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Non-Technical Survey

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Warning

This document is current with effect from the date shown on the cover page. As the Sri Lankan National Mine Action Standards (SLNMAS) are subject to regular review and revision, users should consult the Sri Lankan National Mine Action Centre.

Contents

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.

Previously 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 therefore been considered easier to clear all areas than to dismiss them on the basis of evidence alone. This lead to the utilisation of limited mine clearance resources on areas containing no hazards and delaying the clearance of real hazardous areas.

Non-technical survey is undertaken to identify and 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 removal, or clearance.

e. Removal of suspicion associated with parts of that area.

f. If there is an existing SHA, non-technical survey may 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.

Non-Technical Survey

1 Scope

This standard establishes principles and provides technical standards guidelines on the conduct of non-technical surveys and detail responsibilities and obligations of the mine action agencies and organisations involved.

2 Terms and Definitions

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.

3 The Purpose of a Non-Technical Survey

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).

4 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.

5 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. See Annex A for the decision making process that shall be applicable in Sri Lanka.

The criteria required to determine if an area is to be recorded as a CHA in Sri Lanka forms part of Annex A.

The criteria/reasons for deciding that an area should not be recorded as a CHA are also listed in Annex A.

6 Principles applicable on Non-Technical Survey

To promote an objective and accurate survey the following principles shall be applied every time a non-technical is to be conducted:

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 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.

7 The Non-Technical Survey Process

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.

The process shall consist of the following stages:

a. Planning and preparation.

b. Information collection.

c. Collation and evaluation.

d. Analysis, integration and interpretation.

e. Dissemination and exploitation.

f. Review.

7.1 Planning and Preparation

The planning required for a non-technical survey is essential to the task and must be carried out prior to the survey being conducted. When planning for such a task, it should always be remembered that experience will not always outweigh commonsense and that safety will always be of the highest priority.

Careful planning and preparation is essential in order to ensure that survey objectives can be achieved with available resources and in a timely manner. All possible sources of information should be considered. Survey teams will provide the principal source of information.

The SLNMAC shall be responsible for the planning and preparation of non-technical survey activities. The Operations department will take the leading role during the planning and preparation phase supported by the Information department.

7.1.1. Determining of Priorities

During this phase of the planning and preparation it is important that priorities are determined of the areas to be surveyed. During the determining of priorities it is of utmost importance that the SLNMAC take all stakeholders in consideration. The following stakeholders shall be taken in consideration to determine the priorities:

a) The National Steering Committee for Mine Action (NSCMA) listed requirements as received from various ministerial departments.

b) The District Government Agents of the landmine contaminated districts.

c) The District Secretariats of the landmine contaminated DS divisions.

d) The Grama Nidhari (GN) of the various landmine contaminated GN divisions.

e) The local population directly influenced by the threat.

The survey priorities shall form part of the all the Land Release priorities. The SLNMAC shall compile the list of priorities within the activities of Land Release and submit it to the NSCMA for approval.

7.1.2. Survey Plan

When priorities are determined and approved a plan is to be compiled to address the process, the utilisation of survey resources and the survey activities to be conducted to address the priority areas in the most effective manner. The plan shall be approved by the SLNMAC Director and should be communicated to all stakeholders.

The plan shall indicate the survey resources, priority areas to be surveyed and the time schedule to conduct the activities.

7.1.3. Tasking Order

The operational department shall compile the tasking orders that are to be issued to the survey teams to task them according to the Non-Technical Survey plan. See Annex B for a tasking order. The tasking orders shall include all the information on the area to be surveyed available at that moment at SLNMAC. The following are examples of information that may be available:

a) Reports of the previous conducted Impact Survey/GMAA applicable to the tasking order.

b) List of possible points of contact (available names and location of people that should be interviewed).

c) Available information on landmine/UXO incidents that occurred within the area to be surveyed.

d) Contact information of administrators, military commanders, hospitals, previous reliable sources, etc.

e) IMSMA maps indicating all SHA already registered in the area to be surveyed.

f) Maps, satellite images, aerial photographs and sketches.

g) SLA minefield records if available.

The SLNMAC Operational Department shall compile a task dossier that includes the tasking order and all the applicable available information. A reference number shall be allocated to the task dossier by the SLNMAC Operations Department. The Operational Department shall keep record of all task dossiers, issued and in-hand. The tasking dossiers will be forwarded to the DMAOs for issuing to the clearance organisations. The DMAO Operations Section shall issue the task dossier per signature to the clearance organisation.

After completion of the survey the survey team leader will insert all gathered information (Non-Technical Survey report, all notes taken during the survey, photos, maps and sketches made) into the task dossier and return it to the DMAO Operations Section.

7.1.4. Planning and Preparation by the Clearance Organisation's Survey Team

Team Composition. A Non-Technical survey team shall as a minimum consist of the following personnel:

a) Survey team leader.

b) Survey assistant.

c) Paramedic (ALS qualified).

d) Driver.

Both the team leader and survey assistant should have successfully completed an approved survey course.

Planning/Desk Assessment. After receiving the task dossier the team leader shall make an appreciation, compile a plan and brief his team. The following aspects should be taken in consideration:

a) Review all the information provided in the task dossier and determines the task at hand and the reason for the survey.

b) The location of the areas to be surveyed.

c) The time allowed completing the survey.

d) The best route to the areas and distances to travel.

e) Date and time for departure. Allow time for briefing of the team, briefing of the Project Leader/Ops department personnel, preparation of equipment and vehicle, and administrative preparations.

f) An initial data collection plan. Identify initial points of contact and make appointments for interviews if possible.

g) Availability of accommodation in the areas to be surveyed for the survey team if necessary.

h) Stores and equipment to be taken along. See Annex C for a suggested list of equipment for non-technical survey tasks.

i) Compile a list of information to be gathered and possible sources of information. See Annex D for a suggested list of information to be gathered during a non-technical survey.

j) Fuel required for the task, possible refuelling points and funds required for the procurement of fuel.

Preparation of equipment. The equipment necessary to conduct a non-technical survey is listed in Annex C. It is the minimum equipment necessary for non-technical survey and any additional equipment is at the discretion of the survey team/clearance organisation. All the team members are to be conversant with the use and performance of each item. Rehearsals are to be conducted where necessary. All equipment is to be secured in the vehicle and should be easily accessible to the users at any given time. Prior to the departure the following is to be carried out:

a) Equipment is to be checked for serviceability and exchanged if found to be faulty.

b) All batteries are to be checked, charged and spares must always be taken.

c) The vehicle is to be thoroughly checked, prepared and fuelled up.

d) Ensure enough stationary for taking notes, to complete survey reports and to draw the required sketches.

e) Ensure that all the maps required are obtained and that routes are determined and marked out.

f) All water containers are to be filled up.

g) Check communications (radio, telephone, etc) and maintain contact throughout their mission.

Briefing to the Project manager/TA and Operations officer. The clearance organisation's project manager or TA and the DMAO Operations officer (if available) are to be briefed by the survey team leader of his intentions, any problems the team may have had with their planning, any problems they can foresee, and provide an update on the general situation.

