



Cambodian Mine Action Standards

Chapter 5

Reporting and investigation of demining incidents



Secretariat-General
Cambodian Mine Action Authority
274 Prah Monivung Blvd, Phnom Penh

Phone/Fax: +885-23-213-543
Email samsotha@camnet.com.kh

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Introduction

The need to report and investigate demining incidents in a clear, comprehensive and timely manner is an essential part of mine action management.

The effective management and supervision of mine action programmes will reduce the likelihood of harm, but there will always be the potential for demining incidents to occur. There are legal and moral obligations on managers at all levels in mine action to ensure that the likelihood of harm is reduced to the lowest realistic levels. Effective reporting and the thorough investigation of demining incidents can play an essential part in meeting this objective. Information collected and presented in a clear and accessible format will contribute to the 'lessons learned' process, assisting emergency response, improving the quality of the demining process and reducing the likelihood of future demining accidents.

The aim of this standard is to provide specifications and guidance on the minimum requirements for the reporting and investigation of demining incidents in Cambodia. This standard has been developed in accordance with IMAS on the Reporting and Investigation of Demining Incident.

Safety & occupational health

Reporting and investigation of demining incidents

1. Scope

This CMAS provides specifications and guidance to CMAA and mine action organisations on the minimum requirements for the reporting and investigation of a demining incident. It includes definitions for categorisation of demining incidents, which should assist in drawing lessons that will benefit the whole mine action community.

This standard is applicable only for the reporting and investigation of incidents that occur at the demining workplace. It is not applicable to incidents away from the workplace.

2. Terms and definitions

A complete glossary of all the terms and definitions used in the CMAS series of standards will be developed in a separate chapter.

3. Incident reporting and investigation requirements

3.1. Incidents

3.1.1. General requirements

The following incidents shall be reported to the CMAA immediately:

- a) An accident in which a mine or UXO harms a mine action employee, visitor or member of the local population at a demining workplace;
- b) An incident in which a mine or UXO causes unforeseen damages to equipment or property at a demining workplace;
- c) The discovery of a mine or UXO located in an area previously cleared, recorded as cleared or marked as cleared, regardless of whether harm has resulted from the missed mine or UXO;
- d) Where mine action employees, visitors or the local population are exposed to intolerable risk that results from the application of documented standards or SOPs, including the failure of equipment issued to employees; and
- e) Any unplanned detonation of a mine or UXO on a demining worksite irrespective of the cause or outcome.

In the case of CMAA receiving reports of incidents that highlight inadequacies of equipment, standards or approved SOPs, or that indicate the presence of new types of hazard, they shall disseminate a general warning to all mine action organisations applying the same equipment, standard or SOP, or likely to meet the same new hazards.

3.1.2. Reporting format

The demining incident report shall include the following information, as a minimum:

- a) The mine action organisation and mine action unit (however named or identified);
- b) The location of the incident, including any hazard area identification code or reference number;
- c) The nature of the incident (for example missed mine, demining accident or suspected inadequacy of documented standards or SOPs, or suspected breach of SOPs);

- d) The type of munition (if known);
- e) Harm resulting from the incident (injury or death of deminer, supervisor, visitor or member of the local population);
- f) Damage resulting from the incident (for example equipment, stores, PPE or property);
- g) Description of events leading to the incident;
- h) Name and contact details of witnesses or people who may be able to assist in the subsequent investigation of the incident; and
- i) Description of immediate actions taken to assist the injured.

An example of an incident report is included in Annex A.

3.2. Investigations

3.2.1. General requirements

The following incidents will be subject to investigation by an appropriately qualified and experienced person appointed by CMAA:

- a) Demining incidents resulting from the application of approved standards or procedures.
- b) A mine or UXO hazard missed during the demining process;
- c) Demining accidents resulting in harm;
- d) Damage to property; or
- e) Damage that may result in a major claim for compensation from a member of the local population.

3.2.2. Investigation procedures

The aim of the demining incident investigation is to identify problems or opportunities to improve the safety and quality of the demining process. It is neither a criminal investigation nor an investigation to assist in the assessment of a current or possible future insurance claim. As such, all employees of mine action organisations should be encouraged to provide complete and accurate information about the circumstances surrounding the incident and opinions on ways to improve procedures that may assist in preventing a similar incident occurring.

