Cambodian Mine Action Standards

(CMAS #14)

Baseline Survey

(Mines only)

First edition: 2009
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Warning

This document is current with effect from the date shown on the cover page. As the Cambodian Mine Action Standards (CMAS) are subject to regular review and revision, users should consult with CMAA in order to verify its status.

Contents

Foreword

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

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

The Cambodian Mine Action and Victim Assistance Authority (CMAA) has the responsibility for the development, revision and maintenance of effective Cambodian Mine Action Standards (CMAS) based on the IMAS and best practices. The CMAS set minimum requirements and provides a regulatory framework for mine action operators to develop Standard Operating Procedures (SOP) to ensure safe, effective, efficient and practical mine action activities. The first CMAS was developed in 2005.

CMAA initiates the development of CMAS in consultation with relevant mine action operators to ensure practicality. When a CMAS is drafted, the CMAA shares it with the CMAS Committee (led by the CMAA with relevant mine action operators as members) for their review and comments. The CMAA has the authority to make the final decision on the CMAS and the CMAA’s Secretary General approves all CMAS. The development and revision of the CMAS follow this process.

Introduction

Humanitarian mine clearance operations in Cambodia started in 1992 with the support of the United Nations Transitional Authority in Cambodia (UNTAC) to clear transportation routes to enable the repatriation of hundreds of thousands of Cambodian refugees living in camps in Thailand back to Cambodia. When clearance of the routes was completed, clearance operations shifted to clear land to support the resettlement of the returnees. Due to the magnitude of the mine contamination, the clearance was then extended to clear land for agriculture and other productive use to support local reconstruction and development projects with limited information on the locations and the level of the contamination in the country.

In 2000, the Royal Government of Cambodia (RGC), through the Cambodian Mine Action Center (CMAC), requested the Government of Canada to fund a National Level 1 Survey to identify hazardous areas contaminated by mines/ERW in Cambodia to understand the magnitude of mine/ERW contamination and to support the mine/ERW clearance planning and prioritization. The Government of Canada, through the Canadian International Development Agency (CIDA), agreed to support and contracted a Canadian Company GeoSpatial International to conduct the National Level 1 Survey with CMAC providing staff to work for this project. The project commenced in October 2000 and concluded in April 2002. The Survey results showed that 46% of Cambodia's villages were situated on mine contaminated lands covering 4,544 km² (about 2.5% of Cambodia's territory). Results from the Survey were released to the RGC through CMAC for the benefit (utilization) of the mine action sector.

In 2008, when mine clearance operators in Cambodia were invited by the Cambodian Mine Action and Victim Assistance Authority (CMAA) to quantify the remaining challenges in preparation for the RGC's first extension request to the deadline for Cambodia to complete clearance of all known minefields from 2010-2019 under Article 5 of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (also known as the Anti-Personnel Mine Ban Convention - APMBC)[1]; the clearance operators collectively acknowledged that data from the National Level 1 Survey was no longer accurate and reliable. This was based on the collective understanding that some suspected minefields had been reclaimed for productive use, additional hazardous areas had not been identified, inaccuracies existed in the records of suspected areas, and some hazardous areas were deemed too large to be accepted. As a result, it was agreed that a new comprehensive 'Baseline Survey' was needed with the findings (results) superseding the previous data from the original National Level 1 Survey.

The objective of the Baseline Survey was to better define the magnitude of the remaining mine contamination by defining the boundaries of contaminated areas and to classify the areas according to the nature of the contamination in a standardized manner. It was also agreed that the Baseline Survey shall be conducted by experienced operators, CMAC, HALO Trust and MAG and managed by the CMAA under a Standard (CMAS on Baseline Survey) to be developed jointly by the CMAA and the three operators.

Following the development of the CMAS on Baseline Survey and associated Standard Operating Procedures (SOPs), training, field testing, and dissemination of lessons learned from the field testing by the three operators, the first Baseline Survey commenced through the three operators in August 2009 focusing on the 23 most densely contaminated districts on Cambodia's north-west boarder shared with Thailand. In May 2011, the Baseline Survey of the 23 most mine affected districts was completed, and the Survey was expanded to other districts. By the end of 2012, 124 districts had undergone a Baseline Survey. The Baseline Survey across the entirety of Cambodia was finally completed in late 2020, finishing with districts in the eastern provinces that are mostly contaminated by explosive remnants of war (ERW), including cluster munitions.

[1] For the purpose of the Convention the definition of anti-personnel mine includes all mines that are activated by the presence, proximity, or contact of a person (as opposed to a vehicle), but includes anti-vehicle mines with anti-handling devices that impede their clearance.

Baseline Survey

1. Scope and purpose of this standard

This standard provides guiding principle for conducting Baseline Survey, **restricted to mines only (from date of this amendment)**, in the Cambodia context and to enable operators implementing Baseline Survey to develop Standard Operating Procedure (SOP).

2. Normative references

Normative references are important documents to which reference is made in this CMAS or which form part of the provisions of this CMAS. Normative references are:

- CMAS 6 on Clearance Requirement Demining,
- CMAS 15 on Land Release
- CMAS 15.1 on Non-Technical Survey, and
- CMAS 15.2 on Technical Survey.

This CMAS should be read in conjunction with CMAS 6 on Clearance Requirement Demining, CMAS 15 on Land Release CMAS 15.1 Non-Technical Survey, CMAS 15.2 on Technical Survey to fully understand the entirety of the identification and the release of mine contaminated areas in Cambodia.

3. Terms and definitions

a. **"Baseline Survey"** (BLS) refers to a survey activity undertaken by licensed operators to collect and analyze local information in order to determine the size and classification of the mine suspected land. A hazardous area recorded by the Baseline Survey shall be defined and classified according to the CMAS land classification standard (see annex 2).

b. **"All Reasonable Effort"** (ARE) in the context of this CMAS refers to a minimum acceptable level of effort to identify and document mined areas. "All reasonable effort" has been applied when the commitment of additional resources is considered to be unreasonable in relation to the results expected. All reasonable effort is achieved when all the requirements of this CMAS are fulfilled.

c. **Hazard (hazardous)** area - same as a contaminated area - in the context of Cambodia mine action, the term refers to an area confirmed or suspected to contain mines.

d. **Suspected hazardous area** (SHA) - (2013)
In the context of this CMAS an area where there is reasonable suspicion of mine contamination on the basis of indirect evidence of the presence of mines.

e. **Confirmed hazardous area** (CHA)
In the context of this CMAS refers to an area where the presence of mines contamination has been confirmed on the basis of direct evidence of the presence of mines.

f. **"Shall"** is used to indicate requirements, methods or specifications to be applied in order to conform to the standard.

g. **"Should"** is used to indicate the preferred/recommended requirements, methods or specifications.

h. **"May"** is used to indicate a possible method or course of action.

4. Purpose of the Baseline Survey

The purpose of the Baseline Survey is to collect and analyze information in order to identify, define and report hazardous areas suspected or confirmed of being contaminated by mines and classify them

according to the CMAS land classification standard (annex 2). Baseline Survey leads to the understanding of magnitude of mine contamination for strategic and operational planning.

5. Output of the Baseline Survey

The output of the Baseline Survey is a completed Baseline Survey report (see annex 3, Form II) detailing information, shape and size of the hazardous area classified according to the land classification standard. A hazardous area identified, defined and reported by the Baseline Survey, suggest that high confidence levels exist that there is a high suspicion or evidence of mine presence. A team conducting Baseline Survey shall identify, define and report a hazardous area when at least two sources of information with high confidence confirm that the area is suspected or confirmed to be contaminated with mines.

The outputs of the Baseline Survey (hazardous areas- to include SHAs and CHAs) are usually stored in the national mine action database until they have been subsequently released through non-technical survey, technical survey and/or clearance.

6. Mapping of a baseline survey output (suspected contaminated area)

The team conducting Baseline Survey should establish the approximate boundary of the hazardous area and should not put themselves at risk in an attempt to establish the precise boundary, which will be established at a later stage by the clearance team.

