



# **Explosive Remnants of War (ERW) Information Requirements**



# Explosive Remnants of War (ERW) Information Requirements

**Geneva International Centre for  
Humanitarian Demining  
Centre International de  
Démunage Humanitaire - Genève**



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The **Geneva International Centre for Humanitarian Demining** (GICHD) supports the efforts of the international community in reducing the impact of mines and unexploded ordnance (UXO). The Centre is active in research, provides operational assistance and supports the implementation of the Anti-Personnel Mine Ban Convention.

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*Kabul, Afghanistan. Mines and unexploded ordnance are about to be destroyed by OMAR. 02/1996*

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Cover photos: Mortars, and destroyed BM-21, Ferqa, Afghanistan ©Vera Bohle, 2002.

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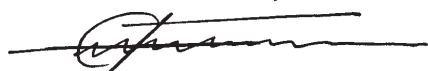
# Foreword

Unexploded ordnance and other remnants of war continue to have a detrimental effect on communities long after the wars have ended. The mandate of the Geneva International Centre for Humanitarian Demining (GICHD) is to support the international community in reducing the impact of mines and unexploded ordnance. This report, *Explosive Remnants of War (ERW) - Information Requirements*, is a contribution to the efforts of the international community to address this important issue.

This report is based on a questionnaire circulated to the clearance community in March and April 2003 to ascertain their information requirements for dealing with ERW. A wide cross-section of organisations, including non-governmental organisations, United Nations programmes, commercial companies and government institutions was included in the survey. The primary criterion for inclusion was current involvement with ERW, as these are actors who will be directly affected should States Parties to the 1980 Convention on Certain Conventional Weapons (CCW) agree on a protocol to deal with ERW.

The report explains the rationale for the questions and presents the individual findings. The conclusion organises and presents the most significant results based on the quantitative analysis conducted by the GICHD. It is evident from the analysis that information plays a significant role in facilitating the clearance of ERW and enabling effective, targeted mine risk education to be implemented.

This report has been prepared with funding from the Canadian Department of Foreign Affairs and International Trade, the New Zealand Ministry of Foreign Affairs and Trade, and the United Kingdom Department for International Development. Their support is gratefully acknowledged. The GICHD is committed to providing technical expertise to the discussions under the CCW whenever States Parties require it.



Ambassador Martin Dahinden  
Director  
Geneva International Centre for  
Humanitarian Demining





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*Mortar bombs awaiting destruction in Somalia.*

# Executive summary

## *The value of information*

Technical, geographic and markings information on munitions are all vital to the success of both clearance and risk education activities. If parties to the conflict do not provide this information, the clearance community will still be forced to commit scarce human and financial resources to obtaining it through survey and research.

## *The format and timing of information to be provided*

It is essential that, if information is provided, it is accurate and presented in a standardised form so that it may contribute directly and rapidly to post-conflict clearance and risk education programmes. Inaccurate information wastes time and resources and delays the implementation of the humanitarian response.

Technical and markings information should ideally be provided ***in advance*** of the end of conflict; geographic information should be provided ***immediately after*** the end of the conflict.

## *The information to be provided*

Information on fuzes and related systems that initiate munitions are seen as the most important field of information. Within that field, the clearance community believes it is critical to know whether anti-disturbance or anti-handling fuzes are present, and if so, what type, and what extent of movement is needed to actuate them.

Geographic information on the use of cluster bomb units, specifically the target coordinates, is seen as more important than for unitary ordnance, such as conventional bombs, artillery-delivered munitions or mortar bombs. Furthermore, cluster munitions as a whole (submunitions, cluster bombs, and bomblets) are deemed by the clearance community as the most hazardous generic class of ERW.

The clearance community views knowledge about munition hazards, including fuel-air explosives, high toxicity and recommended danger areas, as a critical piece of information.

While it is seen as “safety critical” to receive a list of all the types of munitions that have been used in any given conflict, a breakdown of the number of individual rounds fired is only deemed “useful”.





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*UXO amongst the detritus of war, Afghanistan*

# 1. Introduction

**A**ccess to relevant information is vital to the establishment and operational effectiveness of any clearance and risk education programme to alleviate the effects of explosive remnants of war (ERW). Where that information is available, it can have a direct and almost immediate impact on operations, and helps to ensure that the threat from ERW is dealt with efficiently, mitigating the risk for civilians. However, the type and level of information needed will vary depending on the parties to the conflict, nature of the conflict, and the location of ERW. Information, such as the nature of the munitions used and their aim points, is extremely useful to the organisations involved in post-conflict clearance and risk education operations. This information assists in establishing the size of the operation, identification of the assets required for the problem, training requirements, resource mobilisation, and prioritisation of tasks.

The information required to assist clearance and risk education operations is generally available to most military forces. The issue is ensuring that accurate information is released in a timely manner and in a useable format. Failure to release the information by the military means that humanitarian organisations have no alternative but to try to find the answers themselves, as the information is essential to the safety and effectiveness of their work. This inevitably has significant resource implications, not just in terms of cost for field surveys, or in the substantial amount of time involved, but potentially also in human lives and limbs that could otherwise have been saved. Where survey work is required because of the lack of information, the risks are raised that an accident will occur within the civilian community; not knowing or not being informed that a munition has been used can lead to important messages not being passed to the local communities leaving them in greater risk.

Meeting under a mandate from States Parties to the 1980 United Nations Convention on Certain Conventional Weapons (CCW), the Group of Governmental Experts on ERW are discussing the recording and use of information to assist in clearance of ERW and the dissemination of information to civilian populations.<sup>1</sup> The aim of this

1. United Nations, *ERW Framework Paper, Possible structure for an ERW instrument*, Note by the Coordinator on Explosive Remnants of War (ERW), Working Group on Explosive Remnants of War, CCW/GGE/IV/WG.1/WP.1, 28 February 2003, Geneva.

report is to provide input from field operators as to the information they consider most valuable for their work. It also seeks to establish when this information would be required, in what form it should be provided, and through which line of communication it should be passed. The aim is to inform States Parties of what those currently engaged in clearance and risk education operations believe are their information requirements.



©Vera Bohle, 2002.

*ERW comes in various shapes and sizes and as here can be difficult to spot.*

## 2. Methodology

**T**he GICHD has canvassed a wide range of organisations involved in clearance and/or risk education activities with ERW for this report. These included non-governmental organisations, mine action centres, commercial organisations, United Nations (UN) headquarter departments, and military establishments with activity in the field of mine action.<sup>2</sup> Within those organisations, technical advisors or senior management were usually asked to respond to the questionnaire.

