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A Primer on Explosive Remnants of War

This primer reviews the legal and functional understandings regarding explosive remnants of war, particularly after the adoption of Protocol V in the Convention on Certain Conventional Weapons. It examines the tensions between the legal definition of ERW and the reality on the ground, and recommends clarifying the terms that bind post-conflict clearance efforts to ensure the greatest effectiveness of those campaigns.

By Danielle Ressler | MIne Action Information Center

While using weapons during a conflict is a military decision, modern combat operations have introduced a dilemma: what to do with explosive remnants of war that remain after a conflict ends. Such weapons not only threaten the post-conflict safety of civilians and military personnel but can also be a major impediment to economic development. This primer on ERW provides an overview of the changing definition of ERW, reports what is currently included in the term ERW and argues that the way ahead for post-conflict stabilization and development will require a clarification and agreement on these terms if the challenge is to be answered effectively.

Working Toward a Definition of ERW

Prior to November 2003, there was no formal legal definition for ERW. It was often treated as a synonym for unexploded ordnance, which the International Mine Action Standards have defined as explosive ordnance that has been primed, fused, armed or otherwise prepared for use but has not been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason. The IMAS defines explosive ordnance as "all munitions containing explosive, nuclear fusion or fission materials, biological and chemical agents." The IMAS definition of explosive ordnance presents a more extensive scope of munitions than most groups involved with mine/ERW clearance would use, as it encompasses nuclear, biological and chemical weapons. A more pragmatic explanation of ERW is exemplified in an International Review of the Red Cross article, which included in its definition of unexploded munitions “anti-personnel mines, which are widely prohibited, as well as anti-tank mines, submunitions from air-borne cluster bomb or land-based systems and other unexploded ordnance.” In general, the term ERW was open for interpretation regarding what munitions or ordnance might be included, and entailed anything from APMs to submunitions or “other UXO.”

Pursuit for legal regulation of ERW under humanitarian law has been spearheaded primarily by the International Committee of the Red Cross, Landmine Action U.K. and the Geneva International Centre for Humanitarian Demining. In particular, cluster-bomb submunitions have been of increasing concern. In a 2000 study on Kosovo, the ICRC reported that cluster bomblets had an estimated overall failure rate of between 10 and 15 percent. Landmine Action U.K. reported that in Kosovo between 1999 and 2001, while landmines caused about 13 percent of civilian deaths, unexploded cluster-bomb submunitions presented a larger threat, contributing to almost 32 percent of deaths. Some observed that the likelihood of munitions malfunctions was increasing through “the rapidly expanding use of mass-produced cluster munitions, the increased reliance on highly sensitive micro-electronics in munitions and fuses, and quality-control problems in the defense industry.”

Proposers for international regulation of ERW advocated the addition of a protocol to the 1980 Convention on Certain Conventional Weapons to address humanitarian concerns. After over a year of discussion and preparation, CCW Protocol V was adopted Nov. 28, 2003. Protocol V requires states to clear future ERW and to work together to “clear existing unexploded ordnance or abandoned ammunition, which can already be found in more than 80 countries.” This includes taking all feasible precautions to protect civilians from ERW dangers as well as recording and sharing post-conflict ERW location information for clearance. While not yet in force, Switzerland and Liechtenstein recently deposited instruments of ratification on May 12, 2006 to reach the necessary 20 States Parties to the Protocol, a condition for coming into force as a legally binding accord.

A Legal Definition of ERW

Protocol V presents a legal precedent for defining explosive remnants of war. It defines ERW as “unexploded ordnance and abandoned explosive ordnance.” Protocol V defines UXO using the IMAS’ standard definition as previously cited; thus the first part of this new legal definition of ERW differs little from older understandings of ERW-as-UXO. However, Protocol V’s definition of ERW provides two important modifications to popular understanding of ERW-as-UXO.