7.1.5. Movement to the survey areas

Unless a member of the survey team is familiar with the route to the mined areas a guide must be asked for from the GS and/or GN administrator. The survey team should not attempt unknown routes without a guide.

All off road driving is to be kept to used vehicle tracks only and under no circumstances is the vehicle to leave these tracks. Personnel should wear seatbelts at all times, when available, while travelling. If personnel are required to leave the vehicle, they are to stay on the vehicle tracks and conduct any necessary function from there.

The route and the road conditions are to be recorded in the survey report and an assessment of what the road conditions may be like in various weather conditions.

7.2 Information Collection

The second stage of the non-technical survey involves the collection of information. The trained survey teams shall be responsible for the collection of most of the information. The method used by the teams to collect the information during a non-technical survey will be through interviewing of sources and the recording of what they observe during their visit to the area under survey.

The SLNMAC and DMAOs shall also establish special arrangements and procedures with other agencies and government institutions, including the use of liaison officers and/or special arranged meetings to improve access to information that will assist the planning and conducting of survey and other mine action activities.

7.2.1. Sources of Information

In addition to the sources mentioned in section 7.1.3 above the following are possible sources of information and should be interviewed by the non-technical survey teams where possible:

a) GS and GN Administrators. The administrators normally have some idea where the mine effective areas within their areas of responsibilities are. They can also bring the survey teams in contact with other sources of information. They may also provide a general idea of what type of resources are blocked by the landmines and UXO from the local population.

b) Local police and homeguard members. These members live amongst the population and should have a good knowledge of the existing mine threat in their area. The possibility that the population reported hazardous areas and landmine incident to them is great. They can also bring the survey teams in contact with other sources of information.

c) Military Commanders. The military currently deployed in the areas can also provide some information about hazardous areas encountered by them during their routine activities in the area. The possibility also exists that some of the commanders were also deployed in these areas during the conflict and therefore may know where landmines were laid and/or encountered. Military Engineers also participate in the removing of landmines in the affected areas and it is imported to obtain the locations of such activities.

Note: A letter of introduction may be required to introduce the survey team to the local military commanders.

d) Local hospitals and clinics. Local hospitals can provide information concerning landmine victims. It is important to obtain the names of such victims as well as the type of injury sustained and treatment provided.

e) Landmine victims. The information obtained from landmine victims can give a clear indication of the location of hazardous areas, the level of contamination, the tendencies of local population and the level and impact of mine awareness programmes. It is very important to get an accurate location (as close as possible) of where the incident occurred and what the victim was doing at the time of the incident.

f) Mine Risk Education Field Workers. MRE currently experiences wide coverage over the landmine-affected areas. The field workers are in constant contact with the local population and gathered information regarding the location of some hazardous areas. The field workers collected also information concerning landmine victims in their areas of responsibility. The field workers may also indicate the level of MRE conducted in their areas, what areas still need MRE, which part of the population is mostly influenced by the presence of landmines and what is the local population's tendencies and reaction towards the presence of mines and UXO.

g) Local population. The local population is the people that are influenced by the presence of the landmines and UXO. They can provide a clear indication on the ground where the mine/UXO threat is and what accesses to resources are blocked by the threat. The population may also indicate what types of mines are present, who laid it and when was it laid. Where local population lost livestock (like cattle, goats, dogs, etc.) due to the threat the location of the incidents will give a clear indication of the location of the threat. Local population can also provide an indication on what the contaminated land was used for before it was mined and what it is planned for after it is cleared.

7.2.2. Information to be collected

As already mentioned the objective of a Non-Technical Survey is to collect information on existing SHA and/or new CHA. Information must be collected about the areas affected by mines or UXO and areas that are not affected. The information to be collected is described more in detail below and also see Annex D for a suggested list of information to be gathered during a non-technical survey.

A non-technical survey shall collect information in terms of newly identified CHA:

a. to provide a description of the extent of the mine and UXO threat, in order to assess the amount and type of resources needed to remove (or at least to reduce) the risk through hazard marking, awareness and education, and/or clearance.

b. on the location and extent of each CHA in order to locate it safely and quickly at some later stage, in order to conduct a technical survey and/or clearance.

c. on the local terrain including ground profile, soil type, soil contamination, drainage, vegetation (type and density) and access, in order to describe in general terms the technical factors that will influence the resources required for clearance.

d. on the mine and UXO types and density. The detail collected as part of a non-technical survey need only be sufficient to assess in general terms the resources required for clearance. More detailed information on the density and depth of the mines and UXO in each hazardous area shall be collected during the technical survey.

A non-technical survey should collect information:

a. on the condition and potential of the local infrastructure, including logistic facilities, transportation, communications and medical facilities which could be used to support technical survey and/or clearance projects.

b. on local weather conditions (rainfall, temperature and humidity) and its potential impact on technical survey and/or clearance projects.

Where a non-technical survey is to be conducted on an existing SHA it is also very important to record what the survey team observe, for example:

a) Ground that is supposed to form part of a hazardous area is freshly ploughed.

b) Grass is freshly cut within a suspected hazardous area.

c) Animals are grazing in a suspected hazardous area.

d) Children are playing in an area that is supposed to be dangerous.

e) Construction is taking place within a suspected hazardous area.

f) Safe routes/paths taken by local population through hazardous areas.

7.2.3. Interviews

The Sri Lankan Data Collection sheet for Non-Technical Surveys that is IMSMA compatible (see Annex E) shall be the source of what questions to be asked during the interviews. It is important to determine beforehand what information to gather before an interview commences. A suggestion is to compile a list of questions to be asked before a source is interviewed. This will ensure that nothing is missed during the interview.

When interviewing sources of information the survey team shall keep the following in mind:

a) It is important to seek the permission of the respondent before carrying out the interview.

b) Declare the purpose for which the interview information is being collected.

c) Mention the agencies responsible for authorising the interview process (for instance, it is sanctioned by DMAO and the GA, DS and GN administration).

d) Explain that the identity of the interviewee will remain strictly confidential.

e) Start the interview process with the least contentious questions so as to build confidence between the interviewer and the interviewee.

f) Questions should:

- Be easy to understand.
- Be culturally sensitive and specific.
- Not prejudice the response.

g) If the interviewee knows the location of mines/UXO and/or incidents do not follow him into hazardous areas but ask him/her to indicate the locations from a safe area. Always observe, take measurements, bearings, photos, etc. from a save area. Never enter a dangerous area.

h) Where specific locations cannot be pointed out on the ground by interviewees let him/her indicate it on a map to determine the approximate coordinates, or let him/her draw a sketch from the identified Viewpoint (grid referenced) with estimated distances, landmarks and directions.

i) Gathered information should always be verified. *Efforts must be made to confirm or mislay information*.