The questionnaire itself was divided into three main parts. Half of the questions involved technical information. The remaining questions were equally divided between information requirements on geographic data and munitions markings.<sup>3</sup> A supplementary section was provided for respondents to make any additional comments. For current operations, the distinction between technical, geographic and markings information is blurred, as information from all three areas has some impact on both clearance and risk education activities.

### Presentation of the results

As with any questionnaire the respondents, their experiences, training, background, and organisational culture will bias their answers. To try to counter this, respondents' names are not shown, only their organisations.

In their answers to each question, respondents were asked to choose between: “Not required”, “Important”, “Useful”, “Very important”, and “Safety critical”. However, to simplify analysis and comparison, the results are presented in the main body of the report under three categories as “Critical”, which includes both “Very important” and “Safety critical” responses, “Useful”, which includes “Important” and “Useful”, or “Not required”. This decision is based on discussions with both respondents, and the target audience.<sup>4</sup>

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2. See Appendix 1 for a full alphabetical listing of organisations who responded to the questionnaires.

3. See Appendix 2 for a copy of the questionnaire.

4. A full breakdown of the results is published in Appendix 3.

The definitions of the three categories are as follows:

- **Critical:** Information which is vital for work with ERW and the provision of which can be life-saving.
- **Useful:** Information, which though important, is helpful rather than essential in working with ERW; often of a practical nature, this information will assist operations to be more efficient.
- **Not required:** Information that is not required or would not assist.

For the questions concerning what, when and how information is to be received, a statistical ranking was calculated to determine the order of preference.

## Results of the questionnaire

The results are broken down into the main parts of the questionnaire. For each section an explanation of the questions is provided, and then the results are presented.



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*The amount and variety of different ERW is shown by this abandoned ammunition in Kuwait.*



## 3. Technical information requirements

### Explanation

Technical information relates to details about the physical characteristics of munitions. While primarily useful for the actual clearance of unexploded munitions, whether by destruction, neutralisation or removal, this information is also very useful for the provision of risk education.

#### **How important is a list of all the munitions used in a conflict for preparing a mine action<sup>5</sup> programme?**

Knowledge of this information allows more efficient planning. Clearance organisations can identify the correct equipment and staff and start the preparation of relevant material and training. The implication of this is that it allows clearance organisations to commence operations earlier and more effectively.

#### **How important is it to know by individual types the numbers of rounds fired?**

Knowing this data assists in the prioritisation of planning and provides an indication of the scale of the problem that may be encountered in the field.

#### **How important is it to know the details of the explosive content (warhead) including amount and type of explosive?**

This question is fundamental to ensuring the safety of both mine action personnel and the civilian population. The amount and type of explosive content in a warhead are used to calculate the correct safety distances from the munitions. A danger zone can be established from which civilians can be barred from entering and the correct disposal technique chosen.

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5. The term “mine action” is common throughout the clearance industry and covers both unexploded and abandoned ordnance as well as mines. Due to the commonality of this term it was decided to use what would be clearly understood rather than the term explosive remnants of war which, while diplomatically correct by not including mines, is not common to field users.



**How important is it to know the method of operation of a munition (shaped charge, fragmentation, self-forming fragments)?**

This information has a similar impact to the explosive content, it is extremely useful for calculating safety distances, which protects clearance personnel and civilians. It also means that the correct disposal technique can be chosen.

**How important is it to know details of munition propellants, including the nature (i.e. solid or liquid) and composition?**

Munition propellants can pose a variety of hazards, for example they usually have an explosive nature, they can be toxic and/or corrosive, and stored incorrectly they may pose a significant explosive threat. Details of munition propellants are therefore useful for establishing the correct method of clearance.

**How important is it to know about the details of the fuzing system including method of functioning (contact, proximity, timed, etc)?**

As a rule, munitions found on the battlefield are generally treated as armed. Knowing the method of operation for fuzes allows clearance organisations to operate in a safe manner, and provides them with useful information to estimate the safety of the munition; to know the correct positioning of any destruction charges; or, if necessary, how to move munitions to a demolition point. Further, fuzes themselves are generally very sensitive and can be dangerous even when not placed in a munition.

**How important is it to know about details of any anti-disturbance or anti-handling fuzes, including type and extent of movement to actuate?**

Vital to allow the clearance teams to operate in a safe manner and to help ensure that the correct standing operating procedures are employed.

**How important is it to know about details of any self-destruct mechanisms, including length of active period and anticipated self-destruct date?**

Vital to allow the clearance teams to operate in a safe manner and to help ensure that the correct standard operating procedures are used. Without this information clearance operatives could be injured while working to clear or operating near such munitions which activate their self-destruct mechanism.

**How important is it to know about details of any self-neutralisation systems including likely total munition “life”?**

The threat from self-neutralising munitions is not the same as those that self-destruct (which usually entails some form of initiation to either explode or deflagrate the explosive content). Nevertheless, information on this allows better prioritisation of work and ensures clearance operatives work in a safe manner.

**How important is it to know about the hazards of munitions (unusual compositions such as fuel-air explosives, high toxicity, recommended danger areas)?**

Any information dealing with the hazards of munitions can save time for clearance operations, making them quicker to implement and therefore take effect. For some munitions, the explosives may have a composition which poses particular problems, for example, it may be particularly powerful or the content may be toxic. This knowledge is particularly useful if organisations will need specialist equipment to deal with the hazard.

**Is it more or less important to know if cluster bombs have been used compared to other munitions?**

The previous GICHD report, *Explosive Remnants of War (ERW) – A Threat Analysis*, identified submunitions as one of the highest threats in the post conflict environment. Qualitative evidence shows that submunitions can pose a wide and high threat to civilians, but this question is an attempt to gauge the thoughts of the clearance community on this issue.

**Is it important to know the standard operating procedure<sup>6</sup> for destroying munitions *in situ* (conventional munitions destruction<sup>7</sup>)?**

While most clearance organisations develop their procedures in-house, usually based on former military and field experience, this question aims to show whether those questioned would like the official procedures to be passed to them.

**Would it be more or less important to know neutralisation rather than destruction procedures for munitions to be cleared?**

Generally munitions found in the field are blown up *in situ*, however, this is not always possible. Neutralisation procedures allow munitions to be removed from their location, usually to a central demolition site, so this question is intended to reveal the relative importance of one procedure over another.

**Is there one generic class of munition which is considered the most hazardous, e.g. grenades?**

This is an open-ended question, aimed at eliciting views on which generic class of munitions are considered the most hazardous.



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*Munitions with unusual compositions such as the Fuel-Air Explosive Bomb pose a particular hazard.*

6. “Standard operating procedure” is also commonly known as “standing operating procedure”.

7. “Conventional munitions destruction” refers to the common practice within mine action of destroying ERW *in situ*, usually using a small explosive charge.