The first noteworthy aspect is the second part of the legal ERW definition, as “abandoned explosive ordnance.” Protocol V defines AXO as “explosive ordnance that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. Abandoned explosive ordnance may or may not have been primed, fused, armed or otherwise prepared for use.” This means that not only can ERW be understood traditionally as resulting from the failure of weapons (UXO), but it can also be understood as explosive ordnance that was not used at all. AXO may range from “a few rounds of ammunition or a grenade left on the body of a dead soldier to entire ammunition dumps abandoned (frequently in a great hurry) by a retreating force.”

The second significant caveat is what even as CCW Protocol V legally defines what ERW is, it also specifically states what ERW is not, due to separate obligations under CCW. Amended Protocol II. When defining the jurisdiction under which the term ERW can now be applied in international humanitarian law, Protocol V defines explosive ordnance (the common characteristics of all ERW) as “conventional munitions containing explosives, with the exception that there is a prevailing depiction of what actual physical ordnance is considered to be “explosive remnants of war” or how ERW clearance should be managed. Herein lies a potentially problematic gap between the understanding of ERW such as expanded legal obligations for clearance and an understanding of effective clearance operations.

In attempting to understand this practical definition of ERW more clearly, this article examines an analytical model published by the Geneva International Centre for Humanitarian Demining in 2001 and 2002. Rather than focusing on a legal or technical understanding of ERW, the GICHD examined ERW in practical terms of what might present an “explosive threat in post-conflict environments” and explicitly argued that ERW was a broader term than simply UXO. The
The possible aspect of on-the-ground ERW contamination is UXO (as defined by due to the highly explosive nature of these weapons. Table 1 lists an array of possible UXO that might be found on the ground after a conflict.1 However, under Protocol V, APMs and AVs are no longer legally defined as ERW as they are codified separately and exclusively in CCW Amended Protocol II or the Ottawa Convention; thus, mines are not included in Table 1.

<table>
<thead>
<tr>
<th>Aircraft bombs</th>
<th>&quot;Crude&quot; missiles</th>
<th>Minelike</th>
<th>Small-arms ammunition</th>
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<tbody>
<tr>
<td>Artillery shells</td>
<td>Electro-explosive devices</td>
<td>Mortar rounds</td>
<td>Submunitions</td>
</tr>
<tr>
<td>Ballistic missiles</td>
<td>Field artillery ammunition</td>
<td>Mortar shells</td>
<td>Tank ammunition</td>
</tr>
<tr>
<td>Bomblets</td>
<td>Free-flight rockets</td>
<td>Propellant-actuated devices</td>
<td>Torpedoes</td>
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<tr>
<td>Bombs</td>
<td>Gravity bombs</td>
<td>Pyrotechnics</td>
<td>Unmanned aerial vehicles</td>
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<tr>
<td>Cannon ammunition</td>
<td>Grenades</td>
<td>Rocket ammunition</td>
<td>Warheads</td>
</tr>
<tr>
<td>Cluster-bomb units</td>
<td>Guided missiles</td>
<td>Rocket motors and fuel</td>
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</tbody>
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This highlights a core tension between the functional and legal mandates. Although ERW does not legally include mines, they are still highly explosive munitions, a danger to civilians and military personnel, and functionally an explosive remnant of war. Additionally, Protocol V does not include chemical, biological or nuclear weapons and ordnance; however, many of the possible UXO of UXO listed in Table 1 such as warheads and grenades might very well have such properties, again presenting exis-tence of a practical interrelatedness of weapons both included and noted under Protocol V.

Abandoned armored fighting vehicles. The GICHD describes explosive ordnance disposal of abandoned AFVs2 in a defunct national control, they would not be defined as ERW as they are not abandoned; caches, if understood to be abandoned to be handed over by state actors and then abandoned, could be considered ERW and might include any explosive ordnance except mines, booby traps and IDEs. The key is that they are explosive and not under the control of the party that left them behind or dumped them.