7.2.4. Movement around mined areas

Personnel must always display common sense when at the mined area and must not approach or attempt to move around the mined area without a local guide who knows the area and the location of the mined area. Personnel are not to leave the safety of vehicle tracks or hard standing, however, where a reliable guide can be used then it will be acceptable to do this. If this is the case then the following is to occur:

a) Clearly explain to the guide that you are not to enter the mined area and require only the approximate boundaries.

b) Site the vehicle in an accessible location (the vehicle should be parked such that it can exit without further manoeuvring) and the paramedic and driver prepare it as an emergency evacuation vehicle.

c) Tell the guide to move slowly, so that you may follow easily.

d) Establish radio communication with the survey assistant and paramedic and maintain it during the movement.

e) Establish also communications with the clearance organisation and inform them about your planned movements.

f) If needed leave the survey assistant at the vehicle or a safe point where it will be possible for him to observe your movements.

g) Take with you a mine detector, mine prodder, trip wire feeler, binoculars, camera, map, compass, GPS, notebook, and a radio. Use this equipment where necessary.

h) Follow the guide at a safe distance of at least five metres.

i) Walk in the footsteps of the guide.

Personnel must be aware that guides are not always MRE trained and will pass at times only centimetres from mines, or they will take you within centimetres of a mine to show it to you. The likelihood of other mines being in close proximity must be explained to them.

7.2.5. Navigation

Survey personnel must be competent navigators and are required to find, and plot on a map, the approximate boundaries of hazardous areas. This can be achieved by shooting bearings from several known safe points to a boundary extremity (given to you by the guide). Marking out the bearings that intersect with each other will reveal the approximate size of the hazardous area. See Annex F for an example of a plotted hazardous area.

The GPS is the primary tool for finding fixed positions. Where it is impossible to take GPS readings the method of resection using a compass, map and paces shall be used. The vehicle trip meter should also be used where recording routes. All necessary coordinates are to be recorded in the Survey report.

All reference points are to be clearly identified, permanently marked on the ground and accurately recorded. The following reference points are applicable to a non-technical survey:

a) Geographical reference. A fixed point of reference some distance outside hazardous areas. This point is normally fixed in the community/village where the survey is initiated. It should be an easily recognised and permanent feature (such as a school, church, cross-roads or a bridge) which can be used to assist in navigating to one or more viewing points and/or starting points. The exact position must be identified by GPS and its coordinates shall be recorded in Kandawala as datum. The geographical reference must be described in detail in the survey report.

b) Viewing Point. A fixed point of reference some distance outside hazardous areas. The position from where one or more hazardous areas were viewed by the survey team. It should be an easily recognised feature and permanently marked on the ground which can be used to assist in navigating to one or more starting points. The exact position must be identified by GPS and its coordinates shall be recorded in Kandawala as datum. These should be accurately recorded to a minimum error of 10 metres.

c) Starting Point. Indicating the starting point of the boundary of the hazardous area and is a permanent point of reference. The point must be permanently marked. The exact position should also be identified by GPS and its coordinates shall be recorded in Kandawala as datum. The position shall also be fixed by a compass bearing and distance from the viewing point and/or geographical reference.

7.2.6. Recording

Wherever possible the original documentation (such as questionnaires and interview notes) should be retained, although additional information may be added for clarity or amplification. However, no attempt should be made at this stage to analyse or interpret the information as this may lead to early and false deductions being drawn from an incomplete set of data; and these deductions may, in turn, influence the way in which the remaining information is collected and interpreted.

A non-technical survey can easily be wasted if information gained has been recorded incorrectly. The survey team are to ensure the information they record is as accurate as possible. Coordinates and bearings in particular need to be very accurate and precise. Coordinates to the following need to be supported with a sketch and a description of the area:

a) Geographic reference.

b) Viewing points.

c) Starting points.

d) Safe areas around a hazardous area.

e) The approximate boundaries of the identified hazardous areas.

f) Visible mines/UXO.

g) Locations of landmine incidents.

h) Military positions like bunkers, trenches, defence bunds, etc.

i) Other facilities that may support the follow-up technical survey and clearance operations.

Not always will the non-technical survey team return to a site to act as guides, therefore all information that is recorded must be accurate so that others may find it easy to follow. The survey team shall complete all the recording, sketches, overlays, etc. before leaving the surveyed areas to ensure that no information is missed and if more information is needed in can be collected before departing.

The information should be collected in a systematic manner and the Data collection sheets as part of the non-technical survey process as given in Annex E shall be used to record all information. Writing on the Data collection sheets must be readable, clearly understandable and the sheets must be kept clean. All efforts shall be made to complete the data collection sheet in it's entirety (All fields to be filled in as accurate and comprehensive as possible). The handwritten data sheet may be retyped or entered into a digital form and printed for submission to the DMAO but the handwritten form shall still form part of the submitted task dossier.

After completion of the Data collection sheet, map overlays and sketches the survey team leader shall insert it into the task dossier with all the notes made during the survey. The team leader will review the information for completeness before submitting it to the Project Manager/TA or DMAO Operations Section.

7.2.7. Mapping and Sketching

The survey team shall produce the following maps and sketches during a non-technical survey:

a) Map Overlay. A map overlay shall be done of the survey team's area of responsibility indicating the geographical reference points, routes, identified CHA, viewing points and starting points. State the map name, scale and datum of the map used. Ensure that the GPS and map datum correspond every time when using the GPS.

b) Sketch per CHA. A to-scale sketch map shall be drawn for each CHA identified during the survey. The minimum that are to be plotted on the sketch are the geographical reference, routes, the determined boundary of the hazardous areas, the viewing point and starting point with grid references, turning points, bearings and distances.

For detail on the procedures, methods and rules on mapping and sketching see Annex G.

7.2.8. Marking of Hazardous Areas

If CHA are found not to be marked the survey team shall use the markers and marking tape in their equipment and mark the most obvious entrances to the hazardous areas to warn the local population of the threat. It is also important to inform the local population of the markings and its location and request them not to tamper with the markings.

7.3 Collation and evaluation

The DMAO Information Section will conduct this stage with assistance from the Operations Section with the evaluation of information.

7.3.1. Receiving and Sorting

Collation is the procedure for receiving, sorting and recording all information collected from all sources, both planned and unplanned. The survey team leader shall hand the completed task dossier in to the DMAO Operations Section. The head of the Operations Section shall screen the survey report to ensure that it is complete and comprehensive enough. The task dossier shall then be handed over to the Information Department for the sorting of the information. During sorting duplication must be rectified and obvious errors such as transposed coordinates/grid references should be corrected.

The sorted information will then be handed over to the Operations Section for evaluation for its relevance and accuracy.

7.3.2. Evaluation of Information

The Operations Section shall conduct the evaluation of the information and it will occur concurrently with collation. It involves the assessment of each piece of information as it is received for its relevance and accuracy.

Each source of information shall be assessed in terms of its proven reliability and credibility according to the following three criteria:

(A) **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 military, police, mine victims, others who observed mine laying or accidents etc.

(B) **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 threat. Second-hand sources of information may include villagers, pedestrians, local authorities, farmers, hunters, hospitals etc.

(C) **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.

Each piece of information should also be assessed in terms of its accuracy according to the following four criteria:

(1) Confirmed by other sources.

(2) Probably true.

(3) Improbable.

(4) Accuracy cannot be judged.

The two criteria should be combined and ascribed to each piece of information. For example information that was provided by a source judged to be ***'Second-hand***' and which subsequently has been ***confirmed by one or more other sources***, would be classified as 'B1'.

