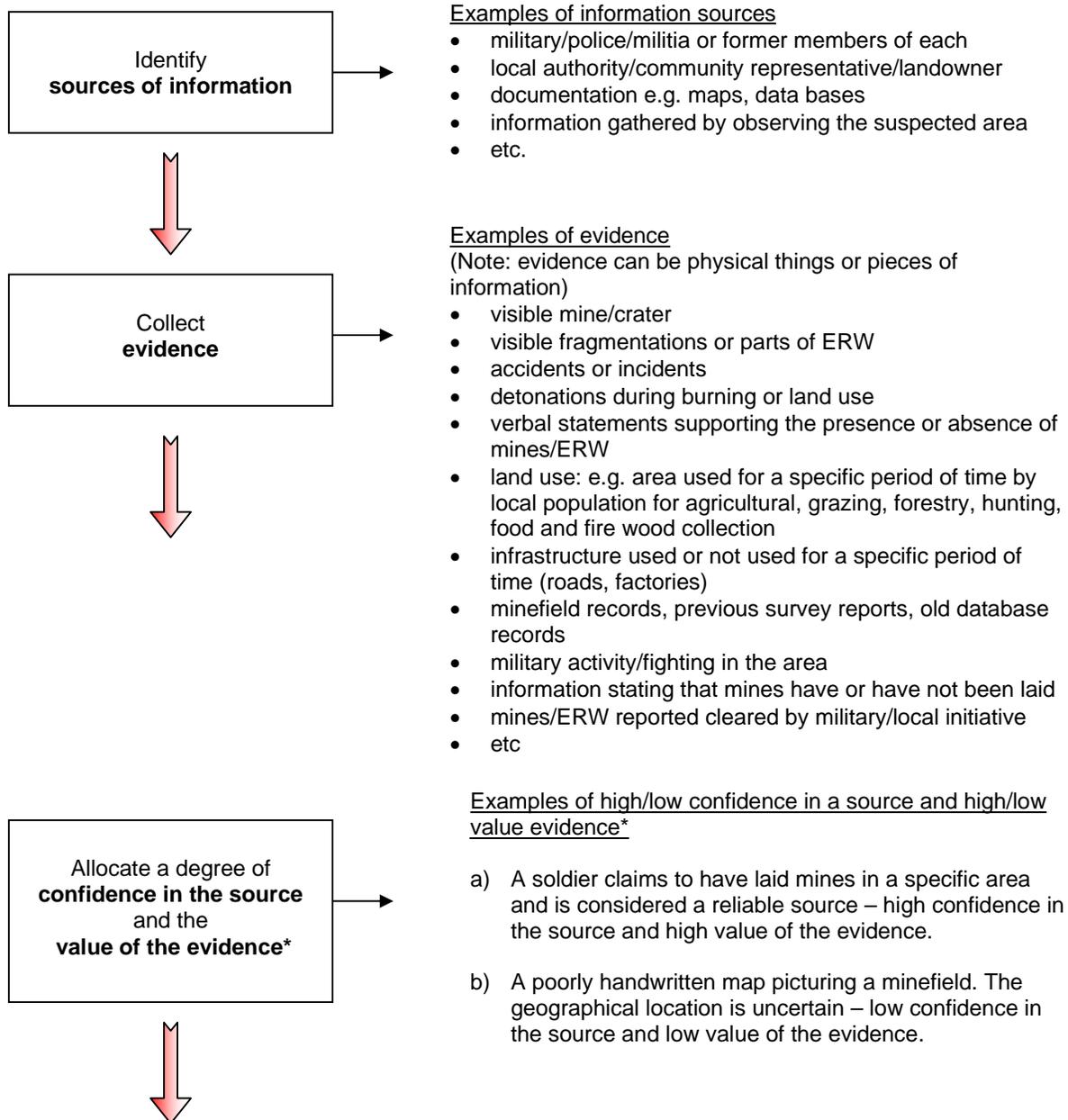
- a) IMAS 04.10 Terms and definitions
- b) IMAS 07.30 Accreditation of demining organizations
- c) IMAS 07.40 Monitoring of demining organizations
- d) IMAS 08.20 Land release
- e) IMAS 08.22 Technical survey
- f) IMAS 09.10 Clearance requirements
- g) IMAS 09.11 Battle area clearance
- h) IMAS 05.10 Management of information (to be published)
- i) IMAS 08.30 Post clearance documentation
- j) IMAS 08.40 Mine marking and ERW hazards
- k) IMAS 09.50 Mechanical application
- l) IMAS 09.40 Use of mine detection dogs

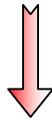
The latest version/edition of these references should be used. GICHD hold copies of all references used in this standard. A register of the latest version/edition of the IMAS standards, guides and references is maintained by GICHD, and can be read on the IMAS website (<http://www.mineactionstandards.org/>). National mine action authorities, employers and other interested bodies and organisations should obtain copies before commencing mine action programmes.