A hazardous area reported by the Baseline Survey is recorded/measured by:

- GPS Datum reference: GIS: WGS 1984 Universal Transverse Mercator (UTM) Zone 48N,
- Distance in meters,
- Area in square meters,
- Bearings in degrees,
- Gazetteer (administrative hierarchy-villages, commune, districts, provinces).

When mapping a hazardous area, the first step is to select a **Landmark** and a **Benchmark**:

Landmark (LM) is a fixed point of reference some distance outside the hazardous area. It should be an easily recognizable permanent feature (such as cross-roads, bridge, building etc.) which can be used to assist in navigation to one or more benchmarks. The LM shall be permanently marked and included the following information as a minimum:

- Description,
- GPS reference/coordinates,
- Bearing and distance to Benchmark.

Benchmark (BM) a fixed point of reference used to locate a marked and recorded hazard or hazardous area. It should normally be located a short distance outside the hazardous area. The BM should be clearly visible from some distance. A benchmark may not be necessary if the landmark is sufficiently close to the contaminated area. The BM shall be recorded with the following information as a minimum:

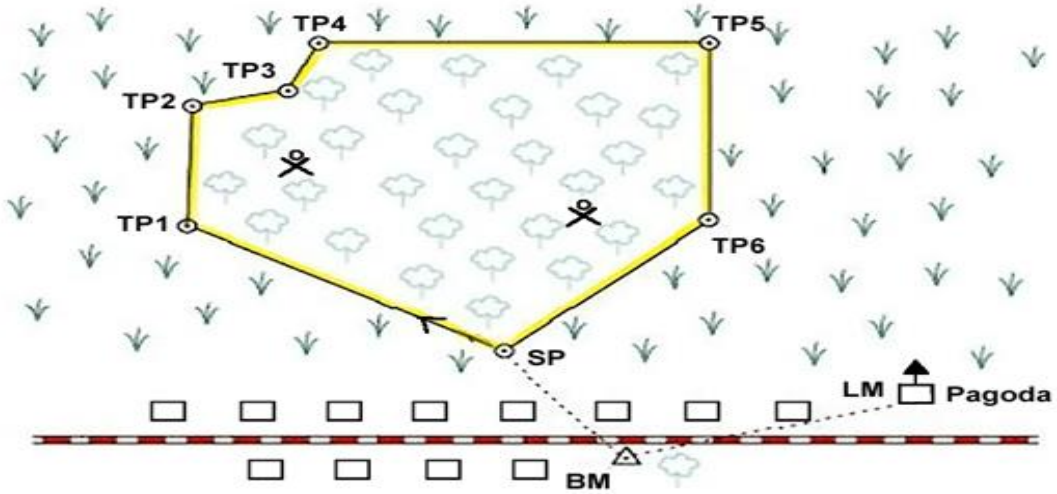
- Description,
- GPS reference/coordinates,
- Bearing and distance to the Star point of the contaminated area.

Start Point (SP) is a fixed point of reference used to locate the start of a hazardous area. One contaminated area shall have only one SP.

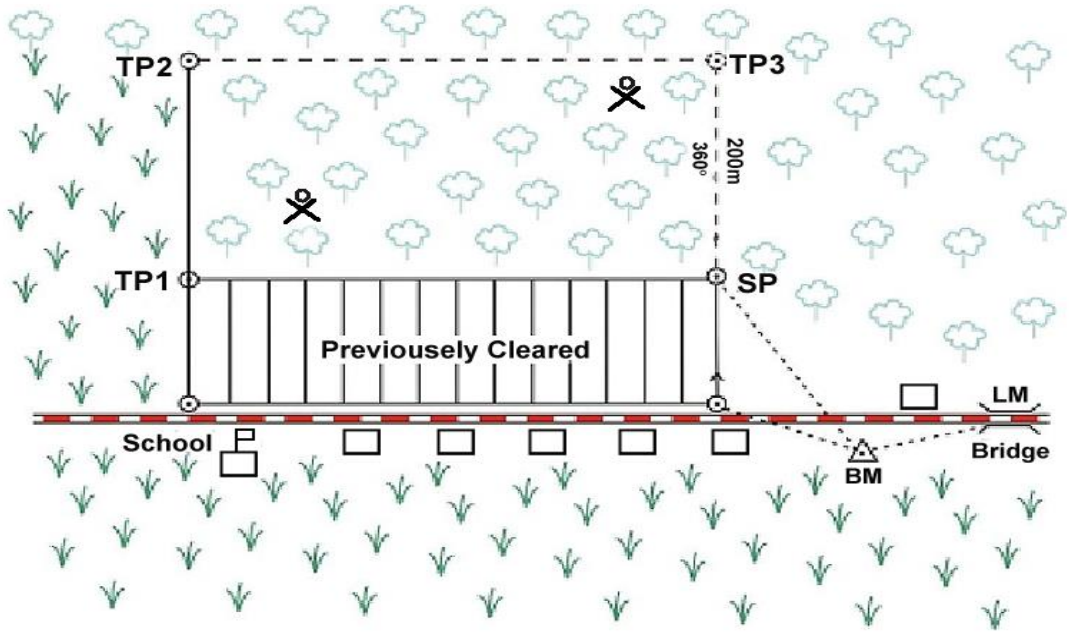
Turning Point (TP) a fixed point on the ground which indicates a change in direction of the perimeter of the hazardous area. It shall be clearly marked and recorded.

After the LM and BM have been fixed, the next step is to map the boundary of the hazardous area using a SP and a series of TP. TP is to be numbered sequentially (i.e., TP1, TP2, TP3, etc.) and shall be recorded in a clockwise direction using bearing and distance from one TP to another.

- SP/TP which can safely be approached on foot are to be mapped using GPS. In this example the mined area is surrounded by cultivated ground so all TP can be mapped using GPS.

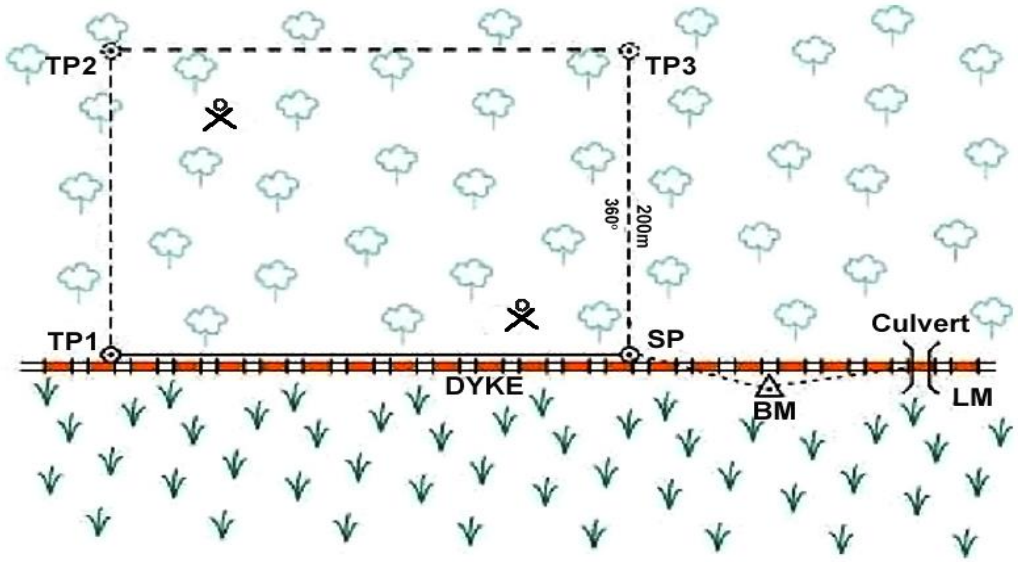


- TP which are visible from safe ground, but which cannot safely be reached on foot are to be mapped using GPS, compass and an estimate of the distance (Rangefinder preferred). They are also to be marked using a dashed line on the survey map and indicated specifically in the survey form using an Asterix (*). In the example below, TP1 is surrounded by suspect ground but is visible from the SP, so its position can be fixed.