It is most important to reduce uncertainty and to correct inaccuracies at this stage. Inaccurate and misleading data will impact on later stages of the process, and may reduce confidence in other (and more accurate) information collected during the survey. Greater effort at this stage enables resources to be focussed more effectively on follow-on activities such as mine awareness, technical survey and clearance projects.

7.3.3. Recording and Filing

The task dossier shall then be handed back to the Information Department for the recording of the information in the IMSMA System and the filing of the task dossier.

The IMSMA shall be used to enter all approved information and to manage it. Only completed, accurate and approved information shall be entered into the IMSMA system. The Operations Section is responsible to approve information that is to be entered.

The Information Section shall develop and maintain a proper filing system for the survey information (Task Dossiers).

7.4 Analysis, integration and interpretation

The Operations Section shall be the main player during this stage supported by the Information Section.

Analysis involves the detailed examination of each piece of information, once it has been evaluated, to identify significant facts and to draw appropriate conclusions. At this stage it may be considered necessary to revisit the source of information to confirm its accuracy or completeness.

Integration involves the detailed examination of two or more pieces of information to establish patterns and to draw conclusions. Examples are the integration of the existing hazardous area survey reports and the new reports from local communities, the latest movement of population observed in the surveyed areas, or the integration of information from MRE/victim assistance assessments regarding mine/UXO-casualty data.

Interpretation is a systematic process that leads deduction. It relies on experience, professional judgement and an understanding of the local context in which the data was collected. New information is compared with what is already known or suspected. This may increase confidence in the reliability of a source of data, or it may raise new questions or uncertainty.

Effective analysis, integration and interpretation require specialist skills such as photographic/imagery interpreters, linguists and experienced deminers. Such skills may be in short supply and will take time to train.

This stage of the process should be well documented with assumptions clearly stated and reasons given for all deductions and conclusions. This provides a 'review trail' which can be re-visited should new information become available or should assumptions subsequently be revised or refined.

7.5 Dissemination and exploitation

The Information Department of the SLNMAC is responsible for this stage.

Dissemination involves the publication of the information collected during the non-technical survey so that it can be readily and easily used and exploited. The form and means of dissemination shall have been agreed with the Director and the Operations Department at the start of the survey, but may need to be revised to reflect changing requirements such as the handling of restricted information.

Information should be made available in a form that is appropriate for its local use and exploitation, and subsequent review. This may include reports, summaries, maps, verbal briefings and electronic media. Maximum use shall be made of the IMSMA. It is therefore important that all information shall be compiled in the standard IMSMA formats developed for Sri Lanka.

7.6 Review

A non-technical survey is not an end in itself. As stated earlier, it should normally be subject to continuous review with new information being added, and the implication(s) of that information being adequately addressed. In particular, changes to assumptions and to the reliability of sources of information should be revisited on a regular basis, and the implication(s) of these changes examined fully.

8 Responsibilities

8.1 Sri Lanka National Mine Action Centre (SLNMAC)

The SLNMAC is responsible for the regulation, management and co-ordination of mine action in Sri Lanka and for ensuring the national and local conditions, which will enable the effective management of mine action projects.

The SLNMAC is ultimately responsible for all phases of the land release process within Sri Lanka, including non-technical surveys. In particular, the SLNMAC shall establish and maintain a system and procedures for the collection, collation, analysis and dissemination of information on the mine and UXO threat as part of a non-technical survey.

Accredit organisations as fit to undertake non-technical survey.

Utilise the information collected through the non-technical survey process to prepare tasking orders and annual works programmes.

Define liability issues relating to the clearance operator, the individuals undertaking the non-technical survey, and the local community, in accordance with national legislation.

Monitor the effectiveness of land release outputs through non-technical survey.

8.2 Operations Department

The Operations Department shall be responsible for the following regarding non-technical surveys:

a) Identifying the non-technical survey tasks to be conducted in accordance with the approved priority list of contaminated areas.

b) The compiling of the task dossiers and the tasking of survey resources through a tasking order.

c) The monitoring of survey resources activities and their progress.

d) The receiving of the gathered information.

e) The evaluation of the information.

f) Analysis, integration and interpretation of information.

g) The continuous reviewing of information.

8.3 Information Department

The Information Department shall be responsible for the following regarding non-technical surveys:

a) Providing all available information to compile the Task Dossiers.

b) The sorting of received information.

c) The recording of evaluated information into the IMSMA system and the filing of the task dossiers.

d) Assist the Operations Department in the analysis, integration and interpretation of the information.

e) The dissemination and exploitation of information.

f) The continuous reviewing of information.

8.4 The Clearance Organisation

The clearance organisations shall be responsible for the following regarding non-technical surveys:

a. Providing trained non-technical survey teams to conduct the surveys.

b. Administrative and logistical support to survey teams.

c. The monitoring of the survey teams activities and their progress.

d. Ensure the submitting of complete and comprehensive survey reports.

e. Develop SOP in accordance with this SLNMAS for the implementation of non-technical surveys.

f. Consult closely with affected communities with regards to all decisions made by non-technical survey.

8.5 Survey Team Leader

The survey team leader shall be responsible for the following:

a. Planning of the survey.

b. Safe conduct of the task.

c. Recording of accurate information.

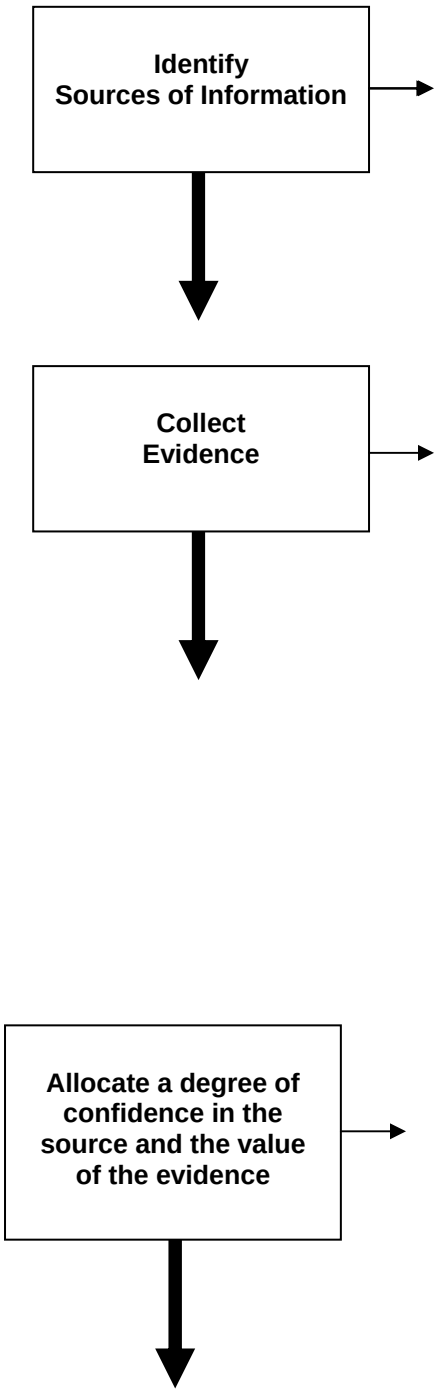
d. Keep the organisation's project manager and the DMAO operations section informed and brief them before and after the survey.