Annex B (Informative) Evidence based assessment and decision making

The flow diagram below illustrates the evidence based assessment and decision making process that may lead to a decision to allow land to be released from the classification of CHA based on the acceptance that all reasonable effort has been made in the search for hazards and none have been found. If this is not the case the land should be defined as a CHA and further survey and/or clearance should be conducted.

Criteria which, if met, would indicate that land could be released and criteria which, if met, would indicate that land cannot be released, should be identified and agreed before the beginning of non-technical survey.





Examples of criteria for releasing land

- No known military activity in an area
- No reliable information stating that mines have been laid
- No fighting in the area
- All mines reported cleared by military/local initiative
- No visible craters
- No visible fragmentations or parts of ERW
- Land used for grazing/farming for a specific period of time
- No evidence from any source
- Infrastructure used for a specific period of time (e.g. roads)
- etc

Examples of criteria for NOT releasing land

- Reliable information that mines were laid in the area
- Visible pieces of mine packaging or arming pins
- Animal carcasses with missing limbs
- Land not in use because of accidents in the area

The confidence in the source of information, combined with the value of the evidence, are assessed together and matched against set criteria to provide a conclusion. For example, if the source of information is reliable and the information is credible that there was no known military activity in the area, the entire area, or part of it, could be released of suspicion and removed from the database. If the local community had, for some reason, also considered the area to be suspect it could also be handed back to the community for their use, with confidence, based on the evidence.

It should be noted that the opposite can also occur i.e. there may be enough evidence, and credibility in the evidence, to reach the decision that the land should not be released but more non-technical survey should be carried out or there is no doubt that the land should be cleared. In this case clearance could be initiated which may then result in the identification of further land that can be released.

There can be one of three conclusions:



1. There is enough confidence to release areas of the previously recorded CHA.
2. Technical Survey may be appropriate.
3. Clearance is required.

Having a well considered, documented/recorded process that has been agreed will enable a more thorough analysis before making the final decision and ensure a clear Audit Trail that explains the decision process.

*An example of a graded system of assigning values to the credibility of a source and the value of the information, which may be helpful, can be found in some military systems. A source of information could, for example, be graded between A and F, where A is the most reliable/credible. Similarly, the value or credibility of the actual information provided by the source can be graded, say, from 1 – 6, with 1 being the most reliable/credible. Hence (A, 1) information is very credible and from a very reliable source. (F, 6) information is from an unreliable source and the actual information is hardly credible. In the examples above the first, a) could be considered (A, 1) information and the second b) (F, 6).

Annex C (Informative) Illustrated example of the Non-technical Survey Process



Figure 1 – The picture illustrates a possible SHA generated during an impact survey or other claim of presence of hazard.