Tension between Legal and Functional Definitions

The existence of a tension between legal and functional definitions of ERW quickly becomes clear when examining the "exception"—mines, booby traps and IDEs/other devices—to ERW as it is legally defined. The pattern found when comparing ERW as explosive threat with ERW by legal definition reflects a paradoxical reality: while mines, booby traps and IDEs cannot be legally defined in Protocol V as ERW, practically they are all highly explosive. The philosophical argument that mines are “different” from UXO and AXO because when exploded they have fulfilled their function (as opposed to failing to explode (UXO) or never being used (AXO)) does not carry over with any importance into functional clearance in a post-conflict setting. For example, mines can be found on the ground amidst other UXO, may be emplaced around AFVs, and can be stored within UXOs. Because mines are highly explosive, they must be treated with the same concern, precision and technical skill as any legally defined ERW.

An additional tension relates to the function of weapons and the timing of their use. For example, if booby traps and IDEs remain a threat, and are triggered to detonate explosive ordnance, can they be considered abandoned ordnance and, hence, defined as ERW? If a civilian is injured by an abandoned explosive booby trap or IED left by retreating forces, are they a victim of the ongoing conflict or rather of an explosive remnant of that conflict? Ultimately, even if they aren’t, their legal definition under Protocol V, booby traps and IDEs present the same risk of explosion and the same need for effective action.

These tensions are of interest not so much for their intrinsic reasons but out of practical concern. What becomes clear is that the physical explosive threat of mines, UXO, AXO, booby traps and IDEs/other devices cannot be separated from each other on the ground, despite a separation within legal jurisdiction of international humanitarian law. Provision of assistance in clearance and clean-up is re- quired by both CCW Protocol V and the Ottawa Convention, and there is the need for greater efficiency in order to best protect and serve human lives at risk. This requires coordination, sharing of information and collaborative expertise.

One potential pitfall will be if the clearance efforts of mines, booby traps, IDEs and AXO aren’t coordinated because their jurisdiction under humanitarian law doesn’t technically carry-over of specific statutes anywhere outside that specific legal mandate. For example, clearance of landmines is required through the Ottawa Convention while clearance of ERW is required through CCW Protocol V. Humanitarian law provides the regulation of clearance within each convention or protocol, but there is no guarantee that effective clearance efforts will be well-coordinated between signatory parties for these separate legal agreements.

Future Actions Toward ERW Eradication

Many groups still deal pragmatically with mines and other UXO together. For example, the U.S. government includes in its definition of "landmines, UXO and abandoned ammunition caches," and in its humanitar-

ian mine-action program it "views in reducing the social, economic and environmental im-

pact of landmines, unexploded ordnance and small arms ammunition."24 Protocol V, the United Nations, mine action is coordinated primarily under the U.N. Mine Action Service and includes "all activities geared toward addressing the problems faced by popula-
tions as a result of landmines contamination," however, despite its name, it is understood that U.N. mine action "also addresses all forms of UXO."25 Even so, the reality is that despite some inclusion of UXO and AXO in mine-action clearance activities, they have not yet had

\[ \text{https://commons.lib.ysu.edu/cjmr-journal/vol10/iss1/3} \]
the popular attention that APMs have garnered, nor have they been understood and researched as commonly as APMs have been. This is due largely to the strength and success of the Ottawa Convention, which has provided far more financial support, research and political pressure toward ridding the world of the scourge of landmines than toward ERW. If the goal is to eradicate ERW with the same inspiring success as landmines, stronger policy is needed to ensure ERW receive the same level of concern and action as landmines, and that clearance of unexploded explosive threats, including ERW, mines, booby traps and IEDs, is coordinated and focused on with equal priority.

It was only in 2004, for example, that the U.S. Department of Defense obtained a change in its legislative authority to broaden its humanitarian mine-action efforts to include ERW,20 showing that for many, the potential of ERW clearance is in early stages.