Annex A

Decision making Process

The flow diagram below illustrates the evidence based assessment and decision making process that will assist the survey team in making a decision to declare an area a CHA or to release land 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.

The criteria to make the decision of registering a CHA are listed below. The criteria for releasing land from suspicion of containing mines/UXO are also listed below.



Information sources

- military/police/home guard or former members of each
- local authority/community representative/ landowner
- documentation e.g. maps, data bases minefield records
- information gathered by observing the suspected area etc.

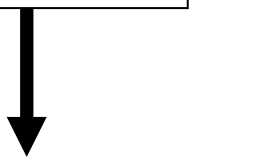
Evidence
(Note: evidence can be physical things or pieces of information)

- visible mine/crater
- visible fragmentations or parts of ERW
- accidents or incidents
- detonations during burning or land use
- verbal statements supporting the presence or absence of mines/ERW
- land use: e.g. area used for a specific period of time by local population for agricultural, grazing, forestry, hunting, food and fire wood collection
- infrastructure used or not used for a specific period of time (roads, factories)
- minefield records, previous survey reports, old database records
- military activity/fighting in the area
- information stating that mines have or have not been laid
- mines/ERW reported cleared by military/local initiative.

Examples of high/low confidence in a source and high/low value evidence

- A SLA commander claims to have laid mines in a specific area and is considered a reliable source – high confidence in the source and high value of the evidence.
- A member of the Air force guarding the road said that a friend told him that he heard mines were laid close to the road. The geographical location is uncertain – low confidence in the source and low value of the evidence.

Allocate a degree of confidence in the source and the value of the evidence*



Sri Lanka criteria for releasing land

- No known military activity took place 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 mine craters
- Land used for grazing/farming for a specific more than two months
- No evidence from any source
- Infrastructure used for more than two months (e.g. roads)
- No mine incidents/accidents occurred
- Reliable confirmation that no mines were laid

Sri Lanka criteria for NOT releasing land

- Reliable information that mines were laid in the area
- Visible mines/UXO
- Visible mine craters
- 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.

Conclusion

There can be one of three conclusions:

1. There is enough confidence to release areas.
2. Technical Survey may be appropriate.
3. Clearance is required.

It is of utmost importance that clearance agencies document/record the process of the non-technical survey that brought them to the final decision of land release /non land release. A clear audit trail that explains their decision making process is to be ensured.

Annex B

Tasking Order

MINE ACTION TASK AUTHORIZATION

Task Details	
Dossier No.:	
Organization:	
Date:	
Completion Date:	
Area:	
Task No.:	
GA's Priority:	

Locality Map

TASK DESCRIPTION:

AREA OF RESPONSIBILITY

The area of responsibility/activity for _____ (name of tasked agency) is limited to the _____ _____GN division(s) in the _____ DS division as indicated on the locality map and attached map.

ACCESS TO AREA OF RESPONSIBILITY

This document provides authorization to the tasked organization to enter their area of responsibility and allows freedom of movement within this area as outlined in this tasking order to conduct their task successfully. This however does not authorized access to any high security areas.

WORK PLAN

The clearance agency shall submit a concept work plan for the task to the District Mine Action Office _____ (name) within five days of receiving the task order.

ATTACHED INFORMATION

The following items are attached as additional information to assist the agency in the execution of the task.

Impact Survey Report: ☐ Report No. _____ Satellite Images: ☐ Sketches: ☐

Landmine incident reports: ☐ Non-Technical Survey Report: ☐ No: _____

Technical Survey Report: ☐ No:_____ Suspension Report: ☐ No: _____

Confirmed Hazardous Area Report: ☐ No: _____ Minefield Report: ☐ No: _____

SLA Minefield Record: ☐ No: _____

Document Prepared By:

.....
Mine Action Officer,
District Mine Action Office, _____ (name)

Authorized By:

The Government Agent, _____ (name)	Signature:	
	Date:	
Commander, SF HQ, _____(name)	Signature:	
	Date:	

Annex C

Equipment for Non-Technical Survey Team

The following should be the minimum equipment to be carried by a Non-Technical Survey team:

Serial No.	Description	Quantity	Remarks
1	Binoculars	1	
2	Compass	1	Prismatic
3	Maps	Set	Of the area to be surveyed
4	Protractor	1	Degrees
5	GPS w/ spare batteries	1	
6	Digital camera	1	
7	Task Dossier with IMSMA data collection sheets	1	Ensure enough copies of the data collection sheet
8	Notebook & pen	1	
9	Drawing paper and pens/ pencils	Qty	
10	4x4 Vehicle	1	
11	Medical trauma kit with stretcher and oxygen	1	
12	Mine signs	20	
13	Mine marking tape	2 rolls	
14	Red marking paint w/ brush	1 tin	To mark reference points
15	Metal pickets short	20	To mark reference points
16	Binding wire		To fix mine markers to objects
17	Telephone comms with agency	1	Mobile/CDMA
18	Radio VHF handheld	2	
19	Mine detector w/ spare batteries	1	
20	Manual deminer hand tools	1	
21	PPE set	2	Apron and visor

Annex D

Information to be gathered during a Non-Technical Survey

The following is information that needs to be gathered to ensure that the correct decision is made in terms of the release or the non-release of land. If a CHA is registered this information also needs to ensure the effective planning and execution of future technical survey and/or clearance operation to be carried out in the area where the survey was conducted.

1 Information on the area in which the survey is conducted

The following information needs to be gathered regarding the area as allocated to the survey team in the tasking order.

a. Location of all confirmed hazardous areas (CHAs) in the area.

b. Geographical reference point for the area that is easy identifiable, fully described, marked and coordinates fixed.

c. Personal information of people interviewed.

d. Historical information on the area (was there fighting and when and were there mines laid).

e. MRE activities that were taken place.

f. Victim totals and victim assistance.

g. Estimated population figures.

h. Any mine marking and clearance (By whom and where).

i. The best routes to the area (geographical reference) and to each CHA.

j. Names and contact details of all useful contacts.

k. General remarks and severity of the CHAs on the area.

2 Information on Suspected Hazardous Areas (SHAs)

The following information needs to be gathered regarding every SHA within the area of responsibility of the Survey team:

a. Confirm the coordinates of the SHA as defined in previous Dangerous Area Report.

b. Provide a current description of the SHA.

c. Any hazardous markings and/or fence.

d. Any population occupation of the area or part of the area.

e. The current use of the area.

f. Visual indication of mines.

g. Any information of mine accidents that occurred previously in the SHA.

h. Uncleared military installations in the SHA.

i. Was there fighting in the close proximity of the SHA and give a detail description thereof.

j. May the SHA be cancelled as a hazardous area?

