

cluster munition systems
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SITUATION
AND INVENTORY

NOTICE TO THE READER

- *This document was prepared using publicly available, unclassified sources. As a result, information contained herein may occasionally reflect certain inaccuracies associated with military secrecy, in both facts and descriptions of military equipment.*
- *All the victims of submunitions whose stories are related below were met in Baghdad at the end of July 2003. In order to respect their personal privacy and to ensure their safety, we have changed names and masked their eyes where deemed appropriate.*

This study has been carried out by the Centre de Documentation et de Recherche sur la Paix et les Conflits (Research and Documentation Center on Peace and Conflicts) for Handicap International.

This document has been produced with the financial assistance of the European Community and the French Ministry of Foreign Affairs. The views expressed herein are those of Handicap International and can therefore in no way be taken to reflect the official opinion of these institutions.

cluster munition systems
Cluster munition systems
cluster munition
systems

CONTENTS

PART ONE: **PAGE 4**
Cluster munition systems

PART TWO: **PAGE 9**
An inventory

PART THREE: **PAGE 13**
Three wars, one logic

PART FOUR: **PAGE 22**
National positions

PART FIVE: **PAGE 25**
NGOS: toward a joint struggle?

PART SIX: **PAGE 28**
**What to ban:
EWR or submunitions?**

UNEXPLODED CLUSTER MUNITIONS: SHOULD THEY BE CONSIDERED AS ANTIPERSONNEL MINES?

Dr PHILIPPE CHABASSE

Co-director HANDICAP INTERNATIONAL

1991 : The Paris Agreements regarding Cambodia foresee the repatriation of 360.000 Cambodian refugees to their country. However, this long awaited political decision comes up against an unavoidable reality : nobody knows how many antipersonnel mines are scattered all around the country, nor exactly where the mined zones are located. Neither the United Nations agencies, nor the political and military authorities, know how to begin to deal with the problem.

1997 : The Mine Ban Treaty, signed in Ottawa, forbids the production, sale and use of antipersonnel mines. Thanks to an unprecedented rallying of national and international public opinion, hundred of thousands of survivors of the brutal injuries caused by landmines were given a voice, leading to a complete change in the way international legislation was decided. Handicap International is one of the six NGOs to have co-founded the International Campaign to Ban Landmines (ICBL), which now counts over a thousand NGOs among its members. Handicap International is proud to have contributed to these advances, which have been rewarded with the Nobel Peace Prize.

2003 : 147 countries adopted the Mine Ban thus making it the new international standard. Even though the number of new mines victims is still dramatically high, it seems not to be increasing anymore. However, recent conflicts in the Balkans, Afghanistan or Iraq indicate that a new plague threatens civilians after the conflicts : the explosive remnants of war and especially those from cluster bombs which, scattered on the ground, have effects similar to those of antipersonnel landmines.

We are aware of the effort which is still necessary in order to ensure that governments will respect the commitments stemming from their adhesion to the Mine Ban Treaty. In Europe and in the fifty countries where Handicap International is present, our teams continue to work towards this aim.

In addition to continuing the campaign for the complete eradication of mines, Handicap International has chosen to join those who fight against the equally horrifying "collateral damages" caused by the proliferation of explosive remnants of war and to demand, in particular, a complete ban on the use, production and transfer of cluster munitions until humanitarian concerns are properly addressed..

Just as we are constantly working to improve the effectiveness of our mine victims assistance, mine clearance and mine awareness programs, we wish to direct our efforts for knowledge and understanding towards a complete ban on cluster munitions. At a time when any negotiation for disarmament is turned into an intricate and complex question by political, military and commercial interests, we think it is important to have a clear view of the current situation. Similar studies are being undertaken in other countries and other continents.

The education and mobilization of the public, just as of those in political power, has to be backed up with accurate and exhaustive facts and figures. And we think these data, that should not be disseminated by the armed forces alone, should be made available to all those who fight for the upholding of international law.

cluster munition systems
Cluster munition systems
CLUSTER MUNITION
SYSTEMS

PART ONE: **PAGE 4**
Cluster munition systems

PART TWO: **PAGE 9**
An inventory

PART THREE: **PAGE 13**
Three wars, one logic

PART FOUR: **PAGE 22**
National positions

PART FIVE: **PAGE 25**
NGOs: toward a joint struggle?

PART SIX: **PAGE 28**
**What to ban:
EWR or submunitions?**

ANNEXES : **PAGE 30**

INTRODUCTION

According to the rules of international humanitarian law on the conduct of war, attacks must never deliberately target civilians, the use of weapons by belligerents must not be indiscriminate or disproportionate to the identified threat, and bombing should target military objectives only.

Despite these rules, the number of civilian casualties both during and after war has continued to grow in recent decades. In fact, “collateral damage” – harm to civilians or civilian assets – is still quite common. Thousands of explosive remnants of war (ERW) mark past conflict and constitute an ongoing danger to civilian populations. Realization by the international community of the dangers of antipersonnel mines led to the creation, in 1997, of a treaty banning these weapons. Unfortunately, this extraordinary advance in international law did not eliminate the danger posed by all ERW.

Cluster bombs, with their high failure rate¹, are among the principal sources of unexploded munitions. Their extremely unstable and sensitive submunitions – strewn over the ground – act essentially like antipersonnel mines, in terms of their effects and the consequences for nearby civilians. Many NGOs are ready for a new campaign against these weapons, and some States have proposed measures to reduce the risks they pose. There are, however, differences of opinion. In particular, exactly what should be the target of a new, legally binding instrument – within the framework of the Convention on Conventional Weapons – be? All explosive remnants of war, or just cluster munitions?

This summary will introduce some definitions and offer some ideas about why there are thousands of unexploded submunitions in regions emerging from war.

An examination of the wars in Kosovo (1999), Afghanistan (2001-2002) and Iraq (2003) will illustrate the proliferation of these weapons and their effects in these particular conflicts. A look at the various solutions proposed by the NGOs and a panel of seven States will reveal their different points of view.

1 - The failure rate relates to the proportion of submunitions that do not explode when touching the ground.

Cluster munition systems

CLUSTER MUNITION SYSTEMS

I – Definitions

“When the air raid siren stopped, people began to come out of the shelters, and encountered submunitions for the first time. The little bombs were on the roads, the roofs, between the trees and the hedges. An hour later, 31 people were dead and many more wounded after having handled them.”

Air raid on the Port of Grimsby, UK, the night of 13 June 1943.

Explosive remnants of war (ERW) pose a serious threat to a country's stability. No continent is free of this danger². Local populations, NGO personnel, and peacekeepers in conflict and post-conflict environments are all at risk from explosive debris. ERW also affect the environment (arable land, rivers, flora and fauna, etc.), creating additional obstacles to the resumption of economic development and political stability.



[A] Fields of submunitions in Afghanistan. (photo: John Rodsted)

Explosive remnants of war can be classified into four categories³ :

- Mines and unexploded ordnance (UXO);
- Abandoned armored fighting vehicles;
- Small arms and light weapons, and their ammunition;
- Abandoned and/or damaged stockpiles of explosives and ammunition.

While the last three sub-categories are fairly straightforward, the same cannot be said for unexploded ordnance⁴ [photo A].

2 - According to information presented at the conference *“Explosive remnants of war and development: Voices from the field”*, held in Dublin on 23-25 April 2003, 92 countries are contaminated by ERW: 23 in Europe, 17 in the Middle East and North Africa, 24 in Africa, 19 in Asia and the Pacific, and 9 in the Americas.

3 - Classification scheme used by the Geneva International Centre for Humanitarian Demining (GICHD), *Explosive remnants of war, A threat analysis*, 2002, p. 3.

4 - The danger of antipersonnel mines is now recognized by the 134 States that have ratified the Ottawa Treaty.

Unexploded ordnance is defined as explosive or pyrotechnically propelled ordnance "that has been primed, fuzed, armed or otherwise prepared for use or used." This includes all weapons that have been "fired, dropped, launched or projected yet remain unexploded through malfunction or design or for any other reason." This definition thus encompasses a large number of devices, but applies primarily to bombs, missiles, grenades, shells, and submunitions [photos B and C].

While all unexploded munitions are potentially deadly, unexploded submunitions are currently the most prevalent (after antipersonnel mines), and therefore constitute the most serious threat.



[B] Containers of submunitions in storage. (Photo: EC. Nedex)

[C] Container of submunitions crashed on the ground. (Photo: EC. Nedex)

A C C O U N T S



Wahid is 12 years old and lives near to Kerbala. His neighbourhood was bombed and many unexploded submunitions can still be found there. On the 29 June, that is several weeks after the end of the war, he was walking with his 9-year-old brother when the two boys were attracted by a strange metallic object. Wahid grabbed hold of it and the submunition exploded. Wahid's injuries are serious and multiple: his right hand was blown off, three fingers from his left hand have been amputated and his body is riddled with metal shrapnel. Some pieces of shrapnel are still lodged in his left knee and ankle, as well as in his skull. The young boy has already undergone two operations and is awaiting two more. As for his younger brother, he was hit by metal shrapnel in the legs. In order to cover the medical expenses created by the injuries of their two sons, their parents have been forced to sell most of their furniture.

Accounts given to the Handicap International team in Baghdad, Iraq, in July 2003.

[D] Wahid lying on his bed in a hospital in Baghdad.

(Photo: Alexandre Carle/HI)

11 – Submunitions



[E] Submunitions released from a fixed dispenser, attached to an aircraft. (Photo: EC, NEDEX)

Historically, the earliest submunitions were carried in bombs that were dropped from planes. A cluster munition system consists of two main components:

- A dispenser (fixed or mobile)⁵ that can be dropped by vectors such as planes or helicopters; a dispenser can also be fired from an artillery piece or from a Multiple Launch Rocket System (MLRS). Once launched, the dispenser opens and disperses its submunitions over the designated target [photo E];
- Submunitions⁶, which are small bombs whose arming cycle begins sometime between ejection and impact.

Nowadays, submunitions are dispersed using both air- and ground-based systems:

- Air-dropped submunitions are released from within a bomb ("cluster bomb") or from a fixed dispenser. The number of submunitions contained in these bombs can range from about 10 to several hundred. Recent wars have demonstrated that air supremacy is essential for victory; hence the widespread utilization of this type of weapon from various aircraft⁷ (bombers and helicopters);

5 - This dispenser is sometimes called a "cargo bomb".

6 - The term "bomblets" is used to refer to air-dropped submunitions. However, the 7-ton American BLU 82/B is also called a "bomblet!"

7 - During the first week of October 2001, 50 CBU 87s were dropped by a single B-1B bomber over Afghanistan in only five combat missions.



[F] French Bomblet GR. 66, used by French Armies during the first Gulf War in 1991. (Photo: EC, NEDEX)

[G] American BLU 66 identical to submunition BLU 24, used by American forces in Vietnam. (Photo: EC, NEDEX)

[H] Bomblet BLU 97 used by American forces in Afghanistan, Kosovo, Iraq... (Photo: EC, NEDEX)

- Ground-based submunitions are fired from various artillery systems, such as MLRS, mortars, and armored vehicles. From a distance of nearly 25 miles they can quickly distribute submunitions over several acres. As a result of their cost/performance ratio and psychological impact, more and more countries are acquiring these weapons.

The type of submunition used will depend on the target. Types include:

- Anti-tank munitions, such as the French GR 66 [photo F];
- Antipersonnel munitions, such as the American BLU 24 [photo G];
- Incendiary munitions, such as the American BLU 1/C;
- Combined effect munitions (CEM), such as the American BLU 97 (anti-tank, antipersonnel, and incendiary) [photo H].

Submunitions are also characterized by their fuze mechanism. They can detonate before impact, on impact, or after impact (delayed). These last are used for area saturation missions. Because the detonation delay can range from a few hours to several days, comparison with antipersonnel mines is completely logical.

III – Technical characteristics

The military accepts a certain failure rate for their weapons in combat; this rate is taken into account in their operations. There's no doubt that not knowing the failure rate during a military operation creates problems for both soldiers and civilians.

While it's impossible to establish an overall submunition failure rate, we can use the U.S. Army standards for failure rates during testing⁸ :

- Low: 1% - 2.5%
- Acceptable: 2.5% - 5%
- High: 5% - 10%

Because testing is done under ideal conditions – far removed from the reality of battlefield use – the failure rate must be adjusted upward to account for combat situations⁹ :

- Low: 5%
- Normal: between 5% and 15%
- High: greater than 15%

Such a large adjustment (a five-fold increase over the test failure rate) is explained by several factors:

- The complexity of the arming mechanism causes numerous malfunctions;
- Deficiencies in production, assembly, and storage can cause, for example, faulty ejection, leading inevitably to submunition failure;
- cost is a fundamental factor in submunition quality. A low-cost munition necessarily implies a lack of quality control and a high failure rate;
- Poor storage conditions lead, after a few years, to deterioration of various submunition materials (e.g. metals corrode, plastics become brittle). This increases the chances of malfunction;
- Weather (strong winds, heat, extreme cold) and terrain (e.g. swamp, sand, dirt) will affect submunition functioning. While most submunitions explode on impact – that is, when they encounter a target with some resistance (such as a tank or hard ground) – they will embed themselves and fail to explode in soft ground;
- Failure to respect utilization criteria such as drop height and speed will interfere with arming mechanisms and detonation of submunitions.

8 - ICRC, *Explosive remnants of war: A study on submunitions and other unexploded ordnance*, August 2000, p. 9.

9 - *Ibid.*, p. 9.

cluster munition systems
An inventory
 cluster munition systems

PART TWO : PAGE 33

AN INVENTORY

Cluster munition systems are a favorite of military strategists and a long-lasting menace to civilians.

I – A world tour of purchaser, user, and producer States

Since the 1950s, cluster munition systems have been used in 16 countries¹⁰ by 11 countries¹¹. The U.S. has used them 8 times in its various military interventions around the world¹².

33 countries produce and sell an array of 208 bombs, projectiles, and rockets capable of carrying submunitions. 7 out of them¹³ are not party to the 1980 Convention on Certain Conventional Weapons (CCW). In terms of weapons transfer, it appears that 9 countries have contributed to the proliferation of this menace by selling roughly 30 different cluster munition systems to 46 States¹⁴.

A few countries sell cluster munitions systems (bombs, rockets, and projectiles) to countries that have not ratified the CCW.

Known transfers of cluster munition systems between member and non-member countries of the CCW

Member country sellers

United States
 Brazil

Non-member country buyers

Turkey (CBU 87), Egypt (CBU 87)
 Iran (Astro II), Iraq (Astro II)

In all, 58 countries¹⁵ possess this type of weapon, though not all have the full panoply.

France apparently used cluster bombs in Chad and in the Gulf War (in Kuwait and Iraq)¹⁶. Unlike the U.S., Britain, and the Netherlands, France is not thought to have used cluster weapons since 1991.

10 - Afghanistan, Albania, Saudi Arabia, Bosnia-Herzegovina, Cambodia, Eritrea, Ethiopia, Iraq, Kosovo, Kuwait, Laos, Lebanon, Russia (Chechnya), Sudan, Chad, and Vietnam.

11 - Saudi Arabia, France, Holland, United States, Ethiopia, Eritrea, Israel, Russia, Britain, Sudan, and Yugoslavia.

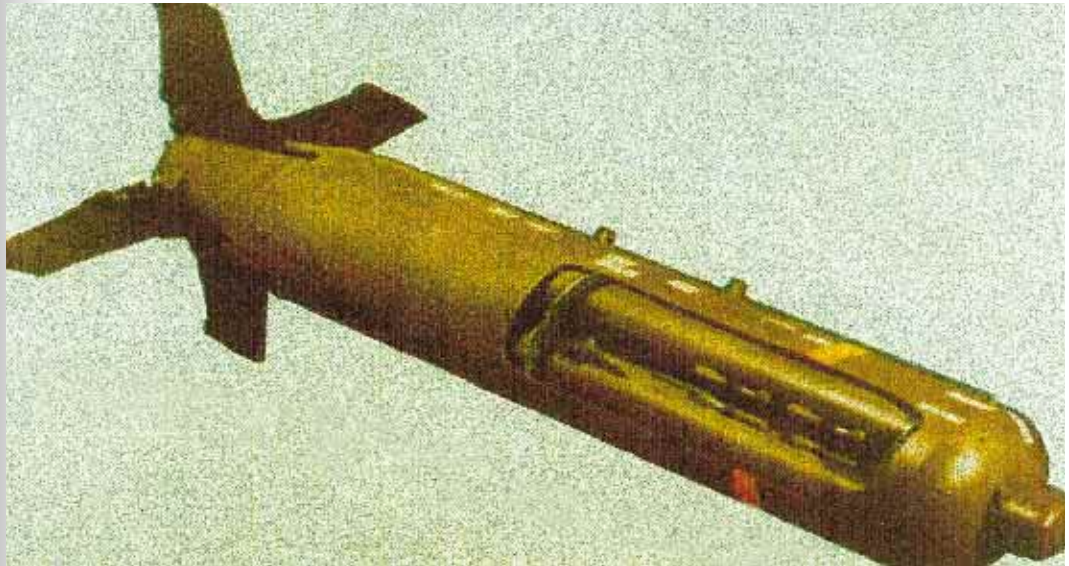
12 - Including four conflicts in less than twelve years (Iraq and Kuwait in 1991, Kosovo in 1998, Afghanistan in 2001-2002, and Iraq in 2003).

13 - Chile, North Korea, Egypt, Iran, Iraq, Singapore, and Turkey.

14 - See Annex 1: "33 States manufacture cluster munition systems" and Annex 3: "Known transfers of cluster munition systems."

15 - See Annex 2: "58 States possess cluster munitions systems."

16 - According to information on the use of cluster bombs from the ICRC and Human Rights Watch.



[1] Section of a CBU 87, containers of the BLU 97, used by American forces. (Photo: EC. NEDEX)

It does, however, possess all the components (shells, bombs, and rockets) necessary for submunition delivery:

- The Army, for example, has BONUS shells¹⁷ and M 26 rockets for its MLRS;
- The Air Force has various French (Belouga and Alkan 500) and foreign-made (American CBU 87) bombs [photo 1].

Major manufacturers involved in the cluster weapon production program include Giat Industries, Thomson Brandt Armements (a subsidiary of Thalès), Matra Bae Dynamics (MBDA), and Alkan et Cie.

II – The Convention on Certain Conventional Weapons (CCW)

International humanitarian law sets out rules of responsibility for military commanders, establishing:

- A distinction between military and civilian objectives, and between civilians and combatants;
- Rules regarding the respect for and protection of civilians by combatants; these forbid both the deliberate targeting of civilians and the inadvertent infliction of collateral damage. International humanitarian law prohibits any attack on civilians, where the term “attack” applies in the broad sense of either an offensive or defensive act of violence;
- Rules against the targeting or destruction of civilian assets, and assets necessary to civilian life.

17 - Built by Giat Industries in partnership with Swedish manufacturer Bofors.

Two conventions govern conventional land-, sea-, and air-based weapons: one is concerned with certain conventional weapons, the other with the reduction of conventional weapons in Europe (1990).

The Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects (the CCW, for short) entered into force on 2 December 1983. There are now 88 States Parties to the convention, which contains four protocols:

- Protocol I on fragments which are not detectable in the human body¹⁸;
- Protocol II on prohibitions or restrictions on the use of mines, booby-traps and other devices;
- Protocol III on prohibitions or restrictions on the use of incendiary weapons;
- Protocol IV on the prohibition of blinding laser weapons.

The principles of international humanitarian law and two articles of the CCW – one dealing with State responsibility (Protocol II, Article 8), the second imposing a absolute ban (Protocol III, Article 2) – could, with appropriate modification, serve as the basis for a new protocol on cluster munition systems:

- Protocol II, Article 8 clearly states that “each party to the conflict shall, if requested by the head of the United Nations force or mission in that area, as far as it is able, remove or render harmless all mines or booby-traps in that area...” This could provide the legal basis for making States responsible for areas contaminated by their unexploded munitions. The accused State would have to provide technical and/or financial help in cleaning up the area.
- Protocol III, Article 2 establishes two absolute prohibitions with regard to incendiary weapons. One protects civilian-populated areas: “It is prohibited in all circumstances to make any military objective located within a concentration of civilians the object of attack by air-delivered incendiary weapons.” Replacing the words “incendiary weapons” with “cluster munitions” would provide a fundamental principle that could be added to the rules of international humanitarian law prohibiting the targeting of civilians.

18 - The entire protocol is expressed in the single sentence: “It is prohibited to use any weapon the primary effect of which is to injure by fragments which in the human body escape detection by X-rays.”

A C C O U N T S



[J] Akim in a hospital in Baghdad. (Photo: Doctor Ali/HI)

Akim is a young shepherd, 13 years old, from Al-Radwaniya. Caught unawares by a bombardment while playing outside his parents' farm, he was seriously injured by a submunition. His uncle found him and drove him immediately to the hospital. He had lost so much blood that they feared for his life. Four months later, Akim is still in hospital and his condition is showing no signs of improvement.

He suffers from serious injuries and burns on his lower limbs and received many fragments of shrapnel in his body. He has multiple fractures in the right leg, which is held in place by an external pin, while both his legs are bound together with bandages. His many wounds appear to be very infected and in addition to that he suffers from bedsores. He is very depressed and cries every night. He is losing weight at a dramatic rate.

Accounts given to the Handicap International team in Baghdad, Iraq, in July 2003.

cluster munition systems
Three wars, one logic
 cluster munition systems

PART THREE : PAGE 43

THREE WARS, ONE LOGIC

Cluster munition systems staged a comeback in 1991, during the first Gulf War. Millions of submunitions¹⁹ were used during the six-week-long war. 1,600 people have been killed and more than 2,500 wounded by unexploded submunitions since 1993. Unexploded submunitions were the directly responsible for:

- 25 dead and many injured American soldiers²⁰;
- 3 dead and 23 wounded French soldiers.

In the past five years, western nations have been directly or indirectly involved in three major conflicts: the 1999 war in Kosovo, the 2001-2002 military intervention in Afghanistan, and the 2003 Iraq war. The entire array of cluster munitions was deployed during these conflicts. We estimate that nearly one million submunitions were unleashed on these countries²¹, meaning that at least 50,000 of these bomblets have become unexploded ordnance poised to go off at any moment.

Enough time has now elapsed since the conflicts in Kosovo and Afghanistan (we have official reports from governments and NGOs, and data on the number of accidents and on mine clearance, etc.) to allow an analysis of the military usefulness of cluster munitions and their affects on civilians.

While American and British operations in Iraq are still too recent to allow an analysis of the usefulness of these weapons or the dangers facing civilians, we do know that:

- Cluster munitions were used in civilian areas (Baghdad, Basra, and Kirkuk)²²;
- Nearly 1,500 cluster bombs of various types were used²³;
- Several U.S. soldiers have been killed or wounded by unexploded submunitions²⁴.

Testimonies from recent civilian casualties in Irak are presented later in this chapter.

19 - 47,167 bombs or dispensers carrying 13,167,544 submunitions were dropped. Added to this were 17,286 MLRS-launched rockets carrying more than 11 million submunitions. In some cases the failure rate was close to 40%. Landmine Action, *Cluster bombs: The military effectiveness and impact on civilians of cluster munitions*, 2003.

20 - Mines-Arms Unit, ICRC, *Explosive remnants of war*, August 2000, p. 20.

21 - 577,086 submunitions were used during the conflicts in Kosovo and Afghanistan. The U.S. has admitted using nearly 1,500 bombs containing submunitions and several hundred MLRS-fired rockets. This means that at least 500,000 submunitions were used in the last Irak war.

22 - Map of sites bombed by cluster munition systems (http://www.agoodplacetostart.org/hoc_briefing.php).

23 - Washington press conference, 25 April 2003, official statement from the chairman of the U.S. joint chief of staff, Richard B. Myers.

24 - *The Associated Press* reported that on 19 April 2003 several soldiers were wounded by an exploding submunition. On 23 April, a U.S. Army sergeant was killed by a submunition explosion.

I – The war in Kosovo, 10 March – 10 June 1999

Submunitions used, by whom, where, and why

Of all the countries participating in Operation Allied Force, only three used cluster bombs in Kosovo ²⁵:

- The United States used 1,100 CBU 87 bombs, containing a total of 222,200 BLU 97/B submunitions. Several Mk 7 bombs, each containing 247 M 118 Rockeye submunitions were also used;
- The Netherlands used 165 CBU 87 bombs, containing a total of 33,300 BLU 97/B submunitions;
- Britain used 500 BL 755 bombs containing a total of 73,500 submunitions.

Thus, beginning in April 1999, a total of 1,765 bombs were dropped, primarily on Kosovo province (a few landed in Albania). In addition, the Yugoslav army used a small number of BL 755 bombs against the Kosovo Liberation Army (KLA/UCK) ²⁶.

Aerial bombing targeted headquarters, infrastructure, troop concentrations, and all armored vehicles. There were a total of 400 targets. According to British Secretary of Defense William Cohen, these bombs were particularly effective against Serb forces.

Military effectiveness in this conflict

While it is clear that this bombing hurt Serb military operations, that it contributed significantly to defeating the regime in Belgrade is far from proven. Only its psychological impact seems certain, since:

- Of the 744 confirmed NATO targets, only 58 were hit and destroyed ²⁷;
- Laser-guided missiles proved more effective than cluster bombs for a given target ²⁸;
- On 7 June 1999 ²⁹, American B-52s carried out intensive bombing raids on Mount Pastrik, where Serb troops had amassed. Initial NATO estimates put at 600 the number of Serb soldiers killed. At the end of the war, however, U.S. military analysts found no evidence of large numbers of victims in this area.

Not only is the strategic usefulness of these weapons questionable – what about the danger they pose for the troops using them? For example:

- NATO itself admits that ground operations were delayed or reconsidered as a result of unexploded submunitions. Planned routes for “the invasion of Kosovo” had to be cleared by demining specialists;
- Unexploded munitions slowed NATO troops, making them more vulnerable to attack by Serb forces.

25 - Human Rights Watch, *Cluster bombs in Afghanistan*, October 2001.

26 - ICRC, *Explosive remnants of war: Cluster bombs and landmines in Kosovo*, June 2001, p. 6.

27 - Landmine Action, *Cluster bombs: The military effectiveness and impact on civilians of cluster munitions*, 2003.

28 - After several raids using non-laser-guided cluster bombs, it turned out that various infrastructures surrounding Gjakovica were virtually intact.

29 - Mines-Arms Unit, ICRC, *Explosive remnants of war*, August 2000, p. 24.

Post-conflict impact (civilian and military)

As soon as the fighting stopped, cleanup operations began. NATO estimated the failure rate at 10%³⁰. But according to Kosovo Force (KFOR) demining specialists, the rate varied from 3% to 26% depending on the cluster munition system found, resulting in an average failure rate of 10% to 15%³¹. The rate was therefore much higher than figures officially published by:

- The British Defense Minister who, as late as the year 2000, announced that recent statistics showed an overall failure rate on the order of 5%³² for cluster munition systems. In March 2000, the UNMACC (United Nations Mine Action Coordination Center) estimated that the failure rate for RBL 755 submunitions was around 11% or 12%³³;
- The U.S. military, which claimed a failure rate of about 5% for their cluster bombs³⁴ (for example the CBU 87). In fact, in March 2001 the UNMACC estimated the failure rate for BLU 97 submunitions at 7%³⁵.

By the end of May 2000, 4,069 submunitions had been disposed of³⁶. According to the most recent data (2003), 27,000 submunitions have been found³⁷, or an average of 6,750 per year since the start of cleanup operations. This figure is not definitive, however, since 10-20 additional submunitions are discovered each month³⁸.

The local populace is most severely affected by these unexploded submunitions, especially those under 18 years of age. In 35 accidents, 157 people have fallen victim to these unexploded munitions³⁹. Five members of the KFOR team have been killed, and one wounded, since their operations began in 1999.

The Adriatic was also contaminated by 235 cluster bombs dropped by NATO planes returning from combat missions: planes cannot be armed when landing on aircraft carriers. According to the ICRC, three Italian fishermen were wounded after removing unexploded submunitions from their nets in May 1999⁴⁰.

This part of the world now appears to face a new threat. About 10 areas that had already been completely cleared are once again considered dangerous to civilians, since many submunitions that had buried themselves on impact are now resurfacing. The danger is back.

30 - ICRC, *Explosive remnants of war: Cluster bombs and landmines in Kosovo*, June 2001, p. 8.

31 - *Ibid.*, p. 8.

32 - Rae McGrath, *Cluster bombs: The military effectiveness and impact on civilians of cluster munitions*, Landmine Action, September 2000, p. 27.

33 - *Ibid.*, p. 27.

34 - Human Rights Watch, *Fatally flawed: Cluster bombs and their use by the United States in Afghanistan*, December 2002, p. 37.

35 - Human Rights Watch, *Cluster munitions a foreseeable hazard in Iraq*, March 2003, p. 4.

36 - *Ibid.*, p. 8.

37 - Information provided by Capt. Michael Brauns of the KFOR Press Information Center, 16 April 2003.

38 - *Ibid.*

39 - For an average of 4.5 victims per accident.

40 - ICRC, *Explosive remnants of war: Cluster bombs and landmines in Kosovo*, June 2001, p. 14.

II – The war in Afghanistan, 7 October 2001 – March 2002

Submunitions used, by whom, where, and why

The United States and Britain were the only two western nations to use cluster munitions during this military campaign. On 25 October 2002, the U.S. admitted that its bombers carried CBU 87 cluster bombs. In addition to this older model, CBU 103s and a small number of Navy-fired JSOW missiles were also used. In all, 1,228 bombs containing 248,056 submunitions were dropped on 232 targets⁴¹.

Northern Alliance and Taliban forces also used submunitions, fired from Multiple Launch Rocket Systems (MLRS)⁴².

They were used primarily against military bases, troop movements, and fortifications early in the war. Much of the targeted infrastructure was located near civilian-populated areas. It was only after the cities fell, in December 2002, that bombing raids concentrated on the Tora Bora Mountains. The bombs hit many villages, causing a large number of civilian casualties⁴³.

Military effectiveness of submunitions in this conflict

Use of these weapons clearly delayed military ground operations and endangered the lives of American and British soldiers. Ground troops were assigned to “cleaning up” pockets of resistance in the wake of these aerial bombardments. Because the infantry had infrared goggles giving them an advantage over the enemy, most of these missions were carried out at night. Some operations had to be cancelled due to the risk that the men would unwittingly step on their own side’s munitions⁴⁴.

41 - Human Rights Watch, *Fatally flawed: Cluster bombs and their use by the United States in Afghanistan*, December 2002, p 1.

42 - Human Rights Watch, *Cluster bombs in Afghanistan*, October 2001, p. 4.

43 - A cluster bomb hit the village of Qala Shater on 22 October 1999, killing between 11 and 13 civilians and destroying about 20 of the village’s 45 houses.

44 - Human Rights Watch, *Cluster bombs in Afghanistan*, October 2001, p. 30.

Post-conflict impact

While it's extremely difficult to know the exact failure rate, we can estimate using the rate found in Kosovo for the same submunition (BLU 97). According to the United Nations Mines Action Service (UNMAS), the failure rate for Kosovo was 7%; this would correspond to more than 17,000 unexploded submunitions in Afghanistan.

Civilians have been seriously impacted by this explosive war debris. Between October 2001 and November 2002, no less than 127 people fell victim to unexploded submunitions. Of these, 87% were under 18 years old⁴⁵. One reason for the high number of young victims could be the similarity in appearance between the submunitions and food rations dropped by planes – both were the same yellow color! And, once again, these weapons were released over civilian-populated areas.

III – Testimonies from Irak, April 2003

*The following part is part of an article: "Officials: Hundreds of Iraqis killed by faulty grenades"⁴⁶, by Thomas Frank, published by *The Associated Press*, June 23, 2003.*

Washington - Hundreds and possibly thousands of Iraqi civilians have been killed or maimed by outdated, defective U.S. cluster weapons that lack a safety feature other countries have added, according to observers, news reports and officials.

U.S. cluster weapons fired during the war in March and April dispersed thousands of small grenades on battlefields and in civilian neighborhoods to destroy Iraqi troops and weapons systems. But some types of the grenades fail to explode on impact as much as 16 percent of the time, according to official military figures. Battlefield commanders have reported failure rates as high as 40 percent. Unexploded grenades remain potentially lethal for weeks and months after landing on the ground, where civilians can unwittingly pick them up or step on them. Many victims are children such as Ali Mustafa, 4, whose eyes were blown out when a grenade he played with near his Baghdad home in April exploded in his face.

The "dud rate" for cluster grenades can be reduced to less than 1 percent by installing secondary fuses that blow up or neutralize grenades that fail to explode on impact, according to defense contractors. In early 2001, the Pentagon said it would achieve that goal, but not until 2005. In the meantime, the military continues to use a vast arsenal of cluster grenades that fail to meet the new standard. Former military officials and defense experts say the effort to improve the grenades was given a low priority and little funding. "The Army is behind, and the Army is moving very slowly," said retired Army Lt. Gen. Michael Davison, now president of the U.S. division of Israel Military Industries, which has made 60 million grenades with secondary fuses. "It's a sorry situation that we didn't have secondary fuses on the artillery submunitions [grenades] that were fired in the last several wars."

45 - Human Rights Watch, *Cluster bombs in Afghanistan*, October 2001, p. 30.

46 - Sources: Federation of American Scientists, Humanitarian Operations Centre, *The Guardian*.

Britain, which joined the United States in the fight to oust Saddam Hussein, fired 2,000 artillery cluster weapons in the war. All were equipped with Israeli-made grenades with secondary fuses and a 2 percent dud rate, the British Defense Ministry said [photo N].

The United States fired cluster weapons as bombs, rockets and artillery shells, which open like a clam to scatter hundreds of grenades over an area as large as several city blocks. Almost all of the U.S. grenades had one standard fuse, according to military records and officials. A notable exception was a type of cluster bomb carrying newly designed—and expensive—grenades with infrared sensors that seek armored vehicles and self-destruct if none is found.

As small as medicine bottles and often draped with short ribbons, unexploded grenades attract children who mistake them for toys [photo K].

On the April day when Ali Mustafa lost his eyes—an explosion that injured his brother and friend—the three were taken to a Baghdad hospital where two other youths were being treated for cluster grenade wounds. Ali Hamed, 10, of Baghdad, had his stomach ripped open and bowel perforated when a grenade that he and friends were playing with blew up. Shrapnel ripped into the buttocks of Saef Sulaiman, 17, after his younger brother brought

a live grenade into their Baghdad home. Sulaiman said his 8-month-old sister, who had been resting on the living-room floor, was killed in the explosion. Ali Hamed's mother said two friends of her son's were killed when Ali was hurt. Another Iraqi child who picked up a grenade survived when Army Sgt. Troy Jenkins took it from her. The grenade then exploded. Jenkins was killed.

The military has not said how many troops have been killed or injured by unexploded grenades. But the 1991 Gulf War revealed their danger. A congressional report found that grenade duds killed 22 U.S. troops—6 percent of the total American fatalities—and injured 58 as forces swept the Iraqi military out of areas in Kuwait's desert that the Americans had just shelled. The Army said in a post-war report that “the large number of dud U.S. submunitions... significantly impeded operations.”

A U.S. mine-clearance company found 118,000 unexploded cluster grenades in just one of the seven Kuwaiti battlefield sectors, according to the General Accounting Office, Congress' investigative agency. Military documents and officials estimated the dud rate at 8 percent to 40 percent. The total number of unexploded grenades in the region was estimated at 1.2 million by Human Rights Watch, which opposes cluster weapons. It estimated fatalities at 1,220 Kuwaitis and 400 Iraqi civilians.

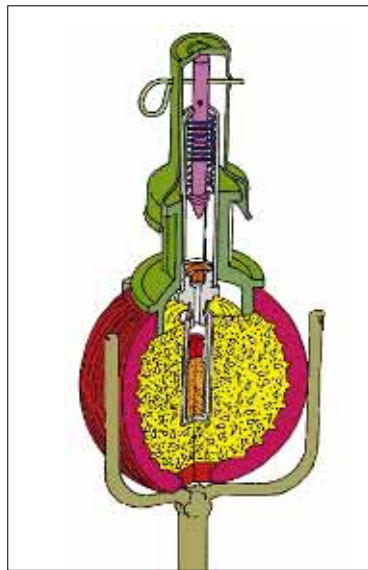
Forced to confront the problem of unexploded cluster grenades, the military focused on training U.S. troops to clear



[K] French Submunition OGR F1 equipped with a pink ribbon. (Photo: EC, NEDEX)



Child burned by the explosion of a submunition, in a hospital, Baghdad, Iraq. (Photo: Alexandre Carle/HI)



[L] Submunitions BLU 66, used by Vietnamese soldiers as landmines B 40.
[M] Section of the same weapons.
(Photo: EC, NEDEX)

them and avoid them in the battlefield instead of making improvements to reduce their number, defense experts said. "We didn't do a whole lot that cost a whole lot of money," said Richard Johnson, a defense consultant and retired Army colonel who spent 30 years working in ammunition acquisition programs.

The Pentagon acknowledged in a 2000 report on cluster weapons that "a significant percentage of these submunitions may not detonate reliably." The report said "corrective measures are under way" but said the Pentagon would not retrofit the cluster grenade inventory, which an earlier report said numbered 1 billion. Retrofitting the entire grenade stockpile was deemed too costly, at \$11 billion to \$12 billion, according to a 1996 Army report. But the report also noted that cleaning up dud grenades was so costly that in certain limited conflicts "costs for retrofit of our ammunition might be recovered from the elimination of future cleanup costs." The military has been trying to improve grenade reliability, but technological problems and the complexity of cluster weapons have caused delays. "I don't think anybody is happy with the current fusing," one Army official said.

Two people close to the Navy said recently that reports of civilian casualties have reignited what they called a stalled Navy effort to modify one type of grenade considered notoriously unreliable by experts. A military report indicates 36,179 such grenades were used in Iraq. Lt. Col. Stephen Lee, who manages an Army program to upgrade cluster-weapon safety, said, "There have been major improvements; it's just that they're