## Results for technical information requirements

| Question  | Critical                            | Useful        | Not required |
|---|-------------------------------------|---------------|--------------|
| How important is a list of all the munitions used in a conflict for preparing a mine action programme?  | <b>78.57%</b>                       | 21.43%        | 0.00%        |
| How important is it to know by individual types the numbers of rounds fired?  | 7.14%                               | <b>88.10%</b> | 4.76%        |
| How important is it to know the details of the explosive content (warhead) including amount and type of explosive?                                      | 31.71%                              | <b>60.98%</b> | 7.32%        |
| How important is it to know the method of operation of a munition (shaped charge, fragmentation, self-forming fragments)?                               | <b>78.05%</b>                       | 21.95%        | 10.00%       |
| How important is it to know details of munition propellants, including the nature (i.e. solid or liquid) and composition?                               | <b>58.54%</b>                       | 39.02%        | 2.44%        |
| How important is it to know about the details of the fuzing system including method of functioning (contact, proximity, timed, etc)?                    | <b>95.12%</b>                       | 4.88%         | 0.00%        |
| How important is it to know about details of any anti-disturbance or anti-handling fuzes, including type and extent of movement to actuate?             | <b>100.00%</b>                      | 0.00%         | 0.00%        |
| How important is it to know about details of any self-destruct mechanisms, including length of active period and anticipated self-destruct date?        | <b>92.68%</b>                       | 7.32%         | 0.00%        |
| How important is it to know about details of any self-neutralisation systems including likely total munition "life"?                                    | <b>73.81%</b>                       | 26.19%        | 0.00%        |
| How important is it to know about the hazards of munitions (unusual compositions such as fuel-air explosives, high toxicity, recommended danger areas)? | <b>95.12%</b>                       | 4.88%         | 0.00%        |
| Is it more or less important to know if cluster bombs have been used compared to other munitions?   | <b>78.05%</b>                       | 21.95%        | 0.00%        |
| Is it important to know the standard operating procedure for destroying munitions <i>in situ</i> (conventional munitions destruction)?                  | <b>71.43%</b>                       | 26.19%        | 2.44%        |
| Would it be more or less important to know neutralisation rather than destruction procedures for munitions to be cleared?                               | 41.03%                              | <b>51.28%</b> | 7.69%        |
| Is there one generic class of munition which is considered the most hazardous, e.g. grenades?   | Submunitions/cluster bombs/bomblets | 70.59%        |              |
|   | Depleted uranium <sup>a)</sup>      | 8.82%         |              |
|   | Grenades                            | 8.82%         |              |
|   | Rocket-propelled grenades           | 5.88%         |              |
|   | White phosphorus                    | 5.88%         |              |

a) Depleted uranium (DU) itself is not explosive. However the question referred to hazardous munitions rather than explosive hazardous munitions. A number of respondents perceive a risk from DU and their answers were included in the results for reasons of completeness.

|  |   |
|--|---|
| <p>What form would you like to receive technical information in?<br/> <i>(Please rank your answers in order of importance from 1 – 5)</i></p>  | <p><b>1. Multiple formats including hard and soft copy.</b><br/>                 2. Soft copy on disks or CD-ROM<br/>                 3. Hard copy written with illustrations.<br/>                 4. Via the Internet.<br/>                 5. Other: Non-specified</p>   |
| <p>If you were planning to be involved in a clearance programme after a conflict was finished when would you like to receive technical information on the munitions used?<br/> <i>(Select one answer only)</i></p> | <p><b>Before the end of the conflict: 42.86%</b><br/>                 Immediately after the end of the conflict: 38.10%<br/>                 Would prefer to request the information when we are ready: 7.14%<br/>                 Other (as soon as practical/ information is available): 4.76%<br/>                 One week after the end of a conflict: 2.38%<br/>                 One month after the end of a conflict: 0.00%</p> |
| <p>How would you like to receive information on the technical characteristics of munitions used?<br/> <i>(Please rank your answers in order of importance from 1 – 5)</i></p>                                      | <p><b>1. Via UNMAS.</b><br/>                 2. Via a National Mine Action Centre, once one was established.<br/>                 3. From a specific military liaison officer.<br/>                 4. Via an independent third party such as a neutral international organisation or non-governmental body.<br/>                 5. Via the Internet.</p>  |



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*Even when there is little vegetation, submunitions can be difficult to spot, BLU-97 submunitions in a field in Herat, Afghanistan.*

## 4. Geographical information requirements

### Explanation

Geographic information relates to the location of possible ERW. This can include the aim points for munitions, the site of battles and ammunition dumps. The information allows a more rapid identification of danger areas. Data accuracy helps to ensure that time is not wasted going to unaffected sites. Should this happen on a regular basis, the confidence in the information provided could suffer. The provision of geographic information does not remove the need for survey of affected areas, but it can make the task quicker, thereby increasing the effectiveness of the programme and allowing help to be provided more rapidly.

#### **How important is accurate geographic information for the survey and clearance programme?**

This question relates to the overall programme. The survey and clearance programme are linked as what is discovered during the survey will affect the priorities in the clearance programme. Both these activities are usually a long-term and an ongoing process. The provision of geographic information is not necessarily a single action by one of the parties in the conflict; information may be passed to the clearance organisations as it becomes available.

#### **How important is accurate geographic information for conducting a threat assessment?**

This question relates to the initial stage of establishing a clearance programme to enable prioritisation of where the greatest threat or impact on the civilian population will occur.

#### **Would you like maps of minefields including information on laying patterns and depth, if available?**

Included for comparative purposes, given the provisions made in CCW Amended Protocol II.



**For conventional bombs, how important is the target location?**

Conventional bombs in this context are munitions commonly referred to as unitary bombs; air-delivered, they use a variety of guidance systems and fuzes and are found in a variety of sizes.

**For cluster bomb units how important are the target area coordinates?**

A cluster bomb unit is defined as an expendable aircraft store composed of a dispenser and submunitions.<sup>8</sup> Submunitions are any munition that, to perform its task, separates from a parent munition.<sup>9</sup> The submunitions in cluster bomb units cover a large area.

**For gun-delivered munitions how important are the details of the point of aim or coordinates for artillery?**

For most armies, the use of artillery is very important and in battles artillery rounds are often fired in large volumes which can increase the chance of them being found as unexploded ordnance. It may not be possible to record every round fired, but general strike points or set-piece battles are often recorded. This question was aimed to find out whether clearance organisations were interested in receiving this type of information.