3 Information on Confirmed Hazardous Areas (CHAs)

The following information needs to be gathered regarding every CHA identified by the Survey team in their area of responsibility:

a. The location of the CHA with Viewing point and Starting point clearly marked and recorded.

b. The approximate boundary of the CHA.

c. Suspected ordnance in the CHA.

d. Locations of military installations, bunkers, defence bunds etc.

e. The blocking influence of the CHA on the local population closest to the threat.

f. Terrain data in terms of vegetation and ground profile.

g. Personal and contact detail of the person that provided evidence on the CHA.

h. Personal detail of recent victims of this CHA and an approximate coordinates of where the incident took place.

i. Amount and approximate coordinates in case of animals killed/injured by mines in the CHA.

j. Amount and type of mines/UXO visible in the CHA. Approximate coordinates is also required.

k. Previous and future use of the CHA.

Annex E

Sri Lankan Data Collection Sheet for Non- Technical Survey

1. General

	Name	Code	
1.1 Country	Sri Lanka		
1.2 Province	Northern		
1.3 District			
1.4 Divisional Secretariat			1.13 Survey ID: (Leave blank)
1.4 GN Division			
1.5 Data enumerator organisation			1.14 District MAO:
1.6 Data enumerator 1			1.15 Task Dossier No.:
1.7 Data enumerator 2			
1.8 Area officer			
1.9 Area supervisor			1.16 Survey effective start date:
1.18 Status			1.16 Survey effective start date:

2 Location:	Name	GPS Coord (Kandawala Datum):
2.1 DS Town name:		
2.2 Village name:		
2.3 Village name:		
2.4 Village name:		
2.5 Village name:		
2.6 Village name:		
2.7 Village name:		
2.8 Village name:		

3 Geographical reference:

3.1 Coord. system: Kandawala Datum	
3.2 X/ Easting/ Long.:	
3.3 Y/ Northing/ Lat.:	
3.4 WGS 84 Coord[1].(Decimal Degrees):	
3.5 Coordinate fixed by: ☐ DGPS ☐ GPS	
or Map with accuracy: ☐ <30m ☐ >30 m	

3.7 Description of the geographical reference:

[11] WGS 84 provided as secondary coordinates.

Village Name:_____

[4]**Interview group data (Where people from more than one village are interviewed, use one sheet per village)**

	Name[2]		[4.3]Sex		[4.4]Age[3]					[4.5]Mine	[4.6]Vocation[4]					
	[4.1]Family name	[4.2]First name	M	F	5 - 14	15 - 29	30-44	45-59	60 +	victim	1	2	3	4	5	6
1			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
11			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
12			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
13			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
14			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

[4.7]Specify vocation other:_____

[2] Interviewee name should be entered in English letters. People in the following positions shall be interviewed:
- Grama Nidhari (Village Administrative Officer)
- Senior Military Representative in the GN boundary

[3] Age categories derived from the Cambodia Red Cross Victims surveillance program.

[4] Vocation categories to be used:
- 1 – GN/Village administrator or head 6 - Other
- 2 – Military Officer
- 3 – Merchant
- 4 – Farmer
- 5 – Religious Leader

[5] External / Expert opinion (prior to Survey commence):

[5.1] Origin of survey report: ☐ National Level ☐ Provincial Level ☐ District Level
☐ While visiting another community ☐ Former non-affected community ☐ Other _____

[5.2] Kind of expert responsible: ☐ Government ☐ NGO ☐ UN ☐ Member of Community ☐ Soldier
☐ Other _____

[5.3] Judgment of area condition prior to visiting: ☐ Affected ☐ Possibly affected ☐ Not affected

[6] Historical / Conflict information:[5]

[6.1] Last conflict in the area: _____ (year)

[6.2] Year mines problem began: _____ (year)

[6.3] Year mines last planted: _____ (year)

[6.7] Comments on local history of mines problem

[6.8] Intensity of military activity: ☐ A great deal ☐ A moderate amount ☐ A little
☐ None ☐ Unknown

[6.9] When was settlement established?: _____ (year or description)

[6.10] When last was the GN Occupied by local population? _____

[5] Date (Year) that last conflict took place in the area should be entered.

[7] Locality (Page per village):

	[7.1] Pre-war population		[7.2] Current population	
Data collected	Census	Key informants	Census	Key informants
Number of households				
Total population				

[7.3] Marking and survey during the past 6 months: ☐ Yes ☐ No ☐ Unknown

[7.4] Mine clearance during the past 24 months: ☐ Yes ☐ No ☐ Unknown

[7.5] Local clearance efforts: ☐ Yes ☐ No ☐ Unknown

If yes, effects of local clearance efforts: _____

[7.6] Piped water supply: ☐ Yes ☐ No ☐ Unknown

[7.7] Electricity supply: ☐ Yes ☐ No ☐ Unknown

[7.8] Fuel available: ☐ Yes ☐ No ☐ Unknown

[7.9] Telephone connection: ☐ Yes ☐ No ☐ Unknown

[7.10] Medical facility: ☐ Basic health facility ☐ Hospital ☐ None ☐ Other ☐ Unknown

[7.11] Number of primary schools: _____

[7.12] Number of secondary schools: _____

[7.13] Presence of higher education institutions: ☐ Yes ☐ No ☐ Unknown

If yes, what institutions? _____

[7.14] Economic base: ☐ Agriculture ☐ Industry ☐ Tourism ☐ Government ☐ Other

What other? _____

(One form per SHA)

[9] Suspected Hazardous Area:

Where the area that needs to be surveyed already contained hazardous areas previously surveyed a non-technical survey needs to be conducted of each of these suspected hazardous areas and a form per area completed (these may have previously been recorded in IMSMA using a Mined Area report (as part of an Impact Survey), a Dangerous Area Report or a Minefield Report)

[9.1] **ID** (as per Task Dossier)	[9.2] Name of mined area (geographic location)

[9.3] Coordinates as per previous report visually verified ☐ Yes ☐ No

[9.4] Current description of the suspected hazardous area:

[9.5] Is the area marked or fenced as a Hazardous area? ☐ Yes ☐ No

[9.6] Is the SHA populated? ☐ Yes ☐ No

[9.7] Is the area cultivated or in use. Please describe: ☐ Yes ☐ No

[9.8] Is there any visual indication of mines in this area? ☐ Yes ☐ No

[9.9] Did any mine related accidents occurred in this area? ☐ Yes ☐ No

[9.10] Signs of fighting or military positions are located within 200m of the target coordinate? ☐ Yes ☐ No

[9.11] May this area be cancelled as a hazardous area? ☐ Yes ☐ No

(If the answer to serial 9.11 is "NO" a new Confirmed Hazardous Area report needs to be completed.)

(One sheet per CHA)

[10] Confirmed Hazardous area

[10.1] **ID** (consecutively)	[10.2] Name of Hazardous Area (geographic location)

Viewing point

[10.4] Starting point measured from viewing point ☐ Yes ☐ No

Geographic coordinates of viewing point

[10.5] Coordinate system: (Kandawala Datum)

[10.7] Map east	[10.8] Map north	[10.9] WGS 84 (secondary)

Starting point of Hazardous Area (from viewing point**)**

[10.11] Bearing degrees[6]	Distance	
	[10.12] Meters[7]	[10.13] Walk time (min)

[10.19] Nearest Village name: _____

Geographical coordinates of Starting point: (Kandawala Datum)

[10.14] X/ Easting/ Longitude	[10.15] Y/ Northing/ Latitude	[10.16] WGS 84 (secondary)

[10.17] Coordinates visually verified ☐ Yes ☐ No

[10.18] Description of the mined area and starting point:

[6] Bearing in degrees, geographic. North is 0 degrees and 360 degrees; east is 90 degrees; south is 180 degrees; and west is 270 degrees.
[7] Estimated distance in meters from the centre of nearest village.

