



ICRC



EXPLOSIVE REMNANTS OF WAR

> The lethal legacy of modern armed conflict

International Committee of the Red Cross
Mines-Arms Unit
19 Avenue de la Paix
1202 Geneva, Switzerland
T +41 22 734 60 01 **F** +41 22 733 20 57
E-mail: weapons.gva@icrc.org **www**.icrc.org



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Front and back cover photos: John Rodsted

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Recent wars, including conflicts lasting just a few weeks, have left behind tens of thousands of lethal explosives which put civilians at perpetual risk of death or injury.

In conflicts which have lasted years, the problem is still larger, with millions of unexploded bombs, shells, landmines, grenades and even missiles left for war-torn countries to deal with after the fighting has ended. In many cases, it will take decades to clear these weapons, and that is only if the resources are available to try. All too often, these explosive remnants of war (ERW) claim the lives and limbs of innocent men, women and children.

In recent years, the international community has made significant progress in reducing the suffering caused by anti-personnel landmines. However, anti-personnel mines are part of a broader problem. The post-conflict casualties caused by other types of unexploded ordnance (UXO) have not been confronted, despite the fact that in many countries they claim as many or more victims. This problem has grown in the past few decades, espe-



cially with the proliferation of cluster bombs, which can deliver tens of thousands of submunitions over large areas in a very short time. While modern technology enables warring parties to rapidly deliver enormous quantities of munitions, local communities are left to live – and die – with this lethal legacy for years afterwards.

Efforts are currently under way to address the problem. In early 2003, international negotiations aimed at reducing the human and socio-economic costs of explosive remnants of war began. The negotiations focus on measures to be taken to reduce the threat that explosive remnants of war pose to civilian populations. It is possible to reduce the devastating effects of these devices, but only if States agree on a comprehensive set of measures which combine prevention with assistance. Action from governments and civil society is required to ensure this result.





Clearance of explosive remnants of war is a daunting challenge: in many places, it never happens.

John Rodsted

> A global, yet forgotten problem

The problem of explosive remnants of war has grown steadily in the past 20 years, with the proliferation of increasingly sophisticated weapons and delivery systems.

Today, an estimated 84 countries, in every region of the world, are confronting the long-term problems caused by explosive remnants of war.¹ Some of the most heavily affected areas at present are Afghanistan, Angola, Bosnia and Herzegovina, Cambodia, Iraq, Laos, the Russian Federation (Chechnya) and the border areas of Eritrea and Ethiopia.

Explosive remnants of war can take years or even decades to find and clear. Many European countries are still removing weapons used in the Second World War. One example is Poland, which has been clearing unexploded ordnance from its territory for over 50 years. After the war ended, 80 per cent of Poland needed to be cleared. Since 1944, over 96 million pieces of ordnance (80 million excluding landmines) have been removed at an estimated cost of \$866 million.² Between 1944 and 1989, unexploded ordnance claimed the lives of 4,094 people in

Poland, leaving another 8,774 injured. Similarly, the armed forces of Belarus reportedly cleared over 200,000 pieces of unexploded Second World War ordnance during the 1990s.

Another region dealing with a long-term problem is South-East Asia. The wars in Indochina during the 1950s, 1960s and 1970s have made this region one of the most heavily affected by explosive remnants of war. In Laos alone, it is estimated that between 9 and 27 million unexploded submunitions remain, although hostilities ended in 1975. Some 11,000 people have been killed or injured, more than 30 per cent children. Almost three decades after the conflict ended, Laos is both one of the most severely affected countries in the world and one of the poorest. At the current rate of 50,000 submunitions cleared per year, it will take at least 180 years to free the country from the threat.

Yet, even short-lived conflicts can result in a major problem stemming from explosive remnants of war. One recent example is the Kosovo region of Serbia and Montenegro. Since the

end of the conflict in June 1999, clearance agencies have removed or destroyed more than 54,000 pieces of ordnance. Unfortunately, clearance came too late for many. In the year following the end of the conflict, explosive remnants of war killed or injured nearly 500 people. Several international peacekeepers were also killed or injured by unexploded ordnance.

These are just a few examples of countries and territories affected by explosive remnants of war. They provide a striking insight into the nature and scope of the problem. Explosive remnants of war are a predictable result of modern armed conflict. However, their devastating human cost can be greatly reduced if effective international measures are put in place.

1) "Explosive Remnants of War: Preliminary Findings", Landmine Action, paper presented to the Group of Governmental Experts on ERW, Geneva, December 2002.

2) "Polish Experience with Remnants of War", Polish Engineering Forces, paper presented to the Group of Governmental Experts on ERW, Geneva, December 2002.



A Cambodian child injured by a munition fuse while fishing.

> What are explosive remnants of war (ERW)?

“Explosive remnants of war” describes the wide range of explosive munitions (unexploded or abandoned) which remain in an area after an armed conflict has ended. These include artillery shells, grenades, landmines, mortar bombs, submunitions, rockets and missiles and other forms of explosive ordnance.

The main source of the problem is unexploded ordnance (UXO), a technical term commonly used by clearance organizations to describe munitions that have been fired, deployed or otherwise used but have not exploded as intended. Civilians often believe that such weapons are harmless, when in fact they are often lethal and unstable explosives, capable of detonating if touched or disturbed.

Explosive remnants of war include cluster bomb and other submunitions. These weapons have been the subject of specific concern and media attention in recent years, due to the high number of submunitions which fail to explode. A cluster bomb is a metal canister released from an aircraft

which contains from dozens to hundreds of submunitions. At a pre-set altitude or a specific time after being discharged, the canister opens and the submunitions are released. Most submunitions are intended to explode upon impact when they hit the ground. Cluster bomb and other submunitions can destroy moving targets over a wide area, so they are often used against concentrations of tanks, armoured vehicles or personnel.

The primary concern with submunitions is their failure to function as intended. The failure rate of submunitions varies, depending on their design and the conditions under which they are used. Failure rates tend to be substantially higher in actual operations than during testing, due to the generally more favourable conditions during such trials. Although they are designed to explode on “hard targets” such as armoured vehicles, tanks and runways, they often land on sand, mud, vegetation or snow, which may be too soft to activate the fusing mechanism. While the use of submunitions is lawful, when they fail to explode and become unexploded ordnance they are then as indiscriminate in their timing and choice of victim as landmines.

NATO estimated that 10 per cent of the cluster bomb submunitions dropped in Kosovo did not explode, thus leaving roughly 30,000 unexploded submunitions on the ground. Unexploded submunitions caused a disproportionate percentage of the UXO-related deaths and injuries which occurred after the fighting. In a study published by the International Committee of the Red Cross (ICRC) in 2000, submunitions and anti-personnel mines were the leading causes of casualties, together accounting for 72 per cent of the casualties (36 per cent each). Anti-vehicle mines and other unexploded ordnance were responsible for the remaining 28 per cent. Cluster bomb submunitions also more frequently killed or injured several people in a single incident.

The risks posed by submunitions during conflict when they are used against targets in or near populated areas constitute an additional concern. By design, submunitions are “area weapons” because they are dispersed over an area of up to several thousand square metres. The wide area affected by each strike means that there is a substantial risk of significant numbers of civilians

being caught in a submunitions attack, particularly in situations where civilians and military targets are in close proximity. The problem of imprecise targeting is exacerbated when bomblets are dispersed from high altitudes or great distances, or from aircraft at high speed.



> Broken lives

Those who survive an ERW accident suffer a range of injuries which include amputations of one or more limbs, fragmentation wounds, burns, blindness and punctured eardrums.

Such injuries can be a challenge to the most competent surgeon, as these types of severe wounds are seldom seen in civilian practice. Extensive physiotherapy is also required in order for an amputee to maintain a full range of movement and strength in what remains of the severed limb. After the wounds have healed, the difficult and time-consuming process of fitting an artificial limb can begin. The person will need to replace this prosthesis regularly throughout his or her life – every three years on average and even more often at first. Children need their artificial limbs replaced every six months.

In addition to the physical injury, victims often endure psychological trauma. Losing a limb is a particularly devastating experience, often accompanied by shame, loss of dignity and a drop in self-esteem. The surrounding community may contribute to this, by ostracizing disabled

people or discriminating against them. Many victims therefore require psychosocial support, in addition to the vocational training, financial assistance and encouragement often needed to help them become financially self-sufficient.

Only the most fortunate receive this level of assistance, and many victims of explosive remnants of war do not receive adequate medical treatment. In a lot of affected areas, health care systems are either inadequate or non-existent. Accidents often happen in remote localities, far away from hospitals and with limited access to transportation. The victims or their families may not be able to pay for appropriate care, equipment and rehabilitation. Many never get help because they live in highly insecure environments. Travel may be restricted because the conflict is still going on, or because hospitals are in zones held by the adversary. To make matters worse, a lot of the affected areas may simply be too dangerous for humanitarian agencies to operate in.

Explosive remnants of war pose a particularly high risk to children. This may be because these objects are attractive to examine or play with. They are conspicuous, may have an interesting shape and are often brightly coloured. Children may be less likely than adults to know that such an object that they come across is explosive. Even when they are aware of the dangers, a desire to show off in front of their peer group may lead children to handle explosive devices. Another factor putting children at higher risk may be that in some rural communities they are responsible for herding animals, a task which involves moving across large areas of land. In Kosovo, those killed or injured by cluster submunitions were 5 times more likely to be under the age of 14 than those killed or injured by anti-personnel mines.



Cambodia, 2001.

John Rodsted/
Landmine Action

Chhom, Cambodia

In 1993, 13-year-old Chhay Chhom picked up and shook an unusual item that he had found while grazing his family's cattle. The resulting explosion tore off his right forearm and punctured his body with metal fragments. The fragments and blast to his face left him completely blind. It is believed that he picked up one of the many pieces of unexploded ordnance still littering Cambodia.

After being carried by his father to the hospital in Kompong Thom, Chhom's right hand and forearm were surgically amputated and the fragments of metal removed from his body. Chhom remained in the hospital for three months, but they could do nothing to save his eyesight.

Because he was blinded, Chhom stopped going to school. Now in his 20's, he stays at home and cannot walk far from the house. His parents have rice paddies and cattle, but with his injuries he is unable to work or even to help his parents much at home. "I used to have a lot of friends, especially when I was at school. But now they do not contact me or come to visit. I have a lot of difficulties, especially walking. I am in darkness every day and never see any light."

> Lost livelihoods

In addition to the personal tragedy of every man, woman and child killed or injured by explosive remnants of war, there is a severe socio-economic impact.

The direct economic repercussions for the affected individual and his or her family may include loss of income combined with the significant additional cost of short-term and long-term medical care.

In affected regions, the whole of society also incurs a significant cost. This includes lost productivity, due to premature death or disability, plus a heavy burden on the public health sector, diverting already scarce health care resources.

Explosive remnants of war also hinder the development and reconstruction of war-torn communities. The presence of explosive remnants of war often stops people returning to their homes after conflict, slows down the rebuilding of houses and can prevent the use of public spaces and schools. Re-establishing infrastructure such as electricity, clean water and sanitation is far slower and more costly when explosive remnants of war must first be cleared. Such adverse conditions discourage



Afghanistan, 2002.



external investment, further impeding socio-economic development.

dents occur while people are collecting wood or engaged in agricultural work.

Farming can be heavily affected by the presence of explosive remnants of war. Contaminated land diminishes the capacity of communities to feed themselves. Because explosive remnants of war can penetrate below the surface of the soil, making them impossible to see, farmers are particularly at risk. Cattle and other animals can also fall victim to these weapons, further reducing a community's means of subsistence.

Despite the known dangers, people must often continue to live with the threat of explosive remnants of war in conflict and post-conflict settings. Many are left with no option but to take risks going to work or to school, growing crops, transporting goods or travelling. Necessity drives people to till farmland despite knowing that they might detonate hidden cluster bomblets, or to rummage through mounds of abandoned ordnance in search of scrap metal to sell. The price that they pay is often high. In Laos, for example, estimates suggest that around 36 per cent of acci-

> Assuming responsibility: moves towards a new international agreement

For decades, explosive remnants of war were considered just another unfortunate result of armed conflict.

Affected States were frequently left to fend for themselves, and most were unable to do so adequately. In many cases, local communities were forced to live with the problem. In 2000, following the Kosovo conflict, the International Committee of the Red Cross (ICRC) launched a call for a new international agreement on explosive remnants of war. The cause rapidly gained the support of non-governmental organizations and many governments.

Following work by government specialists on the problem of explosive remnants of war in 2001 and 2002, States party to the Convention on Certain Conventional Weapons began negotiations on a new international instrument in March 2003. The negotiations could take a year or more, although the ICRC has called for the adoption of a new instrument by December 2003.

The negotiations focus on measures which will reduce the risks to civilians caused by explosive remnants of war. The action required and the measures proposed for a new international agreement are described below.

A. Clearing explosive remnants of war

Clearing explosive remnants of war is a slow, costly and dangerous task. Most countries currently affected by armed conflict lack the capacity to undertake large-scale clearance. Indeed, removing these weapons requires not only a lot of time but also expensive equipment and specialized technical training. Furthermore, it requires advanced technical information on the munitions used and how to neutralize them, i.e. information which can take months or years to obtain. Personnel are often killed or injured carrying out their job. Clearing cluster bomb submunitions is particularly difficult because very large numbers are often deployed. Submunitions can penetrate the soil by up to 50 centimetres and can thus be difficult to locate. As their fuses are extremely sensitive, they cannot be removed for destruction or made safe, and so they must be destroyed individually *in situ*.

Measures to facilitate the rapid and safe clearance of explosive remnants of war are essential in addressing the problem. A commitment by parties to a conflict to clear explosive remnants of war or to facilitate clearance must be a central element of an effective international agreement on explosive remnants of war. The measures proposed by the ICRC and many States include requiring parties to a conflict to clear explosive remnants of war in territory that they control, to provide technical and material assistance to facilitate clearance in territory not under their control and to rapidly share technical information with organizations involved in clearance (such as the UN and non-governmental organizations) to assist their work. Such information could include the types of explosive ordnance used in the conflict, the locations where they were delivered and the dangers that they pose to clearance personnel.



Kosovo, 2000.

B. Mine/ERW-risk education

The objective of mine/ERW-risk education is to help people live safely in an environment contaminated by explosive remnants of war and to reduce the risk of death or injury. A range of non-governmental organizations, Red Cross and Red Crescent Societies, the ICRC and international agencies conduct mine/ERW-risk education. In general, such programmes help civilians identify and avoid potentially dangerous objects and areas by distributing information leaflets and posters and engaging local communities in educational events. However, simply delivering warnings is not enough.

Economic imperatives will often drive people to high-risk behaviour even when they are aware of the danger. Unless the motives for risk-taking are understood and addressed, accidents will continue to occur. In some contexts, for example, the ICRC has compiled a list of villages near forests infested by landmines so that humanitarian agencies can distribute firewood for the winter. Mine/ERW-risk education programmes also channel information on areas affected by explosive remnants of war to clearance organizations and data on victims to organizations which help war-wounded.

The development of a new international agreement on explosive remnants of war should address mine/ERW-risk education. Proposals under consideration would oblige parties to a conflict to provide the information needed by organizations to allow them to conduct risk education programmes. Such information should include the types and visual characteristics of the explosive ordnance used in a conflict, as well as information on potentially dangerous areas. Parties should also be required to take all feasible precautions to protect civilians when using explosive ordnance, including giving civilians early and direct warnings of the dangers that these weapons pose.



Azerbaijan, 1997.

Boris Heger/ICRC



C. Assisting victims

Each person injured by explosive remnants of war will require first aid, evacuation, surgical treatment and rehabilitation. Many will need artificial limbs and access to rehabilitation services for the rest of their lives. However, the existing capacities of most affected countries are inadequate.

Assistance to help victims live healthy and productive lives should be an integral part of the solution to the problem posed by explosive remnants of war. A new agreement should commit both affected States and other States able to do so to provide assistance to the victims of explosive remnants of war in the context of strengthening the overall health care system.

D. Cluster bomb and other submunitions

Stricter rules on the use of cluster bomb and other submunitions could help reduce the particular risks that these weapons pose to civilians, both during an attack and once the fighting has ended. The ICRC has called for a prohibition on the use of submunitions against any military object located in or near civilian areas. Several non-governmental organizations have also called for a moratorium on the use of these weapons until stricter international regulations are in place.

The proposal to prohibit the use of submunitions against any military object located in a concentration of civilians has been supported by only a few governments. Another proposal to require that submunitions be made more reliable and include mechanisms to cause their self-destruction has broader support. Neither of these restrictions is the subject of current negotiations. However, they remain under discussion and, with increased public and political support, should be the basis of future negotiations.



Cluster bomb submunitions.



Giorgi, Georgia

Giorgi, a 17-year-old boy, and his relatives were enjoying the summer vacation at their grandmother's house in eastern Georgia. One morning, one of Giorgi's young cousins found something which looked like a large bullet.

Giorgi recognized it as a piece of UXO. He had seen similar items in the woods surrounding the former Russian military base near his village. Hunters and other people from the area used to cut them up in order to remove the gunpowder and sell the shells as scrap metal in the local market. Due to severe economic conditions in Georgia, many people living near former military bases are still involved in this "business".

Giorgi and his cousins decided to take the UXO to their uncle. But on the way, curiosity led them to try and break open the shell. They hit it with a rock and a terrible explosion followed.


"I can hardly remember anything except a terrible boom, blood and coloured spots in my eyes," said Giorgi. "My left hand was badly injured and bleeding. My sister Lela was wounded in the stomach. My cousin's eyes were full of blood

and he couldn't see anything. Later, in Tbilisi, the surgeon was shocked by the number of metal fragments he had to remove from my cousin's eyes. Fortunately, the operation was successful and my cousin is now OK. As for myself, the doctors had to amputate my left hand. Later, I was fitted with an artificial hand at an ICRC orthopaedic centre. I once dreamed of being a good wrestler, but now the dream is over."

> An appeal to support new rules on explosive remnants of war


The agreement among governments to begin negotiations on a new instrument which will address explosive remnants of war constitutes an important step.

However, it is essential that States adopt obligations which provide the most effective protection possible to civilian populations. The entire International Red Cross and Red Crescent Movement believes that, in order to minimize the number of new victims claimed every year, strict and legally binding rules must be developed and implemented as a matter of urgency. Given the spread of weapons capable of delivering huge amounts of explosive ordnance over great distances, the problem will become more and more severe unless international measures are agreed upon soon. Public abhorrence at the plight of the victims of anti-personnel landmines and mine-affected communities led governments to take clear and comprehensive action against these weapons. The negotiations on explosive remnants of war provide a unique opportunity to address an equally serious humanitarian problem.



The ICRC calls on governments, parliamentarians, ordinary citizens and organizations concerned with protecting people affected by armed conflict to ensure that States party to the Convention on Certain Conventional Weapons successfully conclude an international agreement which will effectively address the plight of civilians affected by explosive remnants of war. The negotiations are an important chance to strengthen an area of international law where few rules exist and to significantly reduce needless human suffering caused by armed conflict. Only a strong and effective result will prevent the unending tragedy caused by this lethal legacy of armed conflict.

Updates on the negotiation of a new international agreement on explosive remnants of war can be found on the ICRC website (www.icrc.org). Further information is also available from the ICRC Mines-Arms Unit (weapons.gva@icrc.org), ICRC delegations and National Red Cross and Red Crescent Societies.





Only strict and comprehensive rules can save the lives of those forced to live amidst explosive remnants of war.

John Rodsted



A child's memory of the lethal threat, Bosnia and Herzegovina.

> **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 war and internal violence and to provide them with assistance. It directs and coordinates the international relief activities conducted by the Movement in situations of conflict. It 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 International Red Cross and Red Crescent Movement.



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