**For mortars, how important are the aim points of the mortars?**

Mortars are common in all armies, in part because they are cheap, easy to use, and flexible in employment. This often means they are employed in large numbers. Mortars are used in a variety of sizes, most commonly from small one-man-operated mortars (around 51mm) to crew-operated systems that are often vehicle-mounted (around 120mm or more). In many clearance programmes, unexploded mortar rounds are a major hazard. The aim of this question was to establish whether clearance organisations would like to receive this information.

**Would target coordinates and/or aim points be useful for other types of ammunition, such as rocket pods, air to air missiles? Please list the generic types e.g. anti-tank missiles.**

This is an open-ended question, aimed at eliciting views on the generic type of munitions for which geographic information would be useful.

8. NATO STANAG, *Glossary of Terms and Definitions*, AAP-6(V) modified version 02 (updated 07.08.2000).

9. *Ibid.*

## Results for geographic information requirements

| Question  | Critical   | Useful        | Not required |
|---|--|---------------|--------------|
| How important is accurate geographic information for the survey and clearance programme?  | <b>88.10%</b>  | 11.90%        | 0.00%        |
| How important is accurate geographic information for conducting a threat assessment?  | <b>76.19%</b>  | 23.81%        | 0.00%        |
| Would you like maps of minefields including information on laying patterns and depth, if available?   | <b>80.49%</b>  | 12.20%        | 0.00%        |
| For conventional bombs how important is the target location?  | <b>52.38%</b>  | 47.62%        | 0.00%        |
| For cluster bomb units how important are the target area coordinates?   | <b>78.57%</b>  | 21.43%        | 0.00%        |
| For gun-delivered munitions how important are the details of the point of aim or coordinates for artillery?   | 40.48%   | <b>57.14%</b> | 2.38%        |
| For mortars, how important are the aim points of the mortars?   | 40.48%   | <b>57.14%</b> | 2.38%        |
| Would target coordinates and/or aim points be useful for other types of ammunition, such as rocket pods, air to air missiles?<br>Please list the generic types e.g. anti-tank missiles. | A variety of munitions were listed by respondents, but there was no clear majority for any one item which, in alphabetical order, included: anti-tank guided weapons, artillery rounds, artillery rockets, bombs (air-delivered), missiles (all types), mortar rounds, rockets and rocket pods, smart munitions. |               |              |
| What form would you like to receive geographic information in?<br><i>(Please rank your answers in order of importance from 1 – 3)</i>   | <b>1. Soft copy compatible with GIS systems such as IMSMA.</b><br>2. Hard copy maps.<br>3. Coordinates (latitude and longitude)  |               |              |
| When would you like to receive geographic information after the end of the conflict?<br><i>(Select one answer only)</i>   | <b>Immediately after the end of the conflict: 78.57%</b><br>Would prefer to request the information when we are ready: 14.29%<br>One week after the end of a conflict: 4.76%<br>One month after the end of a conflict: 2.38%   |               |              |
| How would you like to receive information.<br><i>(Please rank your answers in order of importance from 1 – 4)</i>   | <b>1. Via UNMAS.</b><br>2. Via a National Mine Action Centre once one was established.<br>3. From a specific military liaison officer.<br>4. Via an independent third party such as a neutral international organisation or non-governmental body.   |               |              |



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*Destroyed armoured personnel carriers, Ferqa, Afghanistan.*

## 5. Markings information requirements

### Explanation

Information on marking is used in the survey, risk education and clearance components of the programme. The data helps in three principal ways: to correctly identify the threat; to enable the right techniques to be employed to clear the threat, and to produce and disseminate accurate educational tools to help affected communities recognise and deal with the threat safely. Markings information is therefore used across the entire clearance programme.

#### **How important is it to receive details of dimensions and visual characteristics (shape and colour) of munitions used in a conflict?**

Required for clearance teams to enable accurate and rapid identification of munitions; and for risk education teams to allow the production of the best multi-media to match the threat.

#### **How important is it to know the markings on munitions used in a conflict?**

Required for clearance teams to enable accurate and rapid identification of munitions, particularly useful if uncommon munitions with particular chemical hazards have been used. Risk education teams can use this knowledge in the production of teaching materials. Unlike mines, ERW often lie on the surface, so information on colour, markings, etc, are useful in identifying the threat.

#### **How useful would it be to know the dimensions and visual characteristics of packaging or transporting materials such as clips, spacers, or separators for munitions used in a conflict?**

While packing or transporting materials are in themselves not a danger, because they rarely contain explosive material they are a useful indicator of the use of a munition, providing valuable indicators for the target of weapons and therefore the possible site of unexploded ordnance (UXO).

### How useful would it be to receive information on markings for the clearance programme?

The clearance programme deals with the actual process of finding and removing or destroying ERW.

### How useful would it be to receive information on markings for conducting a threat assessment?

The threat assessment in this context involves possible affected areas and the estimation and survey of where the greatest threats lie.

### How useful is information on marking for compiling a risk education programme?

A risk education programme is a long-term initiative based in the community aimed at promoting the adoption of safer behaviours by at-risk groups and which provides the links between affected communities and other components of the clearance programme.

## Results for markings information requirements

| Question  | Critical | Useful | Not required |
|---|----------|--------|--------------|
| How important is it to receive details of dimensions and visual characteristics (shape and colour) of munitions used in a conflict?   | 50.00%   | 50.00% | 0.00%        |
| How important is it to know the markings on munitions used in a conflict?   | 59.52%   | 40.48% | 0.00%        |
| How useful would it be to know the dimensions and visual characteristics of packaging or transporting materials such as clips, spacers, or separators for munitions used in a conflict? | 14.63%   | 80.49% | 4.88%        |
| How useful would it be to receive information on markings for the clearance programme?  | 45.24%   | 52.38% | 2.38%        |
| How useful would it be to receive information on markings for the conducting a threat assessment?   | 43.90%   | 53.66% | 2.44%        |
| How useful is information on marking for compiling a risk education programme?  | 70.73%   | 29.27% | 10.00%       |

|   |  |
|---|--|
| <p>In what form would you like to receive information on markings?<br/> <i>(Please rank your answers in order of importance from 1 – 5)</i></p> | <ol style="list-style-type: none"> <li>1. <b>Images and written information combined.</b></li> <li>2. Soft copy on CDs.</li> <li>3. Photographs.</li> <li>4. Written information.</li> <li>5. Via an Internet website.</li> </ol>  |
| <p>When would you like to receive information on markings?<br/> <i>(Select one answer only)</i></p>   | <p><b>Before the end of the conflict: 45.24%</b><br/> Immediately after the end of the conflict: 35.71%<br/> Would prefer to request the information when we are ready: 9.52%<br/> Week after the end of a conflict: 4.76%<br/> Other: As soon as practical: 2.38%<br/> One month after the end of a conflict: 0.00%</p>                                 |
| <p>How would you like to receive information?<br/> <i>(Please rank your answers in order of importance from 1 – 5)</i></p>                      | <ol style="list-style-type: none"> <li>1. <b>Via UNMAS.</b></li> <li>2. Via a National Mine Action Centre once one was established.</li> <li>3. From a specific military liaison officer.</li> <li>4. Via an independent third party such as a neutral international organisation or non-governmental body.</li> <li>5. Via an Internet site.</li> </ol> |