10.19 Description of the CHA perimeter points

From point	No.	7.1 To point	7.2 Bear. [°]	7.3 Dist. [m]	Kandawala Datum		7.6 MGRS Coord.
					7.4 X/ East./ Long.	7.5 Y/ North./ Lat.	
View point	1	Start point					
Start point	2	TP 1					

10.20 Estimated size of CHA: _____m^2

10.21 Marking (choose only one): ☐ Local signs ☐ Official signs ☐ Fenced ☐ None

10.22 Was there fighting? ☐ Yes ☐ No ☐ Unknown

[11]**Suspected ordnance in the area:**

[11.1]Type of Device	[11.2]Model (description)	[11.3] Reason for suspicion
☐ AP ☐ AT ☐ UXO ☐ Unknown		
☐ AP ☐ AT ☐ UXO ☐ Unknown		
☐ AP ☐ AT ☐ UXO ☐ Unknown		
☐ AP ☐ AT ☐ UXO ☐ Unknown		
☐ AP ☐ AT ☐ UXO ☐ Unknown		
☐ AP ☐ AT ☐ UXO ☐ Unknown		

(One sheet CHA)

12.1 Agricultural fields blocked:

Select: ☐ Crop type: ⇒ ☐ Irrigated / ☐ Rain fed ⇒ ☐ Grain / ☐ Fruit / ☐ Vegetable / ☐ Other / ☐ Unknown

☐ Pasture Type: ⇒ ☐ Fixed pasture / ☐ Migratory pasture ⇒ ☐ Cattle / ☐ Goats, Sheep / ☐ Other / ☐ Unknown

12.2 Non-agricultural areas blocked:

Select:
- ☐ Fuel
- ☐ Food
- ☐ Building materials
- ☐ Medicinal

12.3 Water access blocked:

Select:
- ☐ Irrigation
- ☐ Fishing
- ☐ Watering animals
- ☐ Bathing
- ☐ Laundry
- ☐ Other
- ☐ Drinking: ⇒ ☐ Lake, Stream etc. / ☐ Well, Spring, etc.

13.1 Infrastructure blocked:

☐ Housing area blocked

Roads blocked to:

☐ District center ☐ Other: _____
☐ Provincial capital ☐ Alternative routes: _____
☐ National capital

13.2 Other infrastructure blocked (one or more):

☐ Bridge	☐ Factory
☐ Dam or canal	☐ Oil field
☐ Railroad	☐ Medical facility
☐ Airstrip	☐ Educational facility
☐ Power line	☐ Market
☐ Power station	☐ Cultural site
☐ Other vital points: What: _____	

13.3 Is a development project planed in the area: ☐ Yes ☐ No ☐ Unknown

13.4 If yes, is the project funded: ☐ Yes ☐ No ☐ Unknown

13.5 Contact info for project: _____

(One sheet per CHA)

[14]Terrain data

[14.1]Vegetation: ☐ Short grass ☐ Tall grass ☐ Bushes ☐ Trees ☐ None
☐ Other: _____ ☐ Unknown

[14.2]Ground profile: ☐ Flat ☐ Hillside ☐ Ridge ☐ Gully ☐ Other: _____ ☐ Unknown

[14.3]Special features:

[14.4]Major impacts of this CHA:

[14.5] Impact Classification: ☐ High ☐ Medium ☐ Low

Accident History

[14.6] Have there been any animal accidents within the CHA?: Number:_____ Year of most recent accident: _____

[14.7] Have there been any human accidents within the CHA? Number:_____ Year of most recent accident:_____

Persons that identified this CHA

[14.5]Names: _____
_____
_____

[14.6]Contact information:

CHA sketch

[14.7]Attach explanatory map and sketch:

[14.8]Picture ID's:

[16] **Local contacts[8]:**			
Name[9]	Address[10]	Communications[11]	Remarks

[8] Not only contacts collected during survey, but all contacts from town.
[9] Fill in name, first name, and position.
[10] Fill in organisation, department, address, postal code, town, and country.
[11] Fill in phone and fax numbers, e-mail address, call sign, frequency, and channel.

General Comments / Data Collector Information / Attachment

[17.1] General comments:

[19] Data collection information:

[19.1] Tasked by		[19.5] Area supervisor	
[19.2] Date report received		Date & signature	

[19.3] Data entered by		[19.6] Verified by	
[19.4] Date & signature		[19.7] Date of verification	

[19.8] Enumerator name 1			
[19.9] Enumerator name 2			
[19.10] Date & signature		Total number of pages	**43**

[20] Community leader certifying:

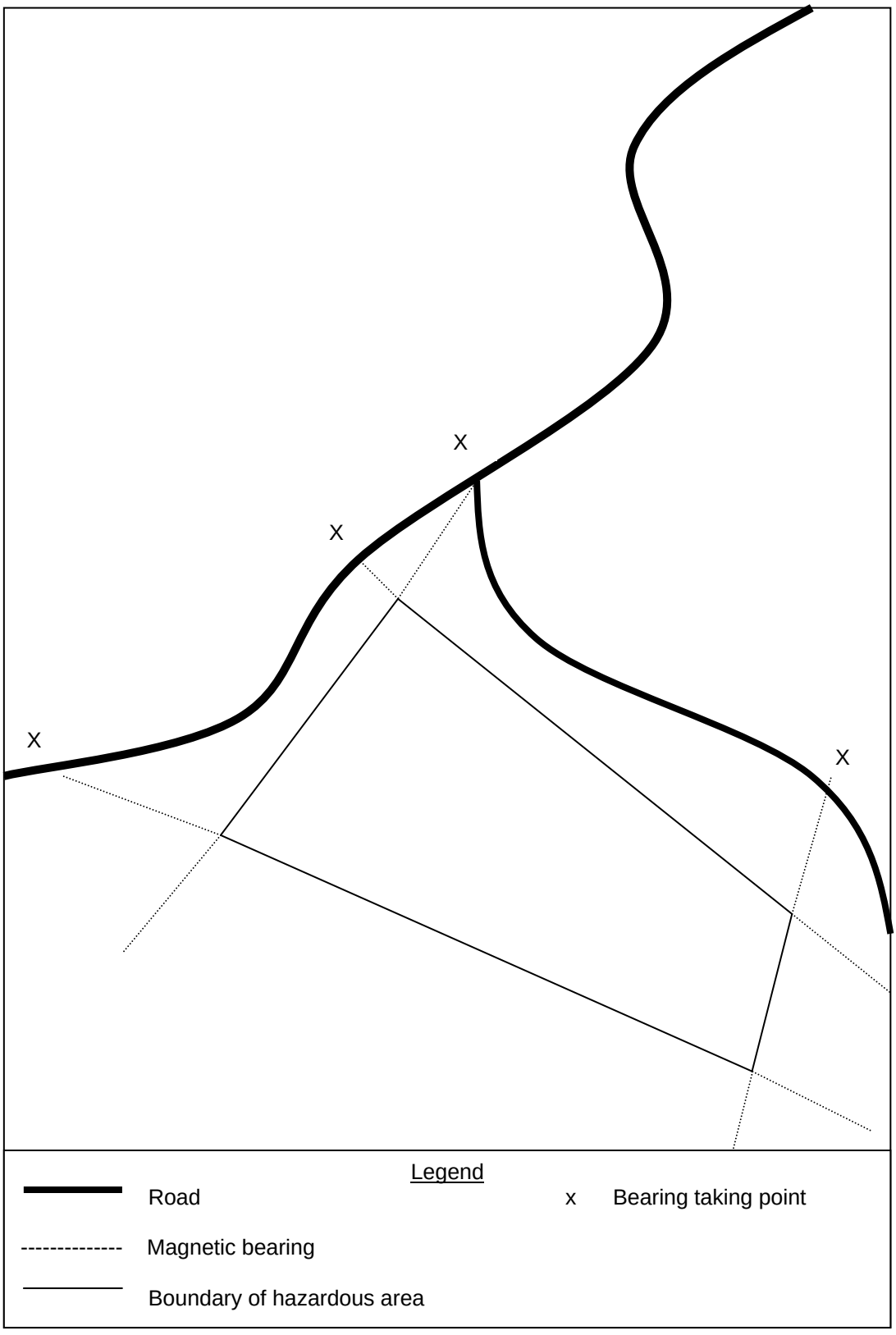
[20.1] Name	
[20.2] Position	
Date & signature	