In the event that the CMAA initiates a demining incident investigation, it shall ensure that:

- a) The investigation commences as soon as possible;
- b) The CMAA investigating officer or investigating team has the qualifications, experience and skills needed to meet requirements specified in the terms of reference for the investigation;
- c) The investigating officer is independent from, and has no affiliations with, the mine action organisation(s) involved in the incident
- d) A copy of the terms of reference for the investigation is provided to the mine action organisation(s) by the CMAA that may be asked to assist in the investigation.
- e) Unless exceptional circumstances exist, the investigation report is submitted on time and that it is complete, clear, concise and accurate (including conclusions and recommendations for improvement).

The demining organisation involved in the incident shall ensure that:

- f) The incident is reported to the CMAA as soon as possible.
- g) The incident site, documentation and equipment relating to the incident is preserved as far as possible, until released by the investigating officer or investigation team, in order to prevent loss of valuable information;

- h) Photographs of the incident site are taken at the earliest possible opportunity.

An example of the investigation SOP is included in Annex B.

3.3. Reporting and dissemination

The following information should be widely distributed:

- a) The circumstances contributing to and harm resulting from the incident;
- b) An analysis of the information collected during the investigation; and
- c) The findings of the investigation (i.e. the conclusions and recommendations drawn from the investigation process).

The CMAA shall disseminate information on demining incidents.

4. Responsibilities

4.1. CMAA/Secretariat General responsibilities

The CMAA/Secretariat General shall:

- a) Maintain and update procedures for the reporting and investigation of demining incidents as described in this standard;
- b) Appoint an investigating team;
- c) Disseminate the findings of all investigation reports to all mine action organisations operating in Cambodia;
- d) Disseminate the findings of all investigation reports to the United Nations Mine Action Service;
- e) Ensure that the results of any medical examination, post mortem or coroners report are made available to the parent mine action organisation.

4.2. Demining Organisation's responsibilities

Demining Organisations shall:

- a) Report demining incidents to the CMAA at the earliest possible opportunity;
- b) Take photographs of the demining incident site immediately, and then preserve it until the site is inspected and released by the CMAA investigating team;
- c) Provide access, and if necessary administrative support to incident investigation teams;
- d) Make available to the investigation team the original worksite records, SOPs, training records, radio log and any other documents or equipment directly related to the accident investigation and;
- e) Assist staff appointed to investigate demining incidents.

4.3. Employees' obligations

Mine action employees shall:

- a) Apply appropriate standards and SOPs designed to prevent demining incidents;
- b) Report perceived weaknesses in equipment training and procedures;
- c) Report reportable incidents; and
- d) Assist in the investigation of incidents.

Phnom Penh Dated 20 October 2005

Secretary General

Signed and Sealed

Sam Sotha

**Annex A
(Informative)
Example of a demining Incident report**

From: Mine action organisation (See Note 1 and Note 2)

To: Secretariat General/CMAA Address: 274, Prah Monivung Blvd, Phnom Penh
Fax No:

Date & Time: (See Note 3)

Subject: MINE CASUALTY/DAMAGE REPORT

1. Organisation, site office/Project number, Team name/number:
2. Location (Province, District, Village, Task No.):
3. Date and time of incident:
4. Name people injured: (See Note 4)
 - a. Description of injuries: (See Note 5)
 - b. Treatments given:
 - c. Current condition of casualties:
5. Evacuation Routes and Destinations:
6. List equipment/facilities damaged: (See Note 6)
7. Describe how the incident occurred (See Note 7)
8. Any other information including: (See Note 8)
 - a. Did the incident occur in a cleared, safe or contaminated area?
 - b. Device type (if known)
9. Other information? (See Note 9)

- Note 1. Provide contact details of the person responsible for coordination of immediate response to the demining incident and coordination of investigation activities. E.g. operations manager (call sign, telephone number as appropriate).
- Note 2. Highlighted portions should be reported by radio/telephone procedure as soon as possible, the complete information should be confirmed by fax or email as appropriate. Fax or email messages should be accompanied by a telephone call advising that the fax or Email will be/has been sent.
- Note 3. Date and time the report is submitted (this is used to assist in tracking the reporting system and assisting in identifying ways to improve the reporting system)
- Note 4. For deminers, include title of employment category (clearer, team leader, surveyor, medic, driver etc). For others include contact details of the injured party.
- Note 5. List injuries for each person separately.
- Note 6. List the equipment or facilities damaged, include a short description of the extent of the damage and where appropriate the name and contact details of the owners of each item.
- Note 7. Include a short description of the incident. E.g. "The incident occurred while prodding for a PMN mine. The mine was in an area covered by bamboo. It appears that the clearer had difficulty cutting away and removing the roots of the bamboo when he initiated the mine."
- Note 8. In the case of a missed mine incident include details of how the missed mine was discovered. E.g. mine reported after demining, or mine located during acceptance sampling or mine discovered in safety lane cleared by survey organisation.
- Note 9. Provide as much information as possible about the circumstances surrounding the incident. E.g. information which would assist in making decisions on the requirement to send out a general warning about a new device found or the inadequacies of a standard or SOP. Submission of the report should not be prolonged in an effort to collect and analyse information regarding the incident