- The positions of TP which are not visible from safe ground (TP2 in the example below) are to be estimated from the information given by local informant(s).

- Evidence points (accident location(s), visible mine(s) etc.) shall include coordinates or bearing and distance from the SP.



7. Defining and classifying a contaminated area

A hazardous area under the Baseline Survey may contain different levels of threat. As such, the area should be separated, and different classifications should be assigned to each area accordingly. For example, a section of the area under the Baseline Survey is suspected or confirmed to be highly contaminated by anti-personnel mines and another section is believed to be contaminated with small numbers of anti-personnel mines, thus the areas should be classified as A1 and A4 respectively.

Where possible, hazardous areas classified as A1, A2 or A3 should not be more than 50,000 square meters (sqm) in size and a hazardous area classified as A4, should not be more than 100,000 sqm in size. If a hazardous area is greater than the specified size, it should be broken down into smaller area if there is sufficient information to do so. In the example below, a hazardous area of forest has a stream running through it and a reported defensive position in the southern end. Rather than cutting the area into nine areas or surveying as one area, it should be better to divide it into four larger areas using the information and natural features available.

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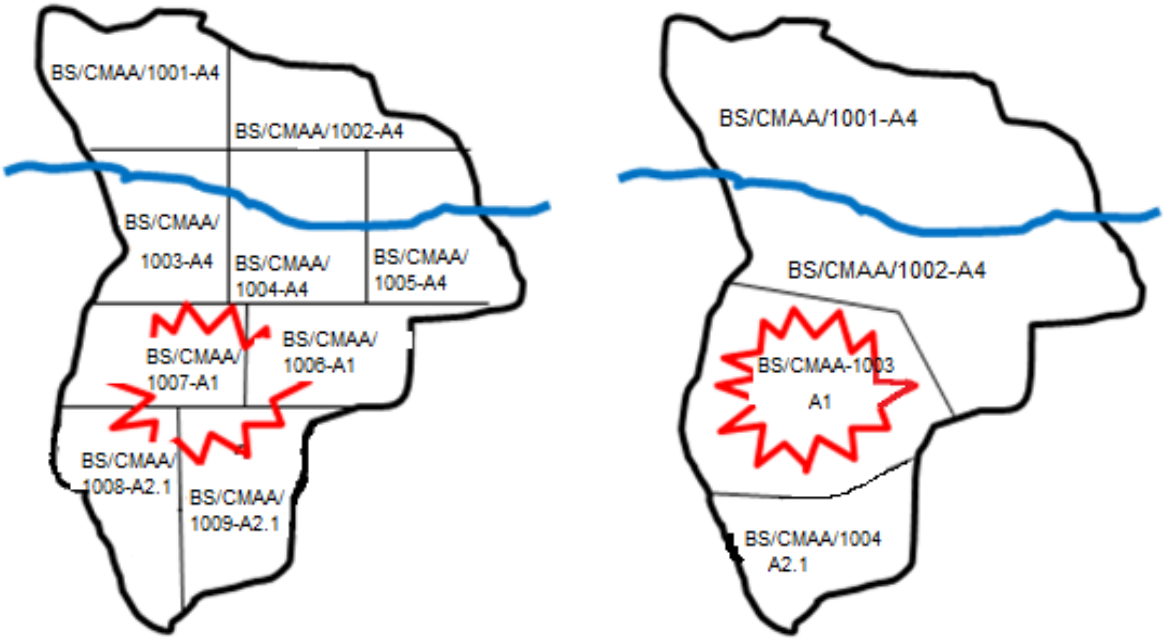
Correct ត្រឹមត្រូវ



Hazardous areas located on the K5 mine belt, or around previous military bases, or are on an existing or old road alignment are not restricted in size as long as they contain a single land classification. The contaminated area should rather be defined using geographic or natural boundaries.

When a hazardous area has been classified by the baseline survey team, the initial classification shall not change on the database as to ensure historical record. However, the organization conducting land release through non-technical survey, technical survey and/or clearance should note down the likely classification (if different) of the remaining area in the report (Land Release Form) for reference by the organization who will release the remaining contaminated area in the future. If a re-classification is required, based on evidence gathered during pre-clearance assessment, then the organization should submit the request with all supporting documentation to CMAA (Database Unit) to re-classify.

8. Numbering of contaminated area

Accredited operators are authorized to conduct Baseline Survey in Cambodia. Each hazardous area defined by the Baseline Survey shall be numbered for recognition. The following block numbers are allocated to the following accredited operators:

- CMAC: BS/CMAA/00001 to 19999
- HALO: BS/CMAA/20000 to 39999
- MAG: BS/CMAA/40000 to 59999
- NPA: BS/CMAA/60000 to 79999
- NPMEC: BS/CMAA/80000 to 99999
- Another operator: BS/CMAA/100000-119999

When a hazardous area is numbered, the number shall not change, and it is used as the task identification number. Operators shall request additional block numbers from the CMAA when all the allocated numbers are used up.

9. Baseline survey process

CMAA should assign contaminated districts to operators conducting Baseline Survey. The operators should conduct the Baseline Survey in a systematic manner in their assigned districts commencing with the village by village and commune by commune approach. When Baseline Survey is completed in a village, the Baseline Survey team moves to the next one in the same commune. When the Baseline

Survey is completed in the whole commune, the Baseline Survey team moves to the next village in the new commune, and this process then repeats itself.

In order to ensure comprehensiveness of this Baseline Survey, the village chief and key informants shall be consulted by the survey team on arrival in the village and again on completion of the survey by the survey team. The village chief should then sign off that they are satisfied that all reported hazardous areas within their villages have been visited by the survey team. If the Baseline Survey team leaves an area of the village unsurveyed due to any reason (unavailability of informants, inaccessibility due to road condition, restricted accessibility, etc.) the survey team shall note the details in the baseline survey village report (see annex 3, Form I). At the first available opportunity, the same survey team shall return to complete the Baseline Survey of the same village.

Here are key steps in the baseline survey process:

Step 1 (desktop study): Before a Baseline Survey team conducts any field activities, the survey team shall collect, review and analyze existing information (previous survey reports, clearance completion reports, EOD spot tasks, CMVIS reports, etc.) to better understand the known contamination situation in the village.

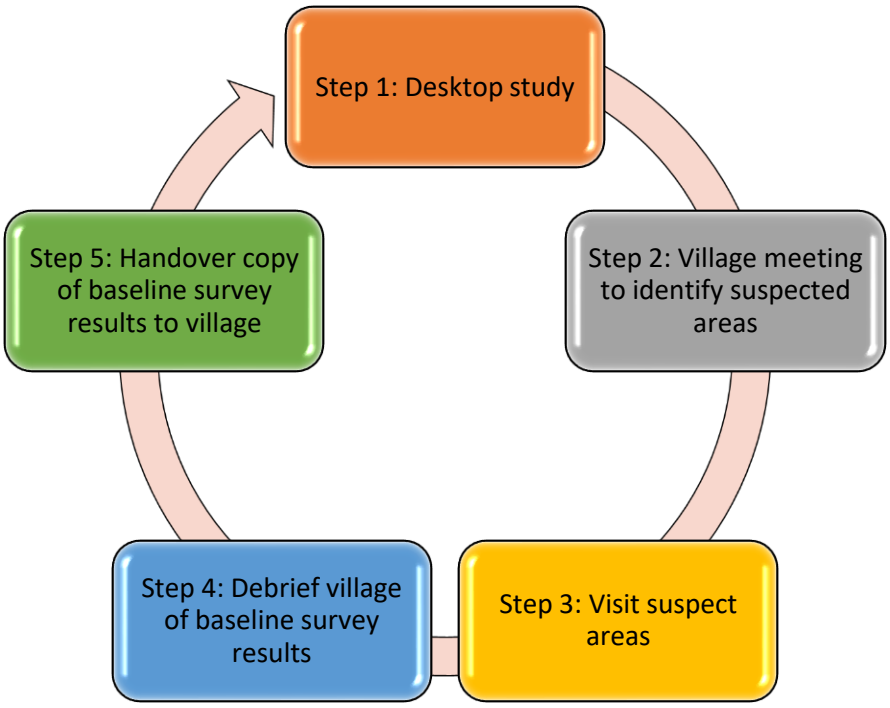
Step 2 (meeting to identify suspect areas): When in the field after reviewing and analyzing existing information, the Baseline Survey team shall organize a meeting with village chiefs and key informants (persons who have lived many years in the village and are knowledgeable about contamination in the village) to map hazardous areas in the village and identify additional key informants for each reported hazardous area.

