PREVENTING AND ERADICATING THE DEADLY LEGACY OF EXPLOSIVE REMNANTS OF WAR

SUMMARY

Armed conflicts around the world continue to claim thousands of lives long after the fighting is over. Their deadly legacy is unexploded ordnance (UXO); it poses a daily threat to children on their way to school, to farmers working the land and to displaced people returning to rebuild their homes. As increasing numbers of conflicts take place in populated areas, including in large towns and cities, so the grave toll of weapon contamination rises. It hampers movement, trade and agriculture, blocks access to essential services and hinders the delivery of life-saving humanitarian assistance, while often setting back socio-economic development gains by decades.

International humanitarian law (IHL) provides a robust framework of obligations to prevent and mitigate the risk and devastating humanitarian consequences of these weapons that keep on killing. Parties to armed conflicts, whether states or non-state armed groups, must do everything feasible to prevent the occurrence of UXO; to ensure and facilitate its clearance; to warn civilians of its existence in order to prevent deaths or injuries; and to adequately assist victims of UXO. Protocol V to the Convention on Certain Conventional Weapons (CCW) is a valuable tool in this regard, and all states should join it and fully implement it without delay. Ending the scourge of explosive remnants of war (ERW) requires a combined effort by states, non-state armed groups and humanitarian organizations. While states are primarily responsible for this, they will go a long way towards fulfilling their obligations if they enable the work of others, thus saving thousands of lives.

INTRODUCTION

When the guns fall silent, a deadly threat remains. In many parts of the world, ERW litter landscapes that are no longer battlefields and continue to kill and maim thousands of civilians during active hostilities and long after they have ended; a large proportion of the victims are children. With armed conflict increasingly taking place in urban areas, including cities with millions of inhabitants, the contamination of urban areas with weapons has become commonplace, with severe and long-lasting consequences.
WHAT ARE EXPLOSIVE REMNANTS OF WAR?

ERW are explosive munitions that have not fulfilled their purpose, namely to explode and cause the desired effect on the target. This can be because they failed to explode as intended due to malfunction or other reasons (UXO) or because they were left behind by a party to the conflict before actually being used (known as abandoned explosive ordnance or AXO). An example of UXO is a mortar shell that was fired but did not explode on impact because it landed on soft ground; it may or may not explode at some unknown point in the future and could be handled by curious children unaware of the threat it poses. An example of AXO is a batch of rockets abandoned in a weapons depot by armed forces retreating from a territory they occupied.

ERW include artillery shells, grenades, mortar shells, rockets, missiles and other explosive munitions. Mines, booby traps and similar devices designed to be activated on contact or by proximity to a person do not fall under the legal definition of ERW (and are covered by other instruments), but they do give rise to very similar humanitarian concerns. In some contexts, the use of so-called improvised explosive devices (IEDs) is common – a non-legal term typically used to refer to home-made devices, as opposed to industrially produced munitions, mines or other weapons. Whether or not an IED constitutes an ERW (or a mine) depends on how the IED is designed and functions. If it is designed to explode on impact after being thrown or launched but fails to do so, it will fall within the scope of the specific rules applicable to ERW, which aim to prevent and mitigate the harm they cause. IEDs accounted for 57 per cent of casualties caused by explosive ordnance, a figure recorded by United Nations mine action actors and entities between 2019 and 2020.

DEVASTATING HUMANITARIAN CONSEQUENCES

Explosive munitions have a failure rate that can vary greatly, from 1 to 40 per cent, depending on diverse factors such as the age of the munition, how it is stored and used, the quality of design and production, the type of material or soil at the point of impact, atmospheric conditions and the competence of the user. If they don’t explode as intended after being fired or launched, they may explode and kill or injure victims at an unpredictable point in the future, even long after the original military purpose for the munition’s use no longer exists – such as when the military operation is over or after hostilities have ended completely.

We often think of the long-term humanitarian impact of ERW, but the presence of UXO also exacerbates civilian suffering during an armed conflict. It impedes access to health-care facilities and other essential services, prevents the proper functioning and maintenance of critical infrastructure, blocks escape routes and hinders the delivery of life-saving humanitarian assistance.

