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.

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 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 “unexploded 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.” 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 airborne cluster bomb or land-based systems and other unexploded ordnance.” In general, the term ERW was open to interpretation regarding what munitions or ordnance might be included, and entailed anything from APMs to submunitions or “other UXO.”

Pressure 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 bombs had an estimated overall failure rate of between 10 and 15 percent. Landmine Action U.K. reported that in Kosovo between 1999 and 2000, while landmines caused about 15 percent of civilian deaths, unexploded cluster-bomb submunitions provoked a larger threat, contributing to almost 32 percent of deaths. Some observed that the likelihood of munitions malfunction 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, 2016 to reach the necessary 20 States Parties consenting to be bound to Protocol V. As a result, Protocol V will now enter into force as a legally binding accord by the end of this year, on Nov. 12, 2006. Since then, countries have continued to ratify this Protocol. A Legal Definition of ERW Protocol V presents a legal precedent for defining explosive remnants of war. It be understood traditionally as resulting from the failure of weapons (UXO), but it can also be understood as an “explosive threat in post-conflict environments.”

There is not a prevailing depilation of what actual physical ordnance is considered to be “explosive remnants of war” or how ERW clearance should be managed. Hence exists a potentially problematic gap between the understanding of ERW as used in legal obligations for clearance and an understanding of effective clearance operations. In attempting to understand a practical definition of ERW more acutely, this article examines an analytical model published by the Geneva International Centre for Humanitarian Demining in 2001 and 2002. Rather than focusing on legal or technical definitions of ERW, the GICHD examined ERW in practical terms of what might present as an “explosive threat in post-conflict environments” and explicitly argued that ERW was a broader term than simply UXO. The

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GICHD divided the explosive threat of ERW into four major areas that are useful as a framework to understand better what ordnance might technically be included in ERW risk: 1. Mines and UXO contamination of the ground 2. Abandoned armored fighting vehicles 3. Small arms and light weapons, including limited ammunition and explosives in the possession of civilians and non-state actors 4. Abandoned and/or damaged/disrupted stockpiles of ammunition and explosives.2

The GICHD’s model lists what it considers to be the ERW of primary concern based on potential on-the-ground explosive hazards. How does a definition of ERW as it is functionally understood compare to the new legal definition of ERW in international humanitarian law? The relationship between practical and legal understandings of explosive contamination may be compared by looking at the GICHD’s four specific types of ERW understood to be potential explosive threat.

Mines and unexploded weapons ground contamination. One aspect of on-the-ground ERW contamination is UXO (as defined by the IMAS). However, in the absence of opium and AV mines, there is also included GICHD’s identification of ERW, due to the highly explosive nature of these weapons. Table 1 lists an array of potential UXO that might be found on the ground after a conflict.21 However, under Protocol V, APs and AVs are no longer legally defined as ERW as they are codified separately and exclusively in CCW Amended Protocol II to the Ottawa Convention; thus, mines are not included in Table 1.

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<thead>
<tr>
<th>Aircraft bombs</th>
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<th>Small-arms ammunition</th>
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<td>Depth charges</td>
<td>Mortar ammunition</td>
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<td>Rocket ammunition</td>
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<td>Cluster-bomb units</td>
<td>Guided missiles</td>
<td>Rocket motors and fuel</td>
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Table 1. Examples of UXO that can be considered ERW under Protocol V.

This highlights a core tension between the functional and legal definitions of ERW. Although ERW is not legally defined to 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 or ordnance; however, many of the possible types of UXO listed in Table 1 such as warheads and grenades might very well have such properties; again, presenting existence of a practical interrelatedness of weapons both included and not in Protocol V.

Abandoned armored fighting vehicles. The GICHD describes explosive ordnance disposal of abandoned AFVs in a definitive position as “one of the most technically complex and demanding operations conducted by an IED technician” due to threat components of surrounding mines/UXO, depleted uranium fragments, explosive reactive armor, unstable stocks of internally stored ammunition and access denial devices.20 With these explosive threats present, abandoned AFVs are functionally considered ERW. The international legal definition of ERW would also appear to identify AFVs as ERW, though again with the exception of mines surrounding the AFV or any booby traps or improvised explosive devices as, they are all codified in CCW Amended Protocol II. Additionally, AFVs are only legally considered ERW once they are abandoned by the user party as UXO and only if they have exploitive properties.

Small arms and light weapons. SALW and their chemical origins can be functionally understood as ERW due to their potential destructiveness through impaling, implosion or unexpected maintenance, leading to explosions. The GICHD defines SALW as “all lethal conventional munitions that can be carried by an individual combatant or a light vehicle, that also do not require a substantial logistical and maintenance capability.”20,21 Danger lies in leaking explosive content and degradation of fuse safety systems and propellant stability.21 The international legal definition of ERW would allow inclusion of SALW with the exception again of any mines, booby traps or improvised explosive devices that might be carried and as long as the SALW are not being carried by states for official use.