Step 3 (visit suspect areas): After the meeting, the survey team together with the key informants physically visit each reported hazardous area and interview key informants, collect and analyze information in order to decide whether or not to record the reported hazardous area as a suspected (indirect evidence -SHA) or confirmed (direct evidence – CHA) hazardous area. If information collected does not present evidence to record the reported suspected area as a hazardous area, the survey team should inform the informants as such, and move to the next reported suspected area. If the information collected presents evidence, the Baseline Survey team shall try to define boundaries and classify the hazardous area according to the land classification standard (see annex 2) and then move to the next reported suspected area.

Step 4 (survey completion briefing): When visits to all the reported suspected areas in the village are completed, the Baseline Survey team shall organize a meeting to debrief the village chief and key informants of the results of the Baseline Survey (number of hazardous areas identified, shape, size and classification of each hazardous area etc.) to ensure all reported hazardous areas in the village are visited. Before ending this meeting, the survey team shall request the village chief to sign off the survey report (annex 3, Form I) to confirm and accept the results of the Baseline Survey in the village.

Step 5 (handover of Baseline Survey results): After the debrief meeting, the Baseline Survey team shall hand over a copy of the Form I report and the village contamination map to the village chief for information/reference before moving to the next village in the same commune or in the new commune.

The following chart describes the process of how the Baseline Survey in the Cambodia context shall be conducted.



10. Baseline survey tool

The best baseline survey tool available today is human teams. No animal detection system or mechanical equipment team can replace a human team in conducting baseline survey in the Cambodia context. A Baseline Survey team should be mixed gender to ensure that survey is carried out in a gender sensitive manner.

11. Sources of information

The effectiveness of the Baseline Survey in Cambodia depends on quality of locally-obtained information and the analysis of the information to determine whether or not to accept a reported hazardous area as hazardous. Reviewing and analyzing existing reports (previous survey reports, clearance completion reports, EOD spot tasks, CMVIS reports, etc.) should provide a Baseline Survey team with good information about contamination in a village. When in the field, the baseline survey team shall take every effort to collect information from the sources of high confidence whether they are men, women, boys, girls or Persons with Disabilities (PwD).

Table 1 presents the sources of information with the level of confidence.

Sources of information	Confidence
1. Person who has been injured by explosive ordnance in the reported area	High
2. Person who has had family member or livestock killed in reported area	High
3. Person who was planting mines in the reported area	High
4. Person who supported mine planting in the reported area	High
5. Person who ordered mine planting in the reported area	High
6. Person who has been ploughing the reported area	High
7. Person who has been cultivating the reported area	High
8. Person who has been living on the reported area	High
9. Person who has been entering the reported area	High

10. Person who has been living next to or near the reported area	Medium
11. Landowner who has not been involved in above mentioned activities	Medium
12. Person who has been living near (not next to) the reported area	Low
13. Person who has been living in the village, but away from the reported area	Low
14. New person arriving in the village or returning to the village	Low

12. Baseline Survey team requirements

All Baseline Survey activity shall be carried out by competent staff, using suitable equipment, in compliance with approved Standard Operating Procedures (SOP). The mine baseline survey team shall have sufficient resources, knowledge and skills to carry out the activity safely, effectively and efficiently, and in particular to be able to engage in communication with local members, other interested parties and all sources of information, including women, men, girls, boys and Persons with Disabilities (PwD).

A Baseline Survey team should consist of at least four persons (mixed gender) with one as a team leader. All team members (inclusive of team leader) shall be experienced persons, having received training in Baseline Survey, Non-Technical Survey, interviewing methods and skills, communication and basic first aid.

13. Safety

The first priority for any survey team leaders at all times is to ensure the safety of their team. Survey teams shall not take unnecessary risks. They shall only walk or drive where they know that the land is not mined, and when on foot shall always follow a local guide on a well-established path or cultivated/reclaimed land. If the survey team is in any doubt as to where the mined area starts they shall not proceed any further – even if the guide claims the path is safe.

If it is essential for the survey team to enter any suspected hazardous area, they shall first ensure that a breach lane is cleared by qualified personnel following operator approved SOPs.

When baseline survey teams are working in the border areas, they should coordinate with appropriate local civil and military authorities to ensure full compliance with any restrictions of access. The survey team should consider asking for a representative from the relevant local authority to accompany them.

14. CASEVAC

All safety and CASEVAC procedures shall be established, and communications tested prior to conducting any baseline survey, whether that be by road or by helicopter, in accordance with approved SOPs. Any baseline survey team shall be able to evacuate any casualty. It may be appropriate to use informants or guides to assist in casualty evacuation (such as carrying a stretcher), however they shall be briefed on their role, in event of CASEVAC, prior to the survey taking place.

15. Documentation

The information collected, recorded and reported by the baseline survey team is important. If the quality of the information is poor, or if high quality information is poorly recorded and reported, then it affects the quality of the baseline survey outputs (hazardous area).

There are two separate forms to be used for the baseline survey:

- **Form I: Village Information**. This form is used to record basic geographical information on the village, and to record if there are any areas not able to be accessed during the survey for whatever reason.

- **Form II: Hazardous Area**. This form is used by the baseline survey team to record information on a hazardous area within the village boundaries. One hazardous area with one classification shall be recorded using this form.

Form II is to be attached by a scale map of the hazardous area drawn on A4 graph paper, showing local features (roads, streams, houses etc.), the estimated position of mines, and the location of all accidents. Standard map symbols to be used for the scale map are attached at annex 4.

When classifying a hazardous area, the Baseline Survey team shall identify and use the greatest threat. For example, an old road alignment with a scattered of low-density Type 72A anti-personnel mine and an underlying anti-tank mine threat shall be classified as A2, as opposed to A4. In an area that has been hand ploughed but not tractor ploughed due to the threat of anti-tank mines the hazardous area shall be classified as A3.

Organizations conducting Baseline Survey shall ensure that the Baseline Survey report forms (annex 3, Form I and Form II) are correctly and timely completed and sent to the CMAA.

16. Quality assurance (QA) and quality control (QC)

Appropriate quality management systems (including QA of Baseline Survey process and QC of Baseline Survey reports) shall be established and implemented by the operators implementing Baseline Survey. Any shortcomings in the quality of Baseline Survey activity and baseline survey reports shall be investigated by the operators and appropriate corrective and preventive action taken immediately.

Organizations implementing Baseline Survey should compare their Baseline Survey reports with subsequent land release reports to identify areas for improvement.

CMAA shall conduct QA of the Baseline Survey process and QC of Baseline Survey reports and inform management of the organization implementing the Baseline Survey of any real or potential non-conformities immediately and monitor corrective and preventive actions to be implemented by the organization – further details on monitoring in CMAS 03.

17. Liability issues

Mine and EO problem is primarily and ultimately a national responsibility and, as such, the Royal Government of Cambodia (RGC) has a responsibility to accept accountability and liability for victims caused by mines or EO in the Kingdom of Cambodia.