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1 UXO is defined in Article 2(2) of the 2003 Protocol V to the 1980 Convention on Certain Conventional Weapons (CCW) as “explosive ordnance that has been primed, fused, armed, or otherwise prepared for use and used in an armed conflict. It might have been fired, dropped, launched or projected and should have exploded but failed to do so.”

Long after hostilities have ended, UXO continues to contaminate large areas of the world, posing a daily threat to civilians and hampering agriculture and trade. According to analysis from non-governmental organization Save the Children, landmines and UXO were responsible for over 75 per cent of all war-related casualties among children in Yemen between April and the end of June 2022. While munitions that successfully explode damage and destroy houses, schools, hospitals and roads, the presence of unexploded munitions can significantly delay reconstruction efforts and prevent displaced people from returning to their homes. Ultimately, UXO impedes socio-economic development and poses a long-term obstacle to the achievement of the Sustainable Development Goals.

“There are explosive objects in the nearby mountains. People know that it is dangerous to go into the woods and mountains, but for those who rely on forestry activities for their livelihoods, it’s hard to choose between risking their lives and not having any income.”

A resident of Ah Htet Myat Lay village, Myanmar

The presence of AXO also poses grave, albeit less imminent, threats. To begin with, abandoned explosive munitions are often stored poorly and not properly maintained, making them susceptible to malfunction and random explosion, which risks the lives of civilians in the vicinity. They are also at significant risk of secondary explosions, for example if weapons depots are targeted or incidentally damaged by an explosive weapon. If large amounts of stored explosive ordnance are detonated simultaneously, the destructive effects of the attack are multiplied because of secondary explosions, which may claim more victims. Concerningly, collateral damage estimation methodologies used by most militaries today do not factor in the risk of civilian harm from such secondary explosions. More broadly, the unregulated availability of such munitions risks prolonging armed conflicts or fuelling instability and armed violence.

The International Committee of the Red Cross (ICRC) continues to witness the devastating effects of ERW in its day-to-day operations in active armed conflicts and in post-conflict situations. By way of example, according to data from the ICRC’s programmes to assist the victims of weapon contamination, between January and August of 2022, at least 55 per cent of explosive incidents resulting in casualties in Afghanistan were due to ERW.

EXPLOSIVE REMNANTS OF WAR IN POPULATED AREAS: THE RESULT OF HEAVY EXPLOSIVE WEAPONS

A factor multiplying the grave consequences of ERW is the use of heavy explosive weapons in populated areas; the recent and ongoing conflicts in the Middle East, such as Iraq, the international armed conflict between Russia and Ukraine, and conflicts elsewhere, provide clear examples of this. In addition to the devastating direct and indirect effects of attacks using heavy explosive weapons in cities, towns and villages, ERW plague civilians and humanitarian operations in many different settings. The harm they cause can be either direct, such as death or injury from an ERW explosion, or indirect, such as when UXO prevents access to health-care facilities and other essential services or renders roads impassable.
In 2022, the ICRC’s teams documented life in Mosul, Iraq, through a child’s eyes; a city that is heavily contaminated by ERW. “There are some dangerous places here that we are not allowed to play in because of mines,” Yaqeen, aged 11, told us. She used to live in Mosul’s old city and remembers a time before the war. “Before the conflict, we had a shop here and I had friends,” she said. “We used to go out and play.” Many of Mosul’s former residents have not returned because of the hidden UXO that lies in wait for the innocent. All it takes is one false move for lives to be changed forever.

The difficulty of clearing UXO – and its impact in humanitarian terms – is much greater in urban areas than elsewhere. Locating UXO in rubble and picking it out from among a wide array of everyday objects, many of which are made of similar materials, such as metal, is a dangerous, laborious and often extremely time-consuming task. In urban environments, there is a high risk that IEDs or booby traps may be present in the vicinity of UXO. This means that the clearance process continues at a much slower pace and requires additional security measures.

Another challenge is the recovery of human remains, which needs to be carried out in an appropriate manner, but may be dangerous if the remains have been booby trapped (a practice prohibited under amended Protocol II to the CCW and customary IHL) or if the bodies are those of combatants with explosive munitions on their person. Adjacent UXO hinders the recovery of human remains, which in turn poses risks for public health and aggravates the problem of missing people. At the same time, clearance operations must ensure that human remains are handled and recovered in a dignified manner and in a way that will facilitate their identification, which can further delay ERW clearance.3

WHAT DOES IHL SAY ABOUT EXPLOSIVE REMNANTS OF WAR?

Under IHL, states and parties to an armed conflict that use explosive munitions or are in control of areas affected by ERW have an obligation to take measures to minimize the risks and effects of ERW both during and after the end of hostilities, particularly to protect the civilian population. These obligations stem from the general rules and principles of customary IHL, in particular the principle of precaution, and are detailed in a legally binding instrument specifically addressing ERW, namely Protocol V to the CCW.

The principle of precaution applies in international and non-international armed conflicts, as well as in post-conflict situations to the extent that the ERW were created during an armed conflict and are therefore the result of the conflict. It applies irrespective of whether a party to the conflict is bound by Protocol V or not.

With regard to the danger created by ERW, the principle of precaution requires that a party – whether a state or a non-state armed group – that uses explosive munitions that may become ERW take constant care in the conduct of military operations to spare civilians, and take all feasible precautions to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects from their attack, including from the resulting ERW (Rule 15 of the ICRC Customary IHL Study). Furthermore, parties must take all feasible precautions to protect civilians under their control against the effects of attacks. This means that a party that controls an area affected by ERW must take all feasible precautions to protect civilians from their effects (Rule 22 of the ICRC Customary IHL Study).

These general obligations do not indicate precisely the practical measures that the parties must take to limit the risks and effects of ERW. The provisions of Protocol V, which are outlined below, can provide useful guidance in this respect, including for those states and non-state armed groups that are not bound by it.

The precautions to be taken by the user of explosive munitions, insofar as feasible, would include ensuring that explosive weapons and munitions are properly stored and maintained to reduce the risk of them malfunctioning; and, when assessing the proportionality of an attack and taking precautions, factoring in the risk of the munition not exploding upon impact and the reverberating effects of weapon contamination on the lives and health of civilians; recording information on the munitions fired and the location of the targets and surrounding areas; sharing such information as soon as possible after the end of active hostilities with the party in control of the affected territory or with organizations performing ERW clearance; and providing effective warnings to civilians about the location of ERW and the dangers they pose.

The precautions to be taken by the party that controls an area affected by ERW, in view of existing practice, should include identifying, marking, monitoring and clearing areas containing ERW; and providing effective warnings and risk education to civilians of the location and dangers of ERW.

My name is Édinson and I’m 27 years old. I was working on a farm, and my wife stayed at home looking after the children. One day, I was going to clear some land and saw a can on the ground. I picked it up and it was then that I realized it had a mechanism. Just as I was going to throw it, it exploded in my hand and I passed out. I spent three days in hospital. Then my hand became infected, and I lost it.

ERW survivor, Colombia

A PROTOCOL TO END THE SCOURGE OF EXPLOSIVE REMNANTS OF WAR

In 2000, the ICRC called for a new international agreement on ERW. The cause rapidly gained support among non-governmental organizations and many governments. Following work by government specialists, and after negotiations among states, Protocol V to the 1980 CCW on ERW was adopted on 28 November 2003 and entered into force on 12 November 2006. It was the first multilateral treaty to deal comprehensively with the problems caused by UXO and AXO.

Protocol V lays down obligations with regard to ERW aimed at minimizing their risks and effects in post-conflict situations. The protocol applies in situations of international and non-international armed conflict and their aftermath, and it binds all states that are party to it. It also binds non-state armed groups that are or were party to an armed conflict that resulted (or that may result) in ERW in the territory of a state party to the protocol. Although some of the protocol’s requirements apply

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throughout an armed conflict, most obligations are activated once the active hostilities are over. Most of these require that measures be taken and tools and procedures put in place during peacetime to enable compliance once the obligations are activated.

To date, the protocol has 97 states parties. Its implementation has contributed significantly to mitigating the threat posed by ERW across the world. The protocol has also guided measures to address the risks posed by unexploded or abandoned explosive munitions that were not the result of an armed conflict, or that otherwise fall outside the scope of the protocol, thus extending and amplifying its positive impact.

OBLIGATIONS ON THE USER

Under the protocol, the party that uses or abandons explosive munitions that may become ERW has three main obligations.

First, it must “to the maximum extent possible and as far as practicable” record comprehensive and accurate information on the explosive munitions employed or abandoned by its armed forces (including the types and quantities of AXO, the location of targeted areas, identification measures and methods of safe disposal). This information is crucial for facilitating the rapid launch of clearance and risk-education activities.

This obligation already applies during active hostilities. To prevent or at least minimize the loss of information, this should be done as soon as possible after the munitions have been used or abandoned. This presupposes that a system for recording and retaining such information is in place. The system may include digital recording tools (as is the case for larger weapons, such as artillery) or may rely on manual recording. In addition, the process of recording information on the use and abandonment of explosive munitions should be incorporated into military doctrine, education, training and field exercises to ensure that all military services and branches using explosive munitions are able to carry out this task.

Some states consider this obligation to only apply when they have control over a territory, but may record information as a matter of policy, where feasible, in other cases.

Second, “without delay after the cessation of active hostilities and as far as practicable, subject to [the] parties’ legitimate security interests”, the party that used or abandoned explosive munitions must share the recorded and retained information about where the ERW are located with the party in control of the territory and/or with any organization that will be undertaking clearance or risk-education activities.

In 2014, the ICRC organized an expert meeting to identify and address challenges that impede the implementation of these obligations. The meeting served as a platform to share experiences and know-how, and it made some best practice recommendations in relation to the recording, retention and transmission of information.

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5 See, for example, the case of Albania, which has included in its reports on the implementation of Protocol V the measures taken to combat the threat posed by UXO and AXO resulting from civil unrest in the 1990s that did not amount to an armed conflict.

6 See, for example, the 2022 national reports of Greece, Lithuania and Moldova. All CCW annual national reports can be accessed through the UN CCW compliance annual reports database at: https://www.un.org/disarmament/the-convention-on-certain-conventional-weapons/compliance/ccw-compliance-database/.

7 See, for example, Germany’s 2022 national report.

8 See Australia’s 2022 national report.
Third, after the end of active hostilities, the party that used or abandoned explosive munitions must provide, where feasible, assistance (technical, financial, material or other) to the party in control of the affected territory, to facilitate the marking and clearance, removal or destruction of ERW.9

OBLIGATIONS ON THE AFFECTED PARTY

States and non-state armed groups to which the protocol applies and that are in control of a territory affected by ERW, regardless of whether such ERW were a result of their operations or not, have two additional obligations, as follows.

First, during active hostilities, but also in their aftermath, they must take all feasible precautions to protect civilians from the risks and effects of ERW, including warnings and risk education, and the marking, fencing and monitoring of affected areas. In this respect, Protocol V restates the general IHL principle of precaution which applies in the conduct of military operations. Feasible precautions are those precautions which are practicable or practicably possible, taking into account all circumstances ruling at the time, including humanitarian and military considerations.

Examples of risk-awareness and education measures can be found in states parties’ national reports, which detail their actions in implementing Article 5. Actions include distributing information, erecting warning signs in contaminated areas, issuing warnings, cordoning off affected areas, carrying out evacuations and implementing other safeguarding measures,10 and improving communication channels between the local population and relevant authorities,11 which includes updating publicly available websites and applications with information indicating contaminated or suspected areas,12 as well as carrying out other risk-awareness and education activities.13

Second, after the end of active hostilities, they must, as soon as feasible, survey and assess the risks posed by ERW, and mark and clear, remove or destroy ERW, with priority to those posing a serious humanitarian risk, such as in populated areas, on roads or on land used for agricultural or herding purposes. Removing ERW on the ground is the most reliable way of eliminating the risk that they pose to civilians. States report regularly on ERW clearance activities.14

“Although this area was previously cleared of explosives, the floods, rains and dust storms unearthed some old explosives. We receive calls from different areas where residents are not aware of the existence of explosives. Initially, we install mine warning signs. Then work commences on the site. Following the disposal of ERW, the hazard signs are removed from the area and replaced with white signs to indicate that the area is free from contamination. People avoid moving in areas with no signs because they are suspected of being contaminated with ERW.

Ammar, Civil Defence Staff, Najaf, Iraq”

9 See, for example, the United States’ 2022 national report.
10 See Australia’s 2022 national report.
11 See Albania’s 2022 national report.
12 See Bosnia and Herzegovina’s 2021 national report and Croatia’s 2022 national report.
13 See Laos’ 2022 national report.
14 See, for example, Ukraine’s 2021 national report.
Some states, as a matter of policy, undertake to conduct clearance before the end of active hostilities. As an example, in its 2022 national report, Australia stated the following: “Current ADF [Australian Defence Force] operational guidance with regards to unexploded ordnance (UXO) and ERW is to pro-actively deal with ERW in theatres of operations even before active hostilities have formally ceased. The intent of this policy is to mitigate the threat posed by UXO, by destroying items as they are found, subject to the tactical situation, rather than dealing with them after the close of active hostilities (as required by Article 3). Where practicable, having regard to the security environment prevailing in the relevant location, UXO items found by the ADF on operations are identified, documented, collected, removed, and/or, where possible, destroyed. This applies as standard practice for the ADF and gives effect to Article 3 risk assessments of the threat posed by the ERW are an integral part of the decision making and disposal process.”

OTHER MEASURES AND OBLIGATIONS

In addition to the obligations above, Protocol V contains a detailed technical annex that identifies a number of voluntary preventive and other measures that states are encouraged to take in order to minimize the occurrence of ERW, including those relating to the production, storage and transportation of munitions. These measures can go a long way towards protecting civilians from the threat of ERW and mitigating their grave short- and long-term humanitarian consequences. While there is no obligation to report on such measures, states party to the protocol may, on a voluntary basis, exchange information related to efforts to promote and establish best practice regarding the implementation of the generic preventive measures contained in the technical annex and beyond. A number of states include this in their annual national reports. Such exchanges, provided they are sufficiently detailed and specific, could substantially strengthen the implementation of generic preventive measures and are therefore strongly encouraged.

Humanitarian assistance operations are significantly hampered by the presence of ERW. Protocol V requires states and non-state armed groups to provide, as far as feasible, humanitarian organizations with information on the presence of ERW in the territory on which such organizations will operate. If such territory is under a party’s control, they have a further obligation to protect the personnel of such humanitarian organizations, as far as feasible, from the consequences of ERW.

States party to the protocol that are in a position to do so (including affected states) have an obligation to provide assistance – either bilaterally to the affected state or through a relevant organization, including the ICRC and National Red Cross and Red Crescent Societies – in the following areas: the marking and clearance, removal or destruction of ERW; providing risk education to civilian populations; and providing care and rehabilitation, and social and economic reintegration for ERW victims. The responsibility for protecting civilians against the harm caused by ERW does not therefore rest exclusively with the affected state. At the annual meeting of governmental experts and the Protocol V Annual Conference, a number of states parties report on their activities related to ERW clearance, risk education and victim assistance. Such assistance can be technical, financial, material or in another area.

15 See, for example, Australia’s 2022 national report.
16 See, for example, the 2022 national reports of Australia, Belgium, France and the Netherlands.
17 For a comprehensive description of victim assistance programmes and measures, see Croatia’s 2022 national report.
18 See, for example, the 2022 national reports of Belgium, Croatia and France.
19 See, for example, the 2022 national reports of Estonia, Germany and Italy.
20 See, for example, Georgia’s 2022 national report.
The ICRC can offer to provide mine-related activities and services to parties in control of affected areas, including incident data gathering, mine-risk education, surveying and clearance activities, as further detailed below. The ICRC can also offer to act as a neutral intermediary to facilitate the transmission of recorded information on the use or abandonment of explosive munitions, passing the information from the party that has used or abandoned them to the party that controls the affected area.

**THE ROLE OF THE ICRC AND THE WIDER INTERNATIONAL RED CROSS AND RED CRESCENT MOVEMENT**

Every year, the ICRC, National Red Cross and Red Crescent Societies and other organizations continue to treat thousands of new victims of these weapons that keep on killing. The ICRC undertakes specific initiatives to prevent and address the effects of ERW, including clearance, awareness-raising, physical rehabilitation and support for the social and economic inclusion of ERW survivors.

**Doaa lost her right hand on 6 May 2015. Walking home from school in Gaza, she spotted what she thought was a toy and picked it up. It turned out to be an unexploded device. Doaa had eight surgical operations and was in hospital for 52 days. She received an artificial hand and psychosocial support at the ICRC’s Artificial Limbs and Polio Centre.**

Much of the ICRC’s work in relation to ERW focuses on developing the capacity of National Red Cross and Red Crescent Societies to work alongside national authorities that carry out mine-action work domestically. In Syria, for example, ten teams of staff and volunteers from the Syrian Arab Red Crescent, trained by the ICRC, have been working in difficult-to-access areas, such as Aleppo, Idlib, Homs and Hassakeh. The ICRC also helps national mine action authorities strengthen their ability to undertake humanitarian ERW clearance and risk reduction measures in accordance with international standards, and provides blast trauma care training for health-care personnel and first responders during an explosive ordnance assessment or disposal operation.

In 2021, the ICRC carried out risk-awareness activities for communities and helped manage mine-action initiatives, including ERW clearance, around the world, including in Armenia, Azerbaijan, Colombia, Iran, Iraq, Israel and the occupied territories, Libya, Mali, Morocco, Myanmar, Nagorno-Karabakh, Nigeria, Pakistan, Senegal, Syria, Ukraine, Viet Nam and Yemen.

Over the past 40 years, the ICRC’s Physical Rehabilitation Programme has supported almost two million people with disabilities in more than 50 countries around the world, including survivors of ERW-related injuries, by developing national capacities and directly providing rehabilitation services. More specifically, in 2021, the ICRC supported 318 projects addressing the needs of people with disabilities, including those with an ERW-related injury. The projects included support for physical rehabilitation centres that were given either regular or ad hoc assistance, component factories, institutions providing training for physical rehabilitation professionals, and organizations or initiatives promoting the social inclusion of people with physical disabilities. The 146 physical rehabilitation projects that received regular ICRC support delivered a total of 22,231 prostheses, 123,098 orthoses, 9,528 wheelchairs or postural support devices, and 59,251 walking aids for people with physical disabilities.
CONCLUSION

Explosive munitions constitute the main bulk of states’ arsenals and are used in huge numbers during armed conflicts. These weapons contaminate an area very quickly, whereas clearing them is incredibly slow and costly. Protocol V explicitly establishes the collective responsibility of states to provide assistance to the victims of ERW. All parties must do more to protect civilians and their communities from the indiscriminate harm caused by these weapons.

Only half of all states are party to Protocol V, and the rate of its universalization has stalled alarmingly. We urge all states that are not yet party to Protocol V to join, and all states parties to faithfully implement their obligations, as this can significantly reduce the deadly threat posed by ERW around the world. We also urge states to facilitate humanitarian operations, to provide access to humanitarian organizations and the necessary legal and import permissions to bring in essential equipment, as well as give security guarantees to enable marking and clearance work to begin – a task of tremendous proportions, especially if a conflict is ongoing. States are primarily responsible for this, but they will go a long way towards fulfilling their commitments if they enable the work of others, allowing thousands of lives to be saved as a result.

MISSION

The International Committee of the Red Cross (ICRC) is an impartial, neutral and independent organization whose exclusively humanitarian mission is to protect the lives and dignity of victims of armed conflict and other situations of violence and to provide them with assistance. The ICRC also endeavours to prevent suffering by promoting and strengthening humanitarian law and universal humanitarian principles. Established in 1863, the ICRC is at the origin of the Geneva Conventions and the International Red Cross and Red Crescent Movement. It directs and coordinates the international activities conducted by the Movement in armed conflicts and other situations of violence.