*Destroyed BM-21, Ferqa, Afghanistan*

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## 6. General question for technical, geographic and marking information

### Explanation

Different military forces use different systems, both technical and organisational, for recording information. However, the information itself is collected and held consistently across the world's militaries. If information were available to humanitarian organisations in a standardised form, this would be of considerable benefit. The recipients would know how the information would be received and prepare their own information management systems accordingly. It would also help to avoid ambiguity. Information that is passed in a non-standard form often has to be interpreted and re-organised into a useable format, which involves scarce resources and erodes the short-term utility of the information. This question therefore sought to establish whether the clearance community considered it important to receive information in a standard form.

### Result

| Question  | Critical | Useful | Not required |
|---|----------|--------|--------------|
| How important is it that information is received in a standard form, especially where multiple states are involved? | 57.50%   | 45.00% | 2.38%        |



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*BL 755 UXO in Kosovo.*

## 7. Analysis

The results represent a meaningful survey of organisational attitudes on the subject of information requirements for clearance and risk education activities. They also provide an indication of the thematic areas which are of particular interest. However, this survey provides only a broad sweep of the issues, more detailed questions on data which could be included in a technical annex, such as the level of detail released on a fuze, would require further work.

With regard to the timings by which information is received, the consensus is clearly “as soon as possible”, with technical and marking information to be provided in advance and geographic information immediately after the end of the conflict.<sup>10</sup> Several respondents annotated their papers or made supplementary comments that while information must be available quickly they also emphasised the need for accuracy. Information which is not accurate discredits the information source and wastes valuable resources which are deployed to confirm the information only to find no evidence. The programme manager in Kosovo in 1999 comments that “the credibility of the information was affected by glaring inaccuracies, such as survey teams unable to locate any sign of cluster bomb strikes in many areas where they were reported, as well as strikes located many kilometres from any area supposedly affected”.<sup>11</sup>

The form in which information is received depends to some extent on the location and organisational set-up of the programme. While some form of computer-based information management system is the norm, the formats vary.<sup>12</sup> Further, information is required for work in the field, often at some distance from the headquarters, where laptop computers may not be practical. Therefore the top two choices were for choices which involved either hard or soft copy or a multiple format involving both.

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10. For geographic information, the option of receiving information before the end of the conflict was not offered. This decision was made to reflect the realities of the situation, that military forces are generally reluctant to state where they are targeting their munitions while the conflict continues.

11. John Flanagan, *Mitigating the Effects of Cluster Bomb Sub-Munitions*, paper prepared for the International Conference on Explosive Remnants of War & Development, Voices from the Field, 23-25 April 2003, Dublin.

12. In the majority (85 per cent) of national mine action programmes, the GICHD Information Management System for Mine Action (IMSMA) is used. The remaining national programmes and some non-governmental organisations use a mixture of different systems.

Statistically, however, the difference between the top two rankings for all three results were very close, less than 10 per cent separating the results. This suggests that there is a strong preference to receive information in both hard and soft copy. Should States Parties undertake to provide information, it will be important that standard formats are agreed, this was seen as critical.

As to how the information was passed, the preference was through the United Nations Mine Action Service (UNMAS), a mine action centre (MAC), and then via a military liaison officer (MLO). In reality, all three choices usually function simultaneously in the immediate post-conflict phase. It should be noted that other UN organisations, including the United Nations Development Programme (UNDP) the United Nations Children's Fund (UNICEF) and the United Nations Office for Project Services (UNOPS) are also involved in the provision of mine action programmes. However, UNMAS is the UN focal point for mine-related activities, and is responsible for coordinating this work when linked to peacekeeping and emergency situations. While preferences were stated, it is perhaps most important that organisations know who will have this information and how they can get hold of it. UNMAS, MACs or MLOs have to accept and be prepared to respond in a rapid and efficient manner if the information is to be used efficiently. The optimum solution would probably involve a mix of UN, MAC and MLOs, providing an information point to all the key organisations.

## Technical information

If there is one area which is clearly uppermost within the thoughts of the respondents, it is that of fuzes. The representative of Afghan Technical Consultants stated: "Knowledge of fuzing systems can be very important to the explosive ordnance disposal (EOD) operator as ***the fuze is the critical component which determines whether the UXO or UXB [unexploded bomb] functions or not*** and some fuzes can prove to be more sensitive than others. Likewise knowledge of anti-handling, anti-disturbance and self destruction incorporated in the fuzing can prove in certain instances to be 'Safety critical' especially where charge placement is concerned and when planning to clear an area with munitions which may explode unexpectedly as their self destruct times elapse."<sup>13</sup>

This view, that information on fuzes is the critical component, is reflected in the answers to the questionnaires. On the question of how important it is to know about details of any anti-disturbance or anti-handling fuzes, the answer was an unambiguous 100 per cent that this was "Critical". Similarly information on the fuzes method of operation (95.12 per cent - "Critical") and details of any self-destruct mechanism (92.68 per cent - "Critical") also polled very highly.

All the top ranking answers were in the technical information section, with the other high scoring questions concerning information provision about the hazards for munitions (95.12 per cent - "Critical"). While the established hazards of high explosive and conventional munitions are well known, there is a concern to know about new and unusual hazards which may require the acquisition and use of non-standard equipment or the development of new operating procedures.

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13. Supplementary comments made by the representative of Afghan Technical Consultants in their GICHD questionnaire, April 2003, emphasis added.



Also of note was the response to the question whether it is more or less important to know neutralisation rather than destruction procedures for munitions to be cleared (51.28 per cent - “Useful”). There has been considerable debate within the Group of Governments Experts (GGE) on ERW about the provision of what are termed “render safe procedures”. For the military there is a reluctance to provide technical procedures which allow for fuze diagnostics and removal and therefore potential exploitation of munitions. However, the clearance community prefers to dispose of munitions via conventional munitions destruction, which involves the destruction of all or part of the munition, usually using an explosive charge, to inert or destroy the munition. The results show that it is not critical for the clearance community to know the full range of technical options for render safe procedures. This is not to say they are not useful, for example should a large bomb need to be cleared from the middle of a village, or next to a hospital then destruction may not be possible. But the views of the clearance community show a practical understanding of the issues and it is for States Parties to decide what they can do to ensure flexibility for the disposal techniques of ERW.

The final point to be made about technical information relates to the generic class of munition considered most hazardous, which 70.59 per cent considered to be “submunitions, cluster bombs, bomblets”. While quantitative evidence to confirm this has still not been established, except in Kosovo, this result reinforces the qualitative assessment that the GICHD have previously made that submunitions are a high threat munition.<sup>14</sup>

## Geographical information

For geographical information the importance of accuracy was the highest rated answer (88.10 per cent - “Critical”). The next rated answer related to minefield laying patterns and depth. While minefields are not part of the ERW negotiations, the question was included for comparative purposes, the result, however, serves as an aide memoire to the enduring importance of keeping accurate maps on this class of munition.

It is interesting to compare the four questions which ask about the provision of aim points or target area coordinates for conventional bombs, cluster bomb units, gun delivered munitions (artillery) and mortars. Target area coordinates are most important for cluster bomb units, with conventional bombs second. Mortar and artillery coordinates are rated only as “Useful”.

## Markings information

The response on markings had the lowest answers statistically, while respondents agreed that this information was Critical (70.73 per cent) for compiling a risk education programme. No one piece of information on which views were sought resulted in a strong response, the majority of the answers were split around the 50 per cent mark between “Critical” and “Useful”. The one exception to this was information on

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14. An earlier GICHD study, *Explosive Remnants of War: A threat analysis, op. cit.*, sought to identify which munitions posed the greatest threat. Submunitions and anti-personnel mines were identified as a high direct threat, but this was based on comments from field technicians. This study, based on a larger sample, reinforces this qualitative assessment.

packaging and transportation materials for munitions which rated 80.49 per cent but only in the “Useful” category.

The response to some extent can be expected based on the general nature of the questions. Whether markings and visual characteristics are required depends on which munitions are being used: in the technical section 78.57 per cent viewed as “Critical” a list of munitions used in a conflict. While it can be important to know munition markings with unusual and toxic or hazardous contents, for standard munitions, there is remarkable little variance between nations. Risk education techniques do not require people to identify from markings that an item of UXO is a particular type of mortar bomb; rather people need to recognise it as an unexploded mortar bomb and therefore dangerous. EOD technicians need to know that a munition is a particular type, because that will form the basis of their whole procedure to approach the item.

Of the information requirements covered in this report, all are readily available to military forces today. If the information is not provided, humanitarian organisations will have to learn the details the hard way. It is not a question of whether this information is available or not, this knowledge is fundamental to the operational safety and efficiency of a clearance programme. Should States Parties provide accurate information, when needed, in a useable form it will have a direct, almost immediate impact on the clearance programme and help alleviate the humanitarian impact of the civilian population at risk.



## Appendix 1

# List of respondent organisations

Afghan Technical Consultants  
 Albanian Mine Action Executive  
 Armenian Humanitarian Demining Programme  
 Azerbaijan National Agency for Mine Action  
 Baric Consultants Ltd (U.K.)  
 Bosnia and Herzegovina Mine Action Centre  
 Canadian Association for Mines and Explosive Ordnance Security (CAMEO)  
 Canadian International Demining Corps  
 Cranfield Mine Action Centre (U.K.)  
 Danish Demining Group  
 Département d'Expertise et de Formation au Déminage (France)  
 Ethiopia Mine Action Office  
 Eritrea Mine Action Centre  
 Fondation Suisse de Déminage  
 Guinea-Bissau CTA Mine Action Programme  
 HALO Trust (U.K.)  
 Handicap International (Belgium) (Laos Programme)  
 Handicap International (France)  
 Humanitarian Demining Training Centre (U.S.)  
 Independent Mine Action (U.K.)  
 International Committee of the Red Cross  
 International School of Search and Explosive Engineers (U.K.)  
 International Trust Fund (Slovenia)  
 Intersos Mine Action Unit (Italy)  
 Kosovo Mine Action Centre  
 Landmine Action (U.K.)  
 Laos PDR National UXO Programme  
 Lebanon National Demining Office  
 Macedonia UNMAO  
 Mine Awareness Trust (U.K.)  
 Mine Information and Training Centre (MITC) (U.K.)  
 Mines Advisory Group (MAG) (U.K.)  
 Mozambique National Demining Institute  
 Northern Iraq UNOPS MA Programme  
 Organization of American States.  
 REASeuro (Netherlands)  
 Somalia UNDP  
 Sri Lanka UNDP  
 Sudan UNMAS/UNOPS  
 Survey Action Centre (U.S.)  
 UNDP  
 UNMAS  
 United Nations Mission to Ethiopia and Eritrea - Mine Action Centre



*Mortar rounds left unused after a conflict.*

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## Appendix 2

# Blank questionnaire

### **INFORMATION REQUIREMENTS FOR EXPLOSIVE REMNANTS OF WAR - QUESTIONNAIRE**

The answers you provide to these questions will be incorporated into a GICHD report for the negotiations for a possible new protocol on explosive remnants of war being discussed by States Parties to the 1980 UN Convention on Certain Conventional Weapons, in 2003.

The questionnaire is divided into three parts covering information requirements on Technical, Geographical and Markings subjects. These topics have been selected to address specific areas in the forthcoming discussions. The questionnaire is four pages long and should only take 15 minutes to complete. An page is provided for additional comments.

**Position/Organisation:**

**Name:**

(Organisations who complete the questionnaire will be listed but, not individual answers without your permission).

#### **Part 1 - Technical information requirements.**

| <b>Question</b>   | <b>Ranking (Select one answer only)</b>                              |
|---|--|
| How important is a list of all the munitions used in a conflict for preparing a mine action programme?                                      | Not required / Important / Useful / Very Important / Safety Critical |
| How important is it to know by individual types the numbers of rounds fired?  | Not required / Important / Useful / Very Important / Safety Critical |
| How important is it to know the details of the explosive content (warhead) including amount and type of explosive?                          | Not required / Important / Useful / Very Important / Safety Critical |
| How important is it to know the method of operation of a munition (shaped charge, fragmentation, self-forming fragments)?                   | Not required / Important / Useful / Very Important / Safety Critical |
| How important is it to know details of munition propellants, including the nature (i.e. solid or liquid) and composition?                   | Not required / Important / Useful / Very Important / Safety Critical |
| How important is it to know about the details of the fusing system including method of functioning (contact, proximity, timed, etc)?        | Not required / Important / Useful / Very Important / Safety Critical |
| How important is it to know about details of any anti-disturbance or anti-handling fuses, including type and extent of movement to actuate? | Not required / Important / Useful / Very Important / Safety Critical |

|  |   |
|--|---|
| How important is it to know about details of any self-destruct mechanisms, including length of active period and anticipated self-destruct date?   | Not required / Important / Useful /<br>Very Important / Safety Critical   |
| How important is it to know about details of any self-neutralisation systems including likely total munition "life"?   | Not required / Important / Useful /<br>Very Important / Safety Critical   |
| How important is it to know about the hazards of munitions (unusual compositions such as fuel-air explosives, high toxicity, recommended danger areas)?  | Not required / Important / Useful /<br>Very Important / Safety Critical   |
| Is it more or less important to know if cluster bombs have been used compared to other munitions?  | Not required / Important / Useful /<br>Very Important / Safety Critical   |
| Is it important to know the standard operating procedure for destroying munitions in situ (conventional munitions destruction)?  | Not required / Important / Useful /<br>Very Important / Safety Critical   |
| Would it be more or less important to know neutralization rather than destruction procedures for munitions to be cleared?  | Not required / Important / Useful /<br>Very Important / Safety Critical   |
| Is there one generic class of munition which is considered the most hazardous, e.g. grenades?  | <b>Write your answer here:</b>  |
| What form would you like to receive technical information in?  | <input type="checkbox"/> Hard copy written with illustrations.<br><input type="checkbox"/> Soft copy on disks or CD-ROM<br><input type="checkbox"/> Multiple formats including hard and soft copy.<br><input type="checkbox"/> Via the internet.<br><input type="checkbox"/> Other: _____   |
| <b>(Please rank your answers in order of importance from 1 to 5)</b><br>If you were planning to be involved in a clearance programme after a conflict was finished when would you like to receive technical information on the munitions used? | <input type="checkbox"/> Before the end of the conflict.<br><input type="checkbox"/> Immediately<br><input type="checkbox"/> One week after the end of a conflict.<br><input type="checkbox"/> One month after the end of a conflict.<br><input type="checkbox"/> Would prefer to request the information when we are ready.<br><input type="checkbox"/> Other: _____ |
| <b>(Select one answer only)</b><br>How would you like to receive information on the technical characteristics of munitions used.   | <input type="checkbox"/> From a specific military liaison officer.<br><input type="checkbox"/> Via UNMAS<br><input type="checkbox"/> Via a National Mine Action Centre, once one was established.   |

|   |  |
|---|--|
| <p><b>(Please rank your answers in order of importance from 1 to 6)</b></p> | <p>— Via an independent third party such as a neutral international organization or non-governmental body.<br/>                 — Via the internet<br/>                 — Other: _____</p> |
|---|--|

**Part 2 - Geographical information requirements?**

| Question   | Ranking (Select one answer only)                                     |
|--|--|
| How important is accurate geographic information for the survey and clearance programme?                     | Not required / Important / Useful / Very Important / Safety Critical |
| How important is accurate geographic information for conducting a threat assessment?                         | Not required / Important / Useful / Very Important / Safety Critical |
| Would you like maps of minefields including information on laying patterns and depth, if available?          | Not required / Important / Useful / Very Important / Safety Critical |
| For conventional bombs how important is the target location?   | Not required / Important / Useful / Very Important / Safety Critical |
| For cluster bomb units how important are the target area co-ordinates?                                       | Not required / Important / Useful / Very Important / Safety Critical |
| For gun delivered munitions how important are the details of the point of aim or co-ordinates for artillery? | Not required / Important / Useful / Very Important / Safety Critical |
| For mortars, how important are the aim points of the mortars?  | Not required / Important / Useful / Very Important / Safety Critical |

|  |  |
|--|--|
| <p>Would target co-ordinates and/or aim points be useful for other types of ammunition, such as rocket pods, air to air missiles? Please list the generic types e.g. Anti-tank missiles.</p> <p>What form would you like to receive geographic information in?</p> <p><b>(Please rank your answers in order of importance from 1 – 3)</b></p> <p>When would you like to receive geographic information after the end of the conflict?</p> <p><b>(Select one answer only)</b></p> | <p><b>Write your answer here:</b></p> <ul style="list-style-type: none"> <li>— Hard copy maps.</li> <li>— Coordinates (latitude and longitude)</li> <li>— Soft copy compatible with GIS systems such as IMSMA</li> </ul>   |
| <p>How would you like to receive information.</p> <p><b>(Please rank your answers in order of importance from 1 – 4)</b></p>   | <ul style="list-style-type: none"> <li>o Immediately</li> <li>o One week after the end of a conflict.</li> <li>o One month after the end of a conflict.</li> <li>o Would prefer to request the information when we are ready.</li> </ul>   |
|  | <ul style="list-style-type: none"> <li>— From a specific military liaison officer.</li> <li>— Via UNMAS</li> <li>— Via a National Mine Action Centre once one was established.</li> <li>— Via an independent third party such as a neutral international organization or non-governmental body.</li> </ul> |

**Part 3 - Markings information requirements?**

| Question   | Ranking (Select one answer only)  |
|--|---|
| <p>How important is it to receive details of dimensions and visual characteristics (shape and colour) of munitions used in a conflict?</p>   | <p>Not required / Important / Useful / Very Important / Safety Critical</p> |
| <p>How important is it to know the markings on munitions used in a conflict?</p>   | <p>Not required / Important / Useful / Very Important / Safety Critical</p> |
| <p>How useful would it be to know the dimensions and visual characteristics of packaging or transporting materials such as clips, spacers, or separators for munitions used in a conflict?</p> | <p>Not required / Important / Useful / Very Important /</p>                 |



|  |   |  |
|--|---|--|
|  |   | Safety Critical  |
| How useful would it be to receive information on markings for the clearance programme?   |   | Not required / Important / Useful / Very Important / Safety Critical |
| How useful would it be to receive information on markings for the conducting a threat assessment?                                      |   | Not required / Important / Useful / Very Important / Safety Critical |
| How useful is information on marking for compiling a risk education programme?   |   | Not required / Important / Useful / Very Important / Safety Critical |
| In what form would you like to receive information on markings?<br><b>(Please rank your answers in order of importance from 1 – 5)</b> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Images and written information combined.</li> <li><input type="checkbox"/> Photographs</li> <li><input type="checkbox"/> Written information</li> <li><input type="checkbox"/> Soft copy on CDs</li> <li><input type="checkbox"/> Via an Internet website.</li> </ul>   |  |
| When would you like to receive information on markings?<br><b>(Select one answer only)</b>   | <ul style="list-style-type: none"> <li><input type="radio"/> Before the end of the conflict</li> <li><input type="radio"/> Immediately after the end of the conflict.</li> <li><input type="radio"/> One week after the end of a conflict.</li> <li><input type="radio"/> One month after the end of a conflict.</li> <li><input type="radio"/> Would prefer to request the information when we are ready.</li> </ul>   |  |
| How would you like to receive information?<br><b>(Please rank your answers in order of importance from 1 – 5)</b>                      | <ul style="list-style-type: none"> <li><input type="checkbox"/> From a specific military liaison officer.</li> <li><input type="checkbox"/> Via UNMAS</li> <li><input type="checkbox"/> Via a National Mine Action Centre once one was established.</li> <li><input type="checkbox"/> Via an independent third party such as a neutral international organization or non-governmental body.</li> <li><input type="checkbox"/> Via an Internet site</li> </ul> |  |

**General Question for Technical, Geographic and Marking Information:**

|   |   |
|---|---|
| How important is it that information is received in a standard form, especially where multiple states are involved? | Not required / Important /<br>Useful /<br>Very Important / Safety<br>Critical |
|---|---|

**Are there any other comments you would like to make about your information requirements for explosive remnants of war, either technical, geographical or markings related or some other issue? Continue on a separate sheet if necessary.**



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## Appendix 3

# Complete breakdown of results

## Technical requirements

|                 |   |   |  |   |  |   |  |
|-----------------|---|---|--|---|--|---|--|
|                 | Importance of a list of munitions for preparing a mine action programme | Importance of number of rounds fired by individual types        | Importance of the explosive content                  | Importance of knowing the method of operation of a munition | Importance of knowing the details of a munition                | Importance of knowing about the fuzing system                                 | Importance of knowing the details of any anti-disturbance or anti-handling fuzes |
| Safety critical | 30.95%  | 0.00%   | 19.51%   | 39.02%  | 29.27%   | 75.61%  | 87.80%   |
| Very important  | 47.62%  | 7.14%   | 12.20%   | 39.02%  | 29.27%   | 19.51%  | 12.20%   |
| Important       | 9.52%   | 16.67%  | 26.83%   | 9.76%   | 4.88%  | 0.00%   | 0.00%  |
| Useful          | 11.90%  | 71.43%  | 34.15%   | 12.20%  | 34.15%   | 4.88%   | 0.00%  |
| Not required    | 0.00%   | 4.76%   | 7.32%  | 0.00%   | 2.44%  | 0.00%   | 0.00%  |
|                 | Importance of knowing details of any self-destruct mechanism            | Importance of knowing the details of self-neutralisation system | Importance of knowing about the hazards of munitions | Importance of knowing if cluster bombs have been used       | Importance of knowing the SOP for destroying munitions in situ | Importance of knowing about neutralisation rather than destruction procedures |  |
| Safety critical | 60.98%  | 28.21%  | 70.73%   | 17.07%  | 36.59%   | 7.69%   |  |
| Very important  | 31.71%  | 51.28%  | 24.39%   | 60.98%  | 36.59%   | 33.33%  |  |
| Important       | 4.88%   | 7.69%   | 0.00%  | 9.76%   | 7.32%  | 15.38%  |  |
| Useful          | 2.44%   | 20.51%  | 4.88%  | 12.20%  | 19.51%   | 35.90%  |  |
| Not required    | 0.00%   | 0.00%   | 0.00%  | 0.00%   | 2.44%  | 7.69%   |  |

## Geographic information requirements

|                 | Importance for the survey and clearance | Importance for threat assessment programme | Availability of maps of minefields | Importance of the target location for conventional bombs | Importance of the target co-ordinates for cluster bombs | Importance of the details of the co-ordinates for artillery | Importance of the aim points for mortars |
|-----------------|---|--|------------------------------------|--|---|---|--|
| Safety critical | 23.81%                                  | 15.38%                                     | 14.63%                             | 2.38%  | 26.19%  | 2.38%   | 2.38%                                    |
| Very important  | 64.29%                                  | 61.90%                                     | 65.85%                             | 50.00%   | 52.38%  | 38.10%  | 38.10%                                   |
| Important       | 4.76%                                   | 11.90%                                     | 2.44%                              | 14.29%   | 7.14%   | 16.67%  | 11.90%                                   |
| Useful          | 7.14%                                   | 11.90%                                     | 17.07%                             | 33.33%   | 14.29%  | 40.48%  | 45.24%                                   |
| Not required    | 0.00%                                   | 0.00%                                      | 0.00%                              | 0.00%  | 0.00%   | 2.38%   | 2.38%                                    |

## Markings information requirements

|                 | Details of dimensions and visual characteristics of munitions | Markings on munitions | Details of dimensions and visual characteristics of packaging.... | Information on markings for the clearance programme | Information on markings for the conducting of a threat assessment | Information on marking for compiling a risk education programme | Importance of information received in a standard form |
|-----------------|---|-----------------------|---|---|---|---|---|
| Safety critical | 7.14%   | 30.95%                | 2.44%   | 11.90%  | 7.32%   | 17.07%  | 7.69%   |
| Very important  | 42.86%  | 28.57%                | 12.20%  | 33.33%  | 36.59%  | 53.66%  | 51.28%  |
| Important       | 16.67%  | 14.29%                | 12.20%  | 26.19%  | 7.32%   | 14.63%  | 7.69%   |
| Useful          | 33.33%  | 26.19%                | 68.29%  | 26.19%  | 46.34%  | 14.63%  | 35.71%  |
| Not required    | 0.00%   | 0.00%                 | 4.88%   | 2.38%   | 2.44%   | 0.00%   | 2.38%   |



## General question for technical, geographic and marking information

|                 | Importance of receiving information in a standard form |
|-----------------|--|
| Safety critical | 7.69%  |
| Very important  | 51.28%   |
| Important       | 7.69%  |
| Useful          | 35.71%   |
| Not required    | 2.38%  |



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*Marked ERW in Herat, Afghanistan.*

# Glossary

|        |   |
|--------|---|
| CCW    | Convention on Certain Conventional Weapons            |
| DU     | depleted uranium                                      |
| EOD    | explosive ordnance disposal                           |
| ERW    | explosive remnants of war                             |
| GGE    | Group of Government Experts                           |
| GICHD  | Geneva International Centre for Humanitarian Demining |
| IMSMA  | International Mine Action Standards                   |
| MAC    | Mine Action Centre                                    |
| MLO    | military liaison officer                              |
| RPG    | rocket-propelled grenade                              |
| UN     | United Nations  |
| UNDP   | United Nations Development Programme                  |
| UNICEF | United Nations Children's Fund                        |
| UNMAS  | United Nations Mine Action Service                    |
| UNOPS  | United Nations Office for Project Services            |
| UXB    | unexploded bomb                                       |
| UXO    | unexploded ordnance                                   |

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