The CMAA accepts that no liability shall rest with an accredited organization that has fully complied with the CMAS using accredited Standard Operating Procedures and has been subjected to quality management by CMAA. Should an accident or incident occurred, and the organization implementing Baseline Survey is found not to have complied with CMAS, or the intent of CMAS, then CMAA reserves the right to review the accreditation status which may result in the organization losing its accreditation.

18. Responsibilities

Responsibilities of key stakeholders for the implementation of this Standard are described below:

18.1. CMAA

- Shall develop, review and maintain the CMAS on Baseline Survey,
- Shall accredit operators to undertake Baseline Survey,

  Shall review and approve Standard Operating Procedures developed by operators implementing Baseline Survey to ensure compliance with CMAS,
- Shall conduct QA of the Baseline Survey process and QC of baseline survey reports,

- Shall conduct investigations into any incident and accident related to Baseline Survey and take corrective or preventive actions as needed.

18.2. Operators implementing Baseline Survey

- Shall develop, review and maintain Standard Operating Procedure on Baseline Survey to ensure compliance with CMAS,
- Shall acquire accreditation from CMAA to conduct Baseline Survey,
- Shall conduct QA of its Baseline Survey process and QC of Baseline Survey reports,
- Shall report accidents and incident related to Baseline Survey to the CMAA immediately,
- Should provide comments to the CMAA to improve the CMAS on baseline survey.

18.3. Members of the mine affected community

- Should participate as requested to provide information and answer, to the best of the knowledge, the questions from the team conducting Baseline Survey and the CMAA,
- Should cooperate with the Baseline Survey team and the CMAA to the fullest extent possible.

Post Baseline-Survey – Identification of New Hazardous Areas

The processes described above was historically applied in Cambodia prior to the revision of this CMAS. All villages that have been surveyed under the Baseline Survey, form the database of the original Baseline Survey.

However, a post baseline-survey activity will then be required, in the following cases that suggest the likely presence of a hazardous area, as a result of:

- Previously inaccessible areas, that could not be surveyed at the time of the Baseline Survey,
- Previously unknown areas,
- Reports of suspected areas received from communities,
- Analysis of EOD spot task conducted where mines were found,
- Information of an accident or mine location.

The information collected by the operators shall be reported to CMAA QMT or Regulation and Monitoring Department of the CMAA. The CMAA shall then task an accredited operator or the reporting operator, only if accredited, to conduct the survey with QMT support, if required.

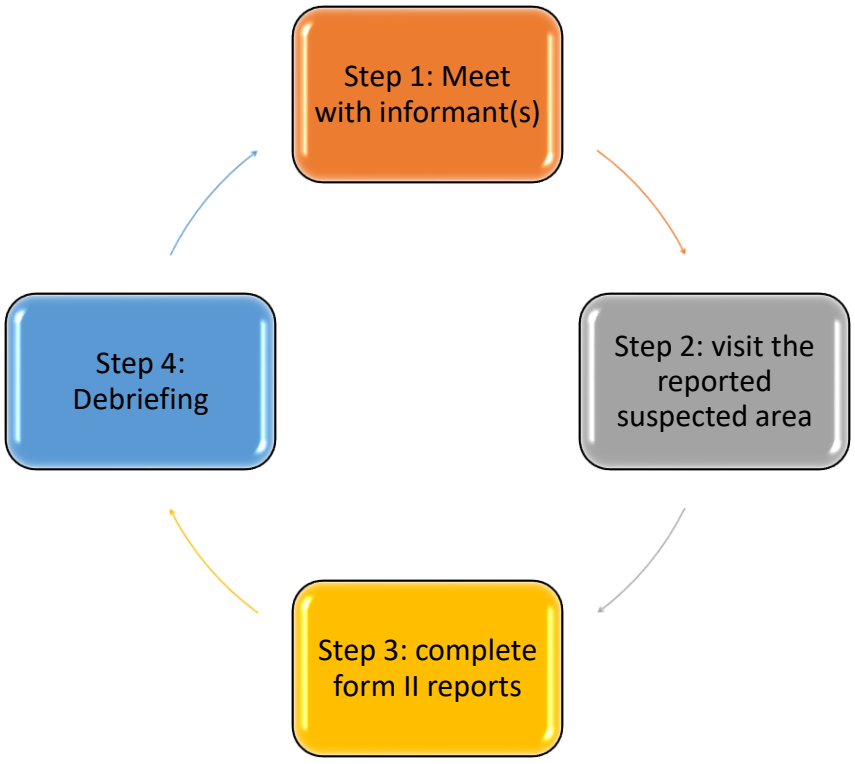
The **post baseline-survey survey** shall follow the following process:

Step 1: Meet with informant(s). When the survey team is in the village, they shall meet with the village chief to identify the key informant(s) prior to the field visit.

Step 2: Visit reported suspected area(s). When key informant(s) has/have been identified, the survey team should brief them about the reasons for the visit to reported suspected area(s) and the visit plan.

Step 3: Complete baseline survey form II report(s). If the visit suggests that the reported suspected area is a hazardous area, the survey team completes the form II report(s) for submission to their head office.

Step 4: Debriefing. When the survey form II report(s) has/have been completed, the survey team shall debrief the village chief and informant(s) on the survey results.



19. Criteria for identifying a hazardous area suspected of containing mines

The quality of a Survey largely depends on the quality of information received from the informant and the ability of the survey team in analyzing the information and the evidence identified during the survey.

During a visit to a reported suspected area with informants, the survey team shall identify at least one direct evidence in order to record the area as a minefield (recorded as a CHA). For a minefield, direct evidence can be:

- Visible mine(s) or remnants of a mine,
- Evidence from individual(s) who laid the mine(s),
- Mine accident,
- EOD spot task (mines only).

To record a minefield based on EOD spot task, the survey team shall ask informants and relevant persons to ensure that the mine was originally located there and was not relocated from elsewhere.

There were cases that the survey team was not able to identify direct evidence although the villagers fear and believe that the area was mined. The survey team shall invite CMAA QMT to visit the area and decide whether or not to record it as a minefield (in this scenario as a SHA).

Attachment:

Annex 1: amendment record
Annex 2: hazardous land classification standard
Annex 3: baseline survey reports
Annex 4: Map symbol

PHNOM PENH, 2023

Senior Minister, in Charge of Special Mission

First Vice President of CMAA

Ly THUCH

Annex 1 Amendment record

Amendment record

Management of CMAS amendments

Each CMAS is subject to formal review on a five-yearly basis. However, this does not preclude amendments being made within these five-year periods for reasons of operational safety, effectiveness and efficiency or for editorial purposes.

As amendments are made to this CMAS they will be given a number, and the date and general details of the amendment in the table below. The amendment number will also be shown on the cover page of the CMAS.

No	Date	Amendment details
1		

Annex 2 Hazardous land classification standard

Hazardous land classification standard

CLASSIFICATION	SUB-CLASSIFICATION		SUB-CLASSIFICATION DETAILS
A Land that presents evidence of mines	**A1**	Land containing dense concentration of AP mines	Strategically located, logical patterns of protective, defensive or denial mine laying such as mine belts, mines along road alignment, borders, military bases, and other infrastructures.
	A2.1	Land containing mixed dense AP and AT mines	
	A2.2	Land containing mixed scattered AP and AT mines	Land that is not in productive use with limited presence of AP and AT mines laid in a non-defined manner.
	A3	Land containing AT mines	In-use or abandoned route alignment presenting threat of AT mines.
	A4	Land containing scattered or nuisance presence of AP mines	Land that is not in productive use with limited presence of AP mines laid in a non-defined manner
B Land that presents evidence of ERW or an indeterminate presence of mines	**B1**	Land containing ERW (not including mines)	Battle areas containing ERW. These areas are suitable for BAC
	B1.1	Land containing aircraft bomb	Bomb data or evidence that single aircraft bombs may be present.
	B1.2	Land containing cluster munitions/bombies	Bombing data or evidence that an area contains cluster munitions or bombies.
	B1.2+	Land containing cluster munition + ERW/bomb	Areas containing evidence of cluster munitions plus other ordnance such as bomb…..
	B1.3	Location of Ground Battles	Areas containing evidence of ground fighting only.
	B1.4	Land containing stockpiles/caches	Locations where caches or stockpiles are existing.
	B1.5	Abandoned military compounds	Locations which may be more highly suspected to contain munitions.
	B1.6	Land containing Chemical weapon	Location where chemical weapon exist
	B2	Land with no verifiable mine threat	Previously suspected land that local population are putting back into productive use. No accidents or evidence of mines for a period of 3 years will result in reclassification as C1
C (End State Land) Land that presents no obvious threat	**C1**	Cancelled / Reclaimed Land	Previously suspected land that non-technical survey confirms has been put back into productive use and ploughed without accident or evidence of mines a minimum of 3 times. Land previously recorded in error as A or B categories where non-technical survey confirms that the area meets the criteria detailed in Annex F of CMAS 15.
	C2	Land Reduced through Technical Survey	Land previously recorded as mined or suspected where as a result of approved technical survey methodology no obvious threat remains.