Presently, there is no agreement on what specific ordnance is included in the framework of UXO and A3X. The GICHD notes that since there is no common standard for reporting post-conflict casualties and the type of explosive ordnance cleared, there is not even an “accurate and objective assessment of the impact of specific types of UXO.”21 In particular, injuries can be misreported, resulting in an underestimation of the source of casualties from functional ERW. Some have asserted that “even in the absence of any specific threat from functional ERW, the strength and clarity of the definition of a ‘system’ to allow a global overview of post-conflict casualties caused by functional ERW is of keen interest.”

As the legal scope and responsibility for ERW clearance become more exclusively defined under CWC Protocol V, there is increased need for policy and coordination to improve overall clearance efforts between the legal jurisdictions of mines, booby traps/IEDs and ERW. There is also the hope that as ERW clearance becomes an own legal jurisdiction of concern, it will receive a boost in global awareness and priority. Because Protocol V regarding ERW will not be put into force until Nov. 12, 2006, yet it is not clear how agencies and governments will address the problem and clearance of ERW. States Parties must first decide to ratify the Protocol, and then follow up with implementation.

Protocol V may succeed in increasing awareness of the deadly threats of ERW and the need for global clearance in the same way that the Ottawa Convention did for landmines. However, if ERW is to join the ranks of priority with landmines, the need to combine and coordinate a education, identification, information management, research, and clearance efforts between landmines and ERW should become imperative.

Conclusion
This article serves to clarify definitions of ERW by examining legal and functional understandings. At the same time, how the international community, governments, organizations and individuals choose to respond to ERW is of keen interest. As the legal definition of ERW becomes more limited, excluding mines, booby traps and IEDs from its mandate, it challenges us to increase the functional coordination among various explosive elements remaining after conflict in both research and clearance efforts. Our challenge will be to understand and apply legal requirements that enforce commitment to cleanup of all explosive ordnance, from ERW as legally defined (including UXO, AFVs, SAWs and caches) to mines, booby traps, IEDs and other devices. Ultimately, defining ERW should not create regression or obfuscation in clearance projects, but rather provide stronger clarity, which allows us to consider all pertinent aspects of post-conflict munitions threats.

For additional references for this article, please visit http://maic.jmu.edu/feature/resler/resler.htm#addlrefs.

See Endnotes, page 111

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Ressler: A Primer on Explosive Remnants of War

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mine-removal. By using 10,000 mine and ordnance images, we can tailor card decks to specific needs.

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A deck of cards is £7.05, inclusive of VAT (where applicable) (approximately US$9.05); shipping rates are determined based on destination. The company also offers a database of more than 10,000 mine and ordnance images and can tailor card decks to specific needs.

In many cases, the card number relates directly to mine designation. Jokers are two of the most common and sensitive submunitions, BLU-97 and M42-type. In addition to being used in normal card play, the cards also are predisposed to mine designation. A game in which a mine category is used to determine category, such as diameter, to specify highest value, players, especially children, absorb technical details easily.

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A new set of playing cards is raising awareness and recognition of common landmines and explosives encountered globally. The cards help adults and children in mine-affected regions learn more about mines and how to identify them.

Each card carries the image of a frequently encountered mine, its country of origin, type and basic munitions details. The back of the cards carries a “DANGER: MINES” sign. Attention has been paid to consistency and correlation between suits: Clubs are anti-tank mines, diamonds are anti-personnel mines with the lowest metal content, hearts are AP mines with enough metal to make them detectable, and spades are fragmentation mines capable of injuring at great distances.

In many cases, the card number relates directly to mine designation. Jokers are two of the most common and sensitive submunitions, BLU-97 and M42-type. In addition to being used in normal card play, the cards also are predisposed to “top trumps,” a game in which a mine category is used to determine supremacy. For example, players will designate a mine category, such as diameter, to specify highest and lowest value in winning. In doing so, players, especially children, absorb technical details easily.