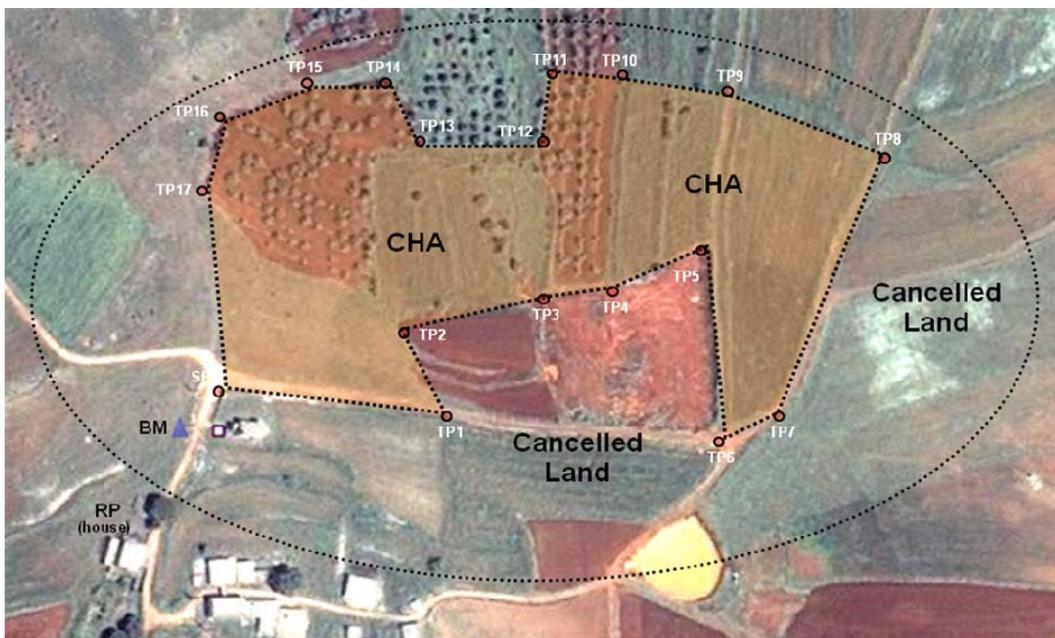


Figure 2 – This picture illustrates a possible conclusion of an initial non-technical survey. Based on further available evidence, the area outside the CHA has been cancelled and the CHA has been marked, for mapping purposes and not physically on the ground, with a Reference Point (RP), Bench Mark (BM) and Turning Points (TP).

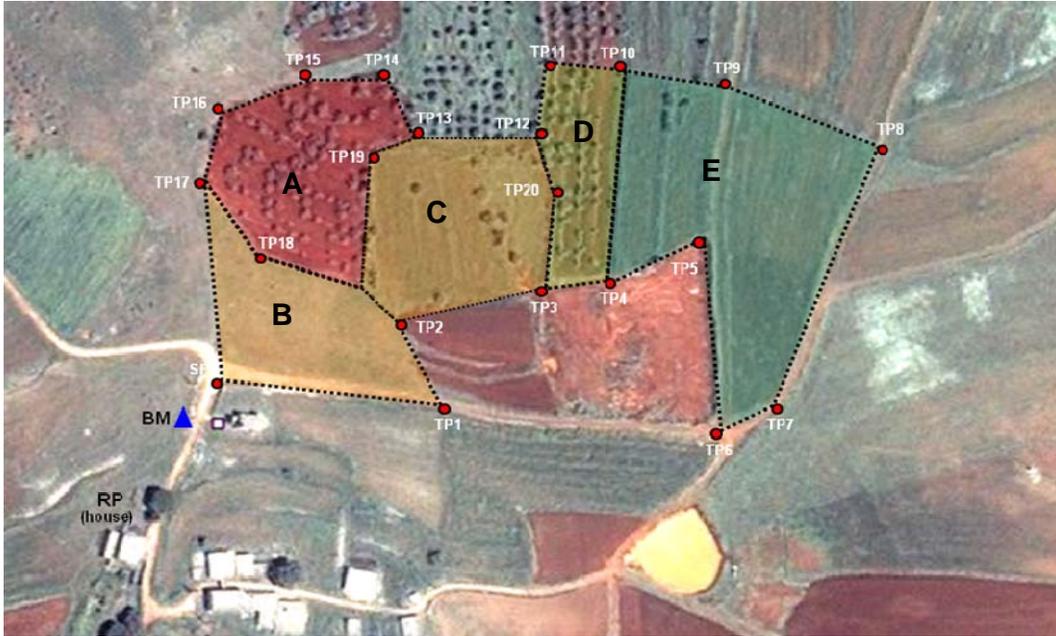


Figure 3 – This picture illustrates a possible situation after further information gathering and analysis. The CHA has now been sub-divided into sections based on differing evidence of hazards. e.g. one section (A) may have shown hard evidence of mines on the surface and so obviously requires clearance. A first hand informant may have provided verbal information regarding a second (B) and a third (C) section stating that these areas are mined. The fourth and fifth sections (D and E) only have weak information regarding the presence of mines. The level and type of technical survey needed, therefore, may vary between sections. Refer to clause 8.5 of this IMAS for further information on sub-dividing CHA.

The pictures above illustrate the logical basic process, based on information and evidence, that surveyors should undergo before declaring any area as suspect or hazardous – failure to do so will inordinately inflate the estimate of actual hazardous area, which will lead to unnecessary remedial action and inefficient deployment of scarce clearance resources.