	C3 Cleared Land	Land formally cleared by accredited mine clearance operators adhering to the national standards (CMAS).

* Note: Red highlighted area is excluded from the post Baseline-Survey Survey.

Annex 3: Baseline survey forms

អង្គការ
C.M.A.A

របាយការណ៍ស្រាវជ្រាវមូលដ្ឋាន
ទំរង់ទី១: អំពីព័ត៌មានភូមិ
Baseline Survey Report
FORM I: Village Information

អង្គការ/Organization:	ស្ត្រី/Women: នាក់ ប្រុស/Men: នាក់
ការិយាល័យ/Regional Office:	ជនមានពិការ/PWD: នាក់
ម្ចាស់ជំនួយ/Donor Support:	ឈ្មោះប្រធានក្រុម:/Team leader's name:
ក្រុមស្រាវជ្រាវលេខ/ Survey team number:	ភេទ/sex:

1.1 ព័ត៌មានអំពីការប្រមូលទិន្នន័យ - Data Collection Information	
1.1.1 រាយការណ៍ដោយ/Reported by:	1.1.2 មុខងារ/Position:
1.1.3 ថ្ងៃចាប់ផ្តើមស្រាវជ្រាវ/Survey start date:	1.1.4 ថ្ងៃបញ្ចប់ស្រាវជ្រាវ/ Survey end date:

1.2 ព័ត៌មានអំពីភូមិ - Village Information	
1.2.1 លេខកូដភូមិ/ Village Code:	
1.2.2 ភូមិ / Village: ☐ ថ្មី	1.2.3 ឃុំ / Commune: ☐ ថ្មី
1.2.4 ស្រុក / District: ☐ ថ្មី	1.2.5 ខេត្ត / Province: ☐ ថ្មី
1.2.6 ចំនួនគ្រួសារក្នុងភូមិ/Number of household in village:	1.2.7 ចំនួនប្រជាជនក្នុងភូមិ/ Number of population in village: ស្ត្រី/Women..... បុរស/Men..... កុមារី/Girl.....កុមារ/Boy..... ជនមានពិការភាព/PWD.....
1.2.8 ចំណុចយោងដែលមានក្នុងភូមិ / Reference point in the village:	អាប់ស៊ីស(X) UTM East:
	អរដោណេ(Y) UTM North:

1.3 ស្ថានភាពផ្លូវចូលភូមិ - Accessibility to village		
1.3.1 លទ្ធភាពផ្លូវចូលភូមិ/ Road access to the village	☐ រដូវប្រាំង / Dry season	☐ រដូវវស្សា / Wet season
1.3.2 អធិប្បាយផ្លូវពីទីប្រជុំជនដែលជិតបំផុតទៅកាន់ភូមិនេះ - Describe the route from nearest town to the village:		
1.3.3 តើគ្រប់កន្លែងទាំងអស់ក្នុងភូមិនេះអាចឆ្លងកាត់បានដែរឬទេ នៅពេលស្រាវជ្រាវ? Are all areas in the village accessible during the survey?	☐ បាន / Yes	☐ មិនបាន/ No
បើមិនបាន ត្រូវរាយការណ៍ទៅប្រធានត្រួតពិនិត្យ ហើយកត់ត្រាតំបន់នោះ(ដោយបំពេញតារាងមានភ្ជាប់) សំរាប់ចុះស្រាវជ្រាវលើកក្រោយ និងសូមពន្យល់ពីមូលហេតុដែលមិនអាចឆ្លងកាត់បានខាងក្រោម។ If No, report to supervisor and record the areas (by completing the attached form) for "REVISIT". Explain reason for inaccessibility below.		
☐គ្មានផ្លូវ ☐ទឹកលិច ☐តំបន់ហាមឃាត់ ☐បញ្ហាព្រំដែន/Border Issue ☐សន្តិសុខ/Security ☐ផ្សេងៗ(សូមរៀបរាប់/Please describe):		

1.4 ការគំរាមកំហែងដោយសារមីន និងសំណល់ជាតិផ្ទុះពីសង្គ្រាមនៅក្នុងភូមិ – Mine and ERW Threat in the village
1.4.1 តើនៅក្នុងភូមិនេះ នៅមានមីន ឬសំណល់ជាតិផ្ទុះពីសង្គ្រាមដែរ ឬទេ? Is there an existing mine and/or ERW threat within the village boundaries? ☐ មាន/Yes (បើមានសូមបំពេញទម្រង់ទី២/ If YES, fill out Form II) ☐ គ្មាន/ No (បើគ្មាន សូមសួរសំណួរ/ If NO, go to section 1.4.2)
1.4.2 តើកន្លងមក នៅក្នុងភូមិនេះ ធ្លាប់មានមីន និងសំណល់ជាតិផ្ទុះពីសង្គ្រាមដែរ ឬទេ? Were there previously a mine and other ERW threat within the village boundaries? ☐ មាន/ Yes បើមាន ហេតុអ្វីបច្ចុប្បន្នពុំមាន? …….. ☐ គ្មាន / No

1.5 យោបល់របស់ក្រុមស្រាវជ្រាវ/ Survey team's comments:

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1.6 អ្នកផ្តល់ព័ត៌មាន (យ៉ាងតិចឲ្យបាន៤នាក់) - Local Informants (at least 4 people)						
ល.រ No.	ឈ្មោះ Name	ភេទ Sex	អាយុ Age	មុខរបរ Occupation	លេខទូរស័ព្ទ Phone#	ហត្ថលេខា Signature
1						
2						
3						
4						

ឯកសារភ្ជាប់/ Attachment

- តំបន់មិនអាចចូលស្រាវជ្រាវបាន (បើមាន) / Sketch of area(s) inaccessible during BLS (if any)

តំបន់មិនអាចចូលស្រាវជ្រាវបាន/ Area inaccessible during BLS						
ពីចំណុច From	អាប់ស៊ីស X (UTM East)	អរដោណេ Y (UTM North)	មុំ (អង្សា) Bearing (°)	ចម្ងាយ(ម៉ែត្រ) Distance (m)	គោលដៅពីចំណុចមុន Destination	សេចក្តីផ្សេងៗ Remarks
LM					BM	
BM					SP	
SP					TP1	

ប្រភេទ ជីភីអេស ដែលប្រើ / Type of GPS used: .....

ប្រព័ន្ធកូអរដោណេ/ Coordinate system:.....

ខណ្ឌសីមារបស់ផែនទី/ Map datum: .....