Demining incident– Detailed report

Part 1 – Description of the incident

1. Organisation name _____ Team No _____
 2. Incident date ____/____/____ Time _____
 3. Location of incident: Province _____ District _____ Village _____ Project or task _____
 No _____

4. Name of site manager or team leader _____
 5. Type of incident: missed mine/UXO uncontrolled detonation of a mine/UXO
 6. Device was detonated by:
 clearer/surveyor mine dog team leader vehicle other (specify) _____
 not applicable (Go to 7)

6a. Device detonated while: detecting prodding/excavating preparing a charge
 moving other (Specify) _____

7. Device was found in an area classified as:
 a usable area a known hazardous area an unknown area (go to 7) a cleared area (go to question 6a.)
 Not applicable (Go to 7)

7a. Provide accurate location of incident and name of organisation that did the clearance, if known

8. Narrative (Describe how the incident happened. Attach additional pages and photographs or diagrams to assist in clarifying the circumstances surrounding the incident):

Part 2 – Injuries

9. Did the incident result in any injuries?
 Yes No (Go to 10)

9a. List people injured and nature of injury

Name	Occupation	Injury	Activity

9b. Activity refers to the activity being performed at the time of the incident, e.g. supervising clearer, prodding, using metal detector, using dog to search under building etc.

9c. Attach an injury data sheet for each injured person (See Attachment 1)

Part 3 – Equipment damages

10. Did the incident result in any damage to equipment or property?
 Yes No (Go to point 13)

11. List any demining equipment or property damage

Item (and Serial No)	Condition

12. List damage to equipment or property owned by a member of the public or the government. Include contact details of the owner or responsible person.

Item Description	Condition

Part 4 – Explosive hazard

13. Provide details of mines/UXO/ other devices that were involved in the incident.

Device Type:		Method:			
Determined by:					
AP (Frag) Mine	<input type="checkbox"/>	Buried	<input type="checkbox"/>	Direct observation	<input type="checkbox"/>
AP (Blast) Mine	<input type="checkbox"/>	Surface	<input type="checkbox"/>	Fragments found	<input type="checkbox"/>
AT Mine	<input type="checkbox"/>	Tripwired	<input type="checkbox"/>	Suspected only	<input type="checkbox"/>
UXO	<input type="checkbox"/>	Booby Trapped	<input type="checkbox"/>	Booby Trap	<input type="checkbox"/>
Unknown	<input type="checkbox"/>	Unknown	<input type="checkbox"/>		

14. State specific device (if known):

Type	Qty	Remarks (including mine types)
Anti-Pers		
Anti-Tank		
UXO		

15. Comments (include measurements of any crater resulting from the explosion)

Part 5 - Site conditions

16. Describe the conditions at the site at time of the incident

Ground/Terrain:		Weather:		Vegetation:					
Soft	<input type="checkbox"/>	Flat	<input type="checkbox"/>	Clear	<input type="checkbox"/>	None	<input type="checkbox"/>	Heavy	<input type="checkbox"/>
Medium	<input type="checkbox"/>	Uneven	<input type="checkbox"/>	Cloudy	<input type="checkbox"/>	Burnt	<input type="checkbox"/>	Medium	<input type="checkbox"/>
Hard	<input type="checkbox"/>	Hillside	<input type="checkbox"/>	Raining	<input type="checkbox"/>	Grass	<input type="checkbox"/>	Light	<input type="checkbox"/>
Wet	<input type="checkbox"/>	Open	<input type="checkbox"/>	Windy	<input type="checkbox"/>	Bush	<input type="checkbox"/>	None	<input type="checkbox"/>
Dry	<input type="checkbox"/>	Calm	<input type="checkbox"/>	Cool	<input type="checkbox"/>	Crops	<input type="checkbox"/>	Rocky	<input type="checkbox"/>
Confined	<input type="checkbox"/>			Mild	<input type="checkbox"/>	Forest	<input type="checkbox"/>		
				Hot	<input type="checkbox"/>				