Stockpiles of ammunition and explosives. Stockpiles of ammunition or explosives present a practical ERW threat through the danger of explosion, which can be devastating if poor storage conditions lead to leaks or sudden movements resulting in spontaneous combustion. In one example, a January 2002 explosion at a government ammunition depot in Lagos, Nigeria, resulted in over 1,000 deaths.20,21 Legally, if stockpiles are understood to be under national control, they would not be defined as ERW as they are not abandoned; caches, if understood to be ordnance stored by non-state actors and then abandoned, could be considered ERW and might include any exploitive ordnance except mines, booby traps and IEDs. 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 “exceptions”—mines, booby traps and IEDs/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 IEDs cannot be legally defined in Protocol V as ERW, practically they are all highly exploitive. 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 stockpiles. Because mines are highly exploitive, 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 IEDs remain after a conflict and are rigged to detonate explosive ordnance, can they be considered abandoned ordnance and, if not, then Protocol V. If a civilian is injured by an abandoned explosive booby trap or IED left by returning soldiers, are they a victim of the ongoing conflict or rather an explosive remnant of that conflict? Ultimately, even if they aren’t “functional remnant” under Protocol V, booby traps and IEDs present the same risk of explosion and the same need for effective clearance.

These tensions are of interest not for semantic reasons but out of practical concern. What becomes clear is that the physical explosive threat of mines, UXO, AXO, booby traps and IEDs/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 required by both CCW Protocol V and the Ottawa Convention, and there is the need for greater efficiency in order to both 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, IEDs and ERW aren’t coordinated because their jurisdiction under humanitarian law doesn’t technically require 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 regulations of clearance within each convention or protocol, but there is no guarantee that effective clearance efforts will be well-coordinated between signatory parties of these separate legal agreements.

Future Action 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 is “mines to reduce the social, economic and environmental im- pact of landmines, unexploded ordnance and small arms ammunition.”27 However, the United Nations, mine action is coordinated primarily under the U.N. Mine Action Services, and includes activities geared towards addressing the problems faced by populations as a result of landmines contamination”, however, despite its name, is understood that U.N. mine action “also addresses all forms of UXO.” Even so, the reality is that despite some inclusion of UXO and AXO in mine-action clearance activities, they have not yet had
the popular attention that AMOs have garnered, nor have they been understood as commonly as AMOs 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 rid- ing 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 coordi- nated and focused with equal priority.

It only was 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, 22 showing that for many, the prioritization of ERW clearance is in early stages.

Presently, there is no agreement on what specific ordnance is included in the frame- work of UXO and AXO. The GCHD notes that since there is no common stan- dard 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.” 23 In particular, injuries can be mis- measured, resulting in a skewed picture of the source of casualties from functional ERW. Thus, it has been widely recognized that an inadequate legal definition of UXO and AXO is in contrast to familiarity with land- mines. An important first step, then, is add- itional research about and standardized identification of weapons and munitions remaining after a conflict to provide accu- rate reporting, measuring and understand- ing of ERW incidence.

Additionally, the GCHD argues in par- ticular for a “system to allow a global overview of casualties caused by specific types of ERW” with reports including not only generic type but also condition (blind/dad, field storage, rigged as IED or booby trap). 24 Such an understanding of ERW function- ally includes mines, booby traps and IEDs along with the aforementioned UXO and AXO, because in order to comprehensively assess the incidence and scope of deadly munitions, the analysis must include all explo- sive munitions. The understanding of threats and inci- dence of post-conflict casualties needs to be improved, and clearance and risk-assessment efforts need to be effective. This will re- quire coordination between mine and ERW policy and practice. Development of a deeper understanding of the relationship between mines and ERW and a greater commitment to understanding ERW (as it is now legally defined) in its own right. Practical questions arise in terms of best practice. For example, is it more effective to have one EOD team working to clear both mines and ERW, or should that be cleared separately to work within their legally separate mandates (or separate funding)? If mines and other func- tional ERW are cleared by separate groups, should it be at the same time? How can govern- ments, organizations and workers share decision-making and coordination role? Will relevant information be quickly and cor- rectly shared and recorded between groups? As the legal scope and responsibility for ERW clearance become more exclusively defined under CCW Protocol V, there is a 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 its own legal ju- risdiction 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 govern- ments will address the problem of clearance ERW. States Parties must first decide to ratify the Protocol, and then follow its legal dictates. Protocol V may succeed in increas- ing 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, identifi- cation, 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 lim- ited, 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 le- gal requirements that enforce commitment to cleanup of all explosive ordnance, from ERW as legally defined (including UXO, AFVs, SALW and cached) 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