BS/CMAA/

អាជ្ញាធរមីន
C.M.A.A

របាយការណ៍ស្រាវជ្រាវទិន្នន័យមូលដ្ឋាន
ទំរង់ទី២: ព័ត៌មានអំពីដីមានមីន និងសំណល់ជាតិផ្ទុះពីសង្គ្រាម
Baseline Survey Report
FORM II: Mine and ERW Hazardous Area

អង្គការ/Organization:	ស្ត្រី/Women: នាក់ ប្រុស/Men: នាក់
ការិយាល័យ/Regional Office:	ជនមានពិការ/PWD: នាក់
ម្ចាស់ជំនួយ/Donor Support:	ឈ្មោះប្រធានក្រុម:/Team leader's name:
ក្រុមស្រាវជ្រាវលេខ/ Survey team number:	ភេទ/sex:

2.1 ព័ត៌មានអំពីការប្រមូលទិន្នន័យ - Data Collection Information

2.1.1 រាយការណ៍ដោយ/Reported by:	2.1.2 មុខងារ/Position:
2.1.3 ថ្ងៃចាប់ផ្តើមស្រាវជ្រាវ/Survey start date:	2.1.4 ថ្ងៃបញ្ចប់ស្រាវជ្រាវ/ Survey end date:

2.2 ព័ត៌មានអំពីភូមិ - Village Information

2.2.1 លេខកូដភូមិ/ Village Code:	
2.2.2 ភូមិ / Village: ☐ ឬ	2.2.4 ឃុំ / Commune: ☐ ឬ
2.2.5 ស្រុក / District: ☐ ឬ	2.2.6 ខេត្ត / Province: ☐ ឬ
2.2.7 ចំនួនគ្រួសារក្នុងភូមិ/ Number of household in village:.....	2.2.8 ចំនួនប្រជាជនក្នុងភូមិ/ Number of population in village:..... ស្ត្រី/Women.....បុរស/Men.....កុមារី/Girl.....កុមារ/Boy..... ជនមានពិការភាព/PWD.....
2.2.9 ចំណុចយោង ដែលមានក្នុងភូមិ / Reference point in the village:	អាប់ស៊ីស(X) UTM East: ..... អរដោណេ(Y) UTM North:.....

2.3 ស្ថានភាពផ្លូវ- Road Accessibility

2.3.1 លទ្ធភាពផ្លូវចូលចម្ការមីន/គ្រាប់/ Accessibility to mine/ERW field	☐រដូវប្រាំង / Dry season	☐រដូវវស្សា / Wet season
2.3.2 អធិប្បាយផ្លូវទៅចម្ការមីន - Describe the route to the mine/ERW field		

2.4 អធិប្បាយអំពីចម្ការមីន/គ្រាប់ – Description of mine/ERW field

2.4.1 ប្រវត្តិចម្ការមីន/គ្រាប់ - History ofMine/ERW field: .....
.....
.....
.....
.....
.....

2.4.2 ដង់ស៊ីតេមីន AP Density of AP mine	☐ច្រើន / Dense	☐រាយប៉ាយ/ Scattered	☐សង្ស័យ / Suspected	☐គ្មាន / None
2.4.3 មីនប្រភេទ៧២ Type 72 AP mine	☐ពិតជាមាន / Confirmed	☐សង្ស័យមាន/ Suspected	☐គ្មាន / None	

2.4.4 មីន AP ប្រភេទផ្សេងៗ Other AP mine types	....			
2.4.5 មីនប្រឆាំងរថក្រោះ AT mines	☐ ពិតជាមាន/ Confirmed	☐ សង្ស័យមាន / Suspected	☐ គ្មាន/ None	
2.4.6 សំណល់ជាតិផ្ទុះពីសង្គ្រាម ERW	☐ ពិតជាមាន/ Confirmed	☐ សង្ស័យមាន /Suspected	☐ គ្មាន/ None	
2.4.7 ផ្សេងៗ/ Others	☐ អន្ទាក់/ Booby trap	☐ ចំរុងដែក/ Caltrop	☐ មីនច្នៃ/ Improvised mines	☐ ផ្សេងៗ/ other: .....
2.4.8 សេចក្តីផ្សេងៗ/ Remarks:				

2.5 ចំណាត់ថ្នាក់ដី - Land Classification

ដីមានមីន Mined land	○ A1 ដីមានមីន AP ច្រើន Land containing dense concentration of AP mines	○ A2.1 ដីមានមីន AP និង AT ចំរុះច្រើន Land containing mixed dense AP and AT mines	○ A2.2 ដីមានមីន AP និង AT ចំរុះរាយប៉ាយ Land containing mixed scattered AP and AT mines	○ A3 ដីមានមីនប្រឆាំងរថក្រោះ Land hazardous AT mines	○ A4 ដីមានមីន AP រាយប៉ាយ Land containing scattered or nuisance presence of AP mines
ដីមានការគំរាមកំហែងទាប Land that presents evidence of ERW or an indeterminate presence of mines	○ B1.1 ដីមានគ្រាប់ទំលាក់ពីយន្តហោះ Land containing aircraft bomb	○ B1.2 ដីមានតែគ្រាប់បែកចង្កោមLand containing cluster munitions/bombies	○ B1.2+ ដីមានគ្រាប់បែកចង្កោម រួមទាំងផ.ស.ស ផ្សេងៗ Land containing cluster munitions/bombies and other ERW	○ B1.3 ដីធ្លាប់មានការវាយប្រយុទ្ធគ្នា Location of Ground Battles	○ B1.4 ដីមានស្តុកគ្រាប់សេសសល់ពីសង្គ្រាម Land containing stockpiles/caches
	○ B1.5 ដីជាបន្ទាយទាហានបោះបង់ចោល Abandoned Military Compounds		○ B1.6 ដីមានអាវុធគីមី Land containing Chemical weapon	○ B2 ដីមិនអាចបញ្ជាក់ថាមានការគំរាមកំហែងពីមីន Land with no verifiable mine threat	

2.6 ព័ត៌មានគ្រោះថ្នាក់មីន ឬគ្រាប់នៅលើដីកំពុងស្រាវជ្រាវ - Information on Mine/ERW Accident at survey area

	គ្រោះថ្នាក់ ឬឧបទ្ទវហេតុ Accident/Incident	មនុស្ស ស្លាប់People Killed	មនុស្សរបួស People Injured	សត្វពាហនៈ Cattle	ផ្សេងៗ Others
ចំនួនសរុប/ Total number					
ឆ្នាំគ្រោះថ្នាក់កើតឡើងចុងក្រោយបំផុត year of most recent accident					

2.7 កម្រិតភ័យខ្លាចរបស់អ្នកភូមិអំពីគ្រោះថ្នាក់មីន/គ្រាប់ (ត្រូវពិគ្រោះជាមួយអ្នកភូមិ) Level of fear of the villagers (shall consult villagers)

2.7.1 កំរិតនៃការភ័យខ្លាច - Level of fear ☐ ខ្ពស់ / high ☐ មធ្យម / Medium ☐ ទាប/ Low ☐ គ្មាន / None

2.7.2 មតិរបស់អ្នកភូមិ/ villagers' comments:

....

.....
.....