[21] Attachment:

- General location & Contacts
- All notes, drawings, lists, etc. what the team made or collected during the survey should be attached.
- Sketches:
  1. – One sketch map of the survey area indicating the locations of all identified confirmed hazardous areas (CHA).
  2. – One detail sketch per CHA.
  3. – Any additional maps or sketches as required.

Annex F

Plotted Confirmed Hazardous Area



Annex G

Mapping and Sketching

1 Aim

The aim of this Annex is to describe the types, methods, procedures and rules on mapping and sketching to be produced by a team during a non-technical survey.

2 Types and purpose

The survey team shall produce the following maps and sketches during a non-technical survey:

a) Map Overlay. The purpose of the map overlay is to give a clear indication of the area surveyed, the location of the CHA(s) and the best routes to be used. The overlay will be utilised by the operations department and demining resources in the future planning and execution of technical surveys and clearance operations in the area.

b) Sketch per hazardous/mined area. The purpose of the hazardous area sketch map is to give a clear indication of the detail location of the hazardous area, its approximate boundaries, access routes to it and its possible contents in terms of the threat and previous incidents. The sketch map will be utilised by the operations department and demining resources in the future planning and execution of technical surveys and clearance operations of the specific hazardous area.

3 Measurements

A uniform method of measurements is to be used during all types of surveys:

a) The metric system is to be used for all measurements of distance, area, altitude, etc.

b) All bearings are to be in degrees using magnetic bearings.

c) The primary GPS coordinate datum will be the WGS 84.

The following are technical parameters for identifying and measuring the key survey points during a non-technical survey:

a) Geographical reference. A fixed point of reference some distance outside hazardous areas. This point is normally fixed in the community/village where the survey is initiated. It should be an easily recognised and permanent feature (such as a school, church, cross-roads or a bridge) that can be used to assist in navigating to one or more viewing points and/or starting points. The exact position must be identified by GPS. These must be accurately recorded to a maximum error of $\pm$ 10 metres. The geographical reference must be described in detail in the survey report.

b) Viewing Point. A fixed point of reference some distance outside the CHA(s) under discussion. The position from where one or more CHAs were viewed by the survey team. It should be an easily recognised feature and permanently marked on the ground that can be used to assist in navigating to one or more starting points. The exact position must be identified by GPS. These must be accurately recorded to a minimum error of 10 metres.

c) Starting Point. Indicating the starting point of the boundary of the hazardous area and is a permanent point of reference. The point must be permanently marked. The exact position should also be identified by GPS. A compass bearing and distance from the viewing point and/or geographical reference shall also fix the position of the starting point.

4 The map overlay

A map overlay shall be done of the survey team's area of responsibility indicating the geographical reference points, routes, identified hazardous areas, viewing points and starting points. The map overlay is to be produced in A4 size. The map overlay shall include the following information:

a) Title. Each overlay should be titled with the title centrally located at the top. It should detail the relevant District, Divisional Secretariat (DS), Grama Nidhari (GN) and village names as well as the Survey Task ID Number.

b) Direction. A North Point indicator shall be included on the overlay.

c) Map name. The name and number of the map used for the overlay shall be clearly stated on the overlay.

d) Scale. The scale shall be clearly stated on the bottom, centre of the map overlay. The overlay should be drawn of a map with a scale of 1:50 000.

e) Datum. The datum used shall be clearly stated on the overlay.

f) Registration marks. A minimum of three registration marks utilising the gridlines on the map shall be made on the overlay to enable a person to lay the overlay precisely back on to a map again. The cross lines shall correspond accurately and the grid numbers must be included next to the cross lines.

g) Surveyed information. The following minimum information shall be included on the overlay:

- The proposed routes to be taken.
- Important villages.
- Geographical reference points.
- Identified CHAs.
- Viewing points of each CHA.
- Starting point of each CHA.

h) Legend. A table at the bottom left corner of the map overlay shall have a standard legend included.

i) Demining Data Table. A small table for the recording of the information shall be included on each map overlay. The MA agency name, Survey team number, Survey team leader name and signature and date shall be included in the table.

5 Sketch map

A sketch map shall be drawn to scale for each hazardous area identified during the non-technical survey. The sketch maps shall be produced on an A4 size sheet with the hazardous area drawn in the centre. The sketch map shall include the following information:

a) Title. Each sketch map shall have a title centrally located at the top. It should detail the relevant District, DS, GN and village names as well as the Survey Task ID and CHA Number.

b) Direction. A North Point indicator shall be included on the sketch map.

c) Scale. The scale shall be clearly stated on the bottom, centre of the sketch map. Each sketch map should be drawn to a scale not greater than 1:5 000.

d) Surveyed information. The sketch of the CHA shall be placed in the centre of the sheet and the following minimum information shall be included on the sketch:

- The proposed route to be taken to the hazardous area and distance to the nearest village.
- Geographical reference point and/or Viewing point.
- Starting point.
- Determined approximate boundaries with distances and bearings.
- Distances and bearings from geographical reference and/or viewing point to starting point.
- Location of visible mines and the pattern of mines (if known).
- Location of any incidents in the CHA.
- Safe routes used by local population through and/or near the hazardous area.

e) Adjacent Areas. Any prominent features around the hazardous area such as houses, tombs, rivers, trenches, etc. shall also be shown on the sketch map.

f) Legend. A table at the bottom left corner of the sketch map shall have a legend included.

g) Demining Data Table. A small table for the recording of the information shall be included on each sketch map. The MA agency name, Survey team number, Survey team leader name and signature and date shall be included in the table.