Part 6 – Team and task details

17. Last QA monitoring inspection of team Month/Year ____ / ____

18. Qualifications of clearer(s) involved in the incident:

Name	Occupation	Course attended

19. How long had this team been:

a. At this site?	Days <input type="checkbox"/> weeks <input type="checkbox"/> months <input type="checkbox"/>
b. Working on this task?	Days <input type="checkbox"/> weeks <input type="checkbox"/> months <input type="checkbox"/>
c. Working on the day?	Hours

20.	Detector type: status:	Passed to (location) on	Serial Number: (date)	Tripwire feeler used?	Detector for technical inspection at Yes <input type="checkbox"/> No <input type="checkbox"/>
21	Hand tool/Prodder type				
22.	PPE: (Specify)	Helmets <input type="checkbox"/>	Visor <input type="checkbox"/>	Goggles <input type="checkbox"/>	None <input type="checkbox"/> Other <input type="checkbox"/>
23.	Comments				
Part 7 - Medical & first aid					
24.	Medical treatment required yes <input type="checkbox"/> no <input type="checkbox"/> (go to 28)				
25.	Medical Support at Incident Site: Medic <input type="checkbox"/> 1st Aid Kit <input type="checkbox"/> Stretcher <input type="checkbox"/> Ambulance <input type="checkbox"/> Safety Vehicle <input type="checkbox"/> Radio to call forward medic <input type="checkbox"/>				
26.	Was a Mine Incident Drill carried out? Yes <input type="checkbox"/> No <input type="checkbox"/> (Go to 27)				
27.	Time and distance data				
a.	Time from incident to initial First Aid (at site)		minutes	hours	
b.	Time spent at site administering treatment		minutes	hours	
c.	Time from evacuation at site to arrival at field medical facility or local hospital				
	minutes	hours	km		
d.	Time spent at local hospital administering treatment			minutes <input type="checkbox"/>	hours <input type="checkbox"/>
e.	Time evacuated from local hospital to final medical treatment facility				
	minutes	hours	km		
Part 8 – Reporting procedures					
Reported by (name)		to (agency)			
by (method)					
on (date)		at (time)			
Report compiled/translated by: (Signature)					
Printed Name					
Organisation			Date		
Attachments:					
Statements by Injured Members		yes <input type="checkbox"/> no <input type="checkbox"/>			
Statements by Witnesses		yes <input type="checkbox"/> no <input type="checkbox"/>			
Sketch Plan of Incident Site		yes <input type="checkbox"/> no <input type="checkbox"/>			
Photographs of Injuries		yes <input type="checkbox"/> no <input type="checkbox"/>			
Injury data sheet(s)		yes <input type="checkbox"/> no <input type="checkbox"/>			
Photographs of Incident Site		yes <input type="checkbox"/> no <input type="checkbox"/>			
Copy of Survey Map		yes <input type="checkbox"/> no <input type="checkbox"/>			
Copy of Incident Report		yes <input type="checkbox"/> no <input type="checkbox"/>			
Copy of Medical Report		yes <input type="checkbox"/> no <input type="checkbox"/>			
Copy of Injury Card		yes <input type="checkbox"/> no <input type="checkbox"/>			
Technical Details of Device		yes <input type="checkbox"/> no <input type="checkbox"/>			

1 Square(5mm) = meters

Checklist

- Marked area
- Useable areas
- Cleared areas
- Unknown areas
- location of victims equipment damage at time of incident.
- **Legend**
- device *
- Primary victim ①
- Secondary victims ②, ③ etc
- Equipment building damage II

Casualty Name:			
Victim Number		(see legend on incident sketch map)	
Date	Time	Location	
Male <input type="checkbox"/>	Female <input type="checkbox"/>	Age:	
Severity of Injury:		FATAL <input type="checkbox"/>	SEVERE <input type="checkbox"/> MINOR <input type="checkbox"/>
Cause of Injury:		mine <input type="checkbox"/>	UXO <input type="checkbox"/> Shell <input type="checkbox"/> Bomb <input type="checkbox"/> Other <input type="checkbox"/>

Place X in code box if there is no apparent injury from this incident
 Place an injury code in the code box to indicate the type of injury suffered from the accident.

Legend	
Code	Meaning
A	Abrasions
AM	Amputation
TAM	Traumatic amputation
B	Burn/discolouration"
D	Dislocation
F	Fracture
FR	Fragment
H	Haemorrhage
IH	Internal Haemorrhage
L	Laceration
LO	Loss of Function