2.8 អត្តសញ្ញាណដី និងការប្រើប្រាស់ដីពេលបោសសម្អាតមីនរួច(អាចជ្រើសរើសបានច្រើនជាង១ប្រភេទ)

Land Identification and potential land use after clearance (can select more than one category)

អត្តសញ្ញាណដី/land identification	ការប្រើប្រាស់ដីពេលបោសសម្អាតមីនរួច/future land use		
☐ ដីធ្លីសាធារណៈរបស់រដ្ឋ State public property	☐ តំបន់អភិរក្ស (ហាមឃាត់) Conservation Forest Lands (CVN)	☐ ដីកសិកម្ម Agriculture (AGR)	☐ ផ្លូវ Road (ROAD)
☐ ដីធ្លីឯកជនរបស់រដ្ឋ State private property	☐ ប្រាសាទ ឬតំបន់ប្រវត្តិសាស្ត្រ Temple/ historical sites (TEM)	☐ ប្រព័ន្ធស្រោចស្រព Irrigation (IRR)	☐ មណ្ឌលសុខភាព Health Center (HC)
☐ ដីធ្លីរបស់ឯកជន Private property	☐ តំបន់ទេសចរណ៍ Tourist Site	☐ សាលារៀន School (SCH)	☐ ទីស្នាក់ការរដ្ឋបាល Administration Office (ADM)
☐ ដីធ្លីសហគមន៍ជនជាតិដើមភាគតិចIndigenous community property	☐ កាត់បន្ថយគ្រោះថ្នាក់ Casualty Reduction (CAS)	☐ វត្តអារាម Pagoda (PAG)	☐ ដីលំនៅដ្ឋាន Resettlement (RES)
☐ ដីធ្លីសម្រាប់សាសនា Monastery property	☐ ផ្លូវទៅកាន់ប្រភពទឹក Water Access (WAT)		

2.9 ចម្ងាយទៅចម្ការមីន/គ្រាប់ (វាស់តាមផ្លូវត្រង់)- Distance tomine/ERW field (direct distance)

☐ ជិតបំផុត Very Near	☐ ជិត(តិចជាង ១ គ.ម) Near (less than 1km)	☐ ឆ្ងាយ(១ គ.មទៅ១០គ.ម) Far (1km – 10km)	☐ ឆ្ងាយបំផុត(១០គ.មឡើង) Very Far (more than 10 km)
នៅក្នុងភូមិ ឬជាប់កន្លែងដែលមានលំនៅដ្ឋានឬមានគម្រោងសាងសង់លំនៅដ្ឋាន/ In village or immediately adjacent to area of settlement/proposed settlement	ដីជនបទ ដីព្រៃចន្លោះ១ គ.ម ពីលំនៅដ្ឋាន ឬហ៊ុំព័ទ្ធដោយដីកសិកម្ម Rural land/woodland within 1 km of any housing and/or surrounded by cultivation	ដីជនបទ ដីព្រៃចន្លោះ ១០ គ.ម ពីលំនៅដ្ឋានតែឆ្ងាយពីដីកសិកម្មRural land/woodland within 10km of a village but away from cultivation	តំបន់ផ្សេងៗទៀត Any other area

2.9.1 ចំនួនប្រជាពលរដ្ឋកំពុងប្រឈមនឹងគ្រោះថ្នាក់ - Number of people at risk

ចំនួនគ្រួសារ/ Number of households: .....

ចំនួនប្រជាពលរដ្ឋ/ Total population: .....

(ស្ត្រី/Women.....បុរស/Men..... .....កុមារី/Girl.....កុមារ/Boy.....ជនមានពិការភាព/PWD.....)

2.9.2 សេចក្តីផ្សេងៗ/ Remarks:

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2.10 ព័ត៌មានសម្រាប់ប្រតិបត្តិការ - Operational Information

2.10.1 ប្រភេទព្រៃ Vegetation	☐ ស្មៅ.....% Grass.....%	☐ ព្រៃគុម្ពោត.....% Bushes.....%	☐ ព្រៃឈើ/ឫស្សី.....% Tree/Bamboo.....%	☐ គ្មាន None
2.10.2 ភាពស្មុគស្មាញ Contamination	☐ កម្ទេចដែក Metal	☐ ដីគ្រួសក្រហម Laterite	☐ គ្មាន None	
2.10.3 កម្រិតនៃភាពស្មុគស្មាញ Level of contamination	☐ ទាប Low	☐ មធ្យម Medium	☐ ខ្ពស់ High	
2.10.4 សណ្ឋានដី Ground profile	☐ រាបស្មើ Flat	☐ ចំណោតភ្នំ Hillside.....	☐ ខ្ពង់រាប Ridge	☐ ជ្រលង ឬច្រកភ្នំ Gully

	☐ មាត់ទឹក Embankment	☐ ដីដីកកកាយយករ៉ែ Mining	☐ ដីពូក Spoil Piles	☐ ផ្សេងទៀត Other.....
2.10.5 ប្រភេទដី Soil type	☐ ដីខ្សាច់/Sand	☐ ដីកំបោរ/Chalk	☐ ដីឥដ្ឋ/Clay	☐ ដីថ្មច្រើន Rocky
	☐ ដីគ្រួសក្រហម/ Laterite	☐ ដីល្បប់ ឬភក់ Swamp	☐ ផ្សេងទៀត: Other	
2.10.6 រដូវកាលអនុគ្រោះសម្រាប់ការបោសសម្អាតមីន/គ្រាប់ Season suitable for demining		☐ រដូវប្រាំង/ Dry season	☐ រដូវវស្សា/ Wet season	
2.10.7 ឧបសគ្គទៅកាន់ចម្ការមីន/គ្រាប់ Obstacle to accessing the MF	☐ ផ្លូវ/ Road ☐ ស្ពាន/ Bridge	ចូររៀបរាប់/ Please explain:		
2.10.8 តើមានការត្រួតពិនិត្យផ្ទៃដីឬទេ? Is physical verification conducted?	☐ មាន/ Yes	☐ គ្មាន / No	បើមាន តើកស្តុតាងអ្វីខ្លះបានរកឃើញ? If Yes, what kind of evidence found?	
☐ មីន/ Mine ☐ គ្រាប់/ ERW ☐ ផ្នែកនៃមីន ឬ គ្រាប់/ Mine or ERW parts ☐ ផ្សេងៗ / Others				

2.11 យោបល់រួមរបស់ក្រុមស្រាវជ្រាវ - Survey team's general comments

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2.11 ចម្ការមីន/គ្រាប់ចំណុចយោងចម្ការមីន/គ្រាប់ (ចំណុចយោងទី១ ចំណុចយោងទី២ ចំណុចចាប់ផ្តើម ចំណុចរបត់) Mine/ERW field reference points (landmark, benchmark, starting point, and turning points)						
ពីចំណុច From	អាប់ស៊ីស X (UTM East)	អរដោណេ Y (UTM North)	មុំ (អង្សា) Bearing (°)	ចម្ងាយ(ម៉ែត្រ) Distance (m)	គោលដៅពីចំណុចមុន Destination	សេចក្តីផ្សេងៗ Remarks
LM					BM	
BM					SP	
SP					TP1	

ប្រភេទ ជីភីអេស ដែលប្រើ / Type of GPS used:.....

ប្រព័ន្ធកូអរដោណេ/ Coordinate system:.....

ខណ្ឌសីមារបស់ផែនទី/ Map datum: .....

2.12 អ្នកផ្តល់ព័ត៌មាន (យ៉ាងតិចឱ្យបាន៤នាក់) - Local Informants (at least 4 people)						
ល.រ No.	ឈ្មោះ Name	ភេទ Sex	អាយុ Age	មុខរបរ Occupation	លេខទូរស័ព្ទ Phone#	ហត្ថលេខា Signature
1						
2						
3						
4						

2.13 ការប្រមូលទិន្នន័យផ្ទៃក្នុង - Internal Data Collection		
អ្នករាយការណ៍ Reporter	អ្នកត្រួតពិនិត្យ Supervisor	អ្នកបញ្ចូលទិន្នន័យ Data entry
រាយការណ៍ដោយ Reported by:	ត្រួតពិនិត្យដោយ: Verified by:	បញ្ចូលទិន្នន័យដោយ: Entered by:
ភេទ: Sex:	ភេទ: Sex:	ភេទ: Sex:
មុខងារ: Title:	មុខងារ: Title:	មុខងារ: Title:
កាលបរិច្ឆេទ: Date:	កាលបរិច្ឆេទ: Date:	កាលបរិច្ឆេទ: Date:
ហត្ថលេខា: Signature:	ហត្ថលេខា: Signature:	ហត្ថលេខា: Signature:

<u>ឯកសារភ្ជាប់/ Attachments:</u>

- ប្លង់ចំការមីន/ Sketch map
- រូបថតចំការមីន (បើមាន)/ Photos of area (if possible)

Annex 4: Map symbols

Annex E/ CMAS 15

និមិត្តសញ្ញាផែនទី

MAP SYMBOLS