

## Strategic Insight

### Explosive Remnants of War: The Problem

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#### Introduction

"We really have to watch where ... we're walking. We limited our night movement because of the unexploded ordnance up on ... this ridge."[\[1\]](#)

US troops who were engaged in eastern Afghanistan to search out and destroy the caves used by Al-Qaeda and Taliban forces described the area as being littered with US cluster bombs and unexploded ordnance, which caused great danger to troops as they searched the peak.[\[2\]](#)

Recent studies of contemporary conflicts[\[3\]](#) have shown that the threat posed by Explosive Remnants of War (ERW)[\[4\]](#) to the civil population as well as to peace keeping forces is of great humanitarian concern. Because of a lack of specific legal regulations on the issue of ERW, a large number of innocents have been killed or injured by ERW after conflicts have ended. Since the late 1990s, the issue of ERW has been listed on the agendas and comprehensively discussed during several conferences of experts and Meetings of States Parties to the Convention on Certain Conventional Weapons (CCW).[\[5\]](#) However, the latest discussions have shown that there is still a lack of basic understanding of how imminent the threat is and how to deal with it.

#### Explosive Remnants of War Defined

During the last meetings of the Governmental Group of Experts to the CCW, several States proposed elements for a comprehensive definition of ERW. The Coordinator of this Group put forward a proposal with the following language[\[6\]](#):

"Explosive Remnants of War means unexploded ordnance[\[7\]](#) and abandoned explosive ordnance with the exception of anti-personnel mines, booby-traps, other devices and mines other than anti-personnel mines as defined in Protocol II as amended on 3 May 1996."

This proposal reflects to a greater extent the broad understanding of most of the States Party to the CCW. However, although abandoned explosive ordnance are covered by this definition, one has to take into account that dangerous ERW normally represent types of munitions which have been primed, fused, armed or otherwise prepared for use or have in fact been used.[\[8\]](#) Abandoned munitions which are generally stored or lost but have not been primed, fused armed or otherwise prepared for use and have not been fired do not pose an immediate threat and thus, should not be considered as an important ERW issue. Too broad a definition could lead to a vague understanding which could have a negative impact on efforts to implement a new legally binding instrument. Accordingly, negotiators should keep their focus on a clear and implementable definition by focusing on ordnance which cause a direct and imminent threat.

## The Humanitarian Challenge

Every year, a great number of civilians, humanitarian aid workers, members of international organizations and peace keeping troops are killed or injured by unexploded ordnance after a conflict has ended—unexploded ordnance which no longer serve any military purpose. According to a recent ICRC study on the impact of Cluster Bombs and Landmines in Kosovo, Cluster Bomb sub-munitions,<sup>[9]</sup> landmines and other unexploded ordnance killed or injured nearly 500 people in the year immediately following the end of the conflict. This figure corresponds to an annual rate of about 31 victims per 100,000 in civilian populations.<sup>[10]</sup> Another report which analyzed and compared unexploded ordnance and landmine accidents in Kosovo indicates that from June 1999 to May 2001 unexploded ordnance caused a greater proportion of deaths than landmines.<sup>[11]</sup> While men are the most common victims of landmine accidents, about 61% of all unexploded ordnance accidents (excluding mines) affected children.<sup>[12]</sup> Laos, a particularly impacted country, still suffers the effect of unexploded ordnance nearly 30 years after the end of the conflict there. Since 1973, approximately 11,000 people have been killed or injured because of ERW.<sup>[13]</sup>

However, civilians are not the only ones faced with the threat of ERW. During the 1991 Gulf War, the U.S. Armed Services recorded 177 accidents by unexploded ordnance, representing 13% of all US military casualties. Some 80 accidents were caused by unexploded cluster munitions.<sup>[14]</sup>

In addition to the physical suffering, ERW have a severe negative impact on the local social and economical environment. Because of the everyday threat, agricultural land can no longer be tilled, many farmers lose their income and become dependent on external aid.<sup>[15]</sup> The presence of ERW hampers reconstruction efforts, and threatens international aid.<sup>[16]</sup> The repatriation of refugees becomes a difficult and dangerous task. Although repatriation has occurred quickly in Afghanistan,<sup>[17]</sup> insecurity regarding the refugee's safe return has increased. Further complicating the issue, many refugees appear undaunted by the news they receive from their often devastated communities regarding unexploded ordnance.<sup>[18]</sup>

## The Military Challenge

The today's humanitarian threat caused by ERW is mainly the result of the use of highly explosive conventional munitions such as sub-munitions from cluster bomb systems, artillery shells or mortars, which do not explode after impact and thus litter the battlefield.<sup>[19]</sup> Large unitary bombs cause a problem but do not pose an imminent threat after the conflict.

Although these munitions are a cause for humanitarian concern, they have a high military utility mainly because of the combination of powerful explosives and very sensitive fusing systems. With their highly explosive components, these ordnance can be deployed against armored as well as soft targets. In addition, with cluster ammunition systems it is possible to cover a great area with heavy fire within a short time using fewer rounds, thus increasing combat effectiveness. For example, a 60 second cluster bomb strike by one single multiple launch rocket system (MLRS) can deliver almost 8,000 sub-munitions and the coverage achieved is considered sufficient to neutralize a 500m x 500m target (comparable to an area of 30 soccer fields).<sup>[20]</sup>

However, to have efficient munitions (and thus a high military value), the ordnance needs to have a high reliability. "A weapon that does not carry out the military task for which it is intended can never be the most effective weapon".<sup>[21]</sup> Additionally, it is important for the military that their weapons do not have a negative impact on further actions. A high dud rate of any explosive munitions used can hinder the success of future ground operations.<sup>[22]</sup> By introducing sophisticated types of munitions such as sub-munitions with back-up systems (e.g. self-destruction or self-deactivation mechanisms)<sup>[23]</sup> combat effectiveness can be increased and the safety of friendly forces during combat operations (as well as of peacekeepers) can be

enhanced.<sup>[24]</sup> In addition, the risk to civilians in post-conflict environments could be substantially reduced.

## Interim Conclusions

The information outlined above shows that ERW pose an imminent threat in post-conflict reconstruction. Within the international community there is no question about the need for a new international instrument which reduces the threats caused by ERW. However, as stated, the munitions concerned also have a high military value. Thus, a new instrument has to balance both the humanitarian and the military aspects. The Convention on Certain Conventional Weapons is a framework that allows negotiators to pay attention to the basic idea of International Humanitarian Law, the balance between humanitarian concerns and military necessities. Therefore, putting this issue on the CCW agenda was not only the right decision but an important one.

The ERW challenge is broad and comprehensive. The tasks faced in the aftermath of war (i.e. the clearing of contaminated areas, the medical care of victims as well as the reconstruction efforts) are long-lasting and resource intensive. The CCW Meeting of State Parties decided last December to solve the ERW problem by dealing mainly with post-conflict measures.<sup>[25]</sup> However, the ERW threat is caused by the use of certain types of munitions.

The post-conflict approach is certainly not a wrong approach. But it has to be emphasized that post-conflict measures do not reduce the amount of unexploded ordnance created during and directly after a conflict, thus, they do not directly reduce the danger. The only direct way to reduce the number of duds is by implementing new regulations regarding the reliability of munitions concerned. By improving the reliability of certain types of high explosives—by implementing preventive technical<sup>[26]</sup> as well as preventive generic measures<sup>[27]</sup>—the great number of unexploded munitions left in the field would be immediately reduced, and that would be in the interest of humanitarian agencies as well as the military.

\*PART II [Explosive Remnants of War: The Way Forward](#)\*

*For more topical analysis from the CCC, see our [Strategic Insights](#) section.*

*For related links, see our [WMD Resources](#)*

## References

1. According to a CBS report during Operation Anaconda in Afghanistan in March 2002, CBS News Transcript, March 18, 2002.
2. Agence France Presse, March 16, 2002.
3. See among others Geneva International Centre for Humanitarian Demining, Explosive Remnants of War (ERW): A Threat Analyses, Geneva 2002; ICRC, Executive Summary, Explosive Remnants of War: The impact of Cluster Bombs and Landmines in Kosovo, Geneva 2000; Landmine Action, [Explosive Remnants of War: Unexploded Ordnance and Post-conflict Communities](#), London 2002.
4. The term ERW has been widely used in discussions of the negotiations of the Convention on Certain Conventional Weapons (CCW). Although the term has not been yet clearly defined, it has been suggested that it corresponds to 'unexploded ordnance' which as itself been defined within the International Mine Action Standards: "Explosive ordnance that has been primed, fused, armed or otherwise prepared for use or used. It may have been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason.", see Geneva International Centre for Humanitarian Demining, Explosive Remnants of War (ERW): A Threat Analyses, Geneva 2002.
5. See Center for Contemporary Conflict, *Strategic Insight*, [The Convention on Certain](#)

[Conventional Weapons](#) by Roman Hunger, March 2003.

6. See ERW Framework Paper from the CCW Coordinator on Explosive Remnants of War to the States Parties to the CCW, article 3, Version 11 February 2003.

7. "Explosive ordnance that has been primed, fused, armed or otherwise prepared for use or used. It may have been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason", see International Mine Action Standards (IMAS) 4.10 Glossary, First Edition 01 October 2001, see also footnote 3.

8. See footnote 3 and 7.

9. A cluster bomb is a metal canister, containing dozens or hundreds of high-explosive sub-munitions or bomblets, that can be dropped from an aircraft or fired by artillery. At a pre-set altitude or after a specific time delay, the canister opens and ejects the sub-munitions into the air. These sub-munitions then fall to the ground and explode on impact. According to their high explosive force and therefore the possibility to attack armored as well as soft targets (troops), sub-munitions have a high military value, see Eric Prokosch, Cluster Weapons, Papers in the theory and practice of Human Rights, Number 15, University of Essex, Colchester 1995.

10. In northwest Cambodia, a severely mine affected area, the rate was 61 casualties per 100000, see ICRC, Explosive Remnants of War: The impact of Cluster Bombs and Landmines in Kosovo, Geneva 2000.

11. Landmines caused about 13% of deaths while unexploded Cluster sub-munitions specifically are responsible for almost 32%, see Landmine Action, [Explosive Remnants of War: Unexploded Ordnance and Post-conflict Communities](#), page 18, London 2002.

12. See footnote 11.

13. See Official Statement by the ICRC, Explosive Remnants of War: Negotiations on a new instrument in 2003, Geneva, January 2003.

14. See U.S. General Accounting Office, "GAO-02-1003", page 15 and 17. figure 2, outlined by a Human Rights Watch Briefing Paper, Cluster Munitions a Foreseeable Hazard in Iraq, March 2003.

15. According to the UN Mine Action Program in Afghanistan, unexploded ordnance cover 724 million square meters of land, of this, some 344 million square meters are high priority land for clearance, see UNHCR News, U.N. to clean up U.S. explosives in Afghanistan, March 2003.

16. "There were 23 families living in Koshare, Kosovo, and it was a good life with many cattle, crops and fruit—but mines and bombs have been the death of that community." a Kosovar knows to tell, see Landmine Action, [Explosive Remnants of War: Unexploded Ordnance and Post-conflict Communities](#), page 34, London 2002

17. "Less than five months following the start of the joint facilitated return program in March 2002, more than 1.3 million refugees returned with INHCR assistance.", see UNHCR, Afghanistan at a Glance, 27 March, 2002.

18. See UNHCR, Afghanistan at a Glance, 27 March, 2002.

19. According to several reports from recent theatres of war, like Kosovo or the Gulf region, the estimated failure rate of sub-munitions was between 5 and 15%. NATO's own estimate was 10%. See ICRC, International Review of the Red Cross, No. 841, p. 198, by P. Herby and A. R. Nuiten, Geneva 2001.

20. See "[The Website for Defence Industries—Army](#)"

21. See UK Working Paper to the 3rd PrepCom of the 2nd CCW Review Conference, ERW: the military & humanitarian objectives of addressing unexploded remnants of war (UXO), September 2001.

22. According to a CBS report during Operation Anaconda in Afghanistan in March 2002, a US soldier told the reporter the following: "We really have to watch where ... we're walking. We limited our night movement because of the unexploded ordnance up on ... this ridge." CBS News Transcript, March 18, 2002.

23. See Chapter 2, para "A New Legally Binding Instrument". Also see, Discussion Paper presented by Switzerland on technical improvements and other measures for relevant types of munitions, including sub-munitions, which could reduce the risk of such munitions becoming ERW, May 2002, UN Doc CCW/GGE/I/WP.4.

24. See Presentation by the US Delegation to the CCW Group of Governmental Experts, US sub-munitions reliability policy, December 2002.

25. See for more details the final report of the 2002 Meeting of States Parties to the CCW, UN Doc CCW/MSP/2002/2, or Center for Contemporary Conflict, *Strategic Insight, [The Convention on Certain Conventional Weapons](#)* by Roman Hunger, March 2003.

26. E.g. self-destruction or self-deactivation mechanisms. See Chapter 2, para "A New Legally Binding Instrument".

27. E.g. ammunition management; see for more details Discussion Paper presented by Switzerland on technical improvements and other measures for relevant types of munitions, including sub-munitions, which could reduce the risk of such munitions becoming ERW, May 2002, UN Doc CCW/GGE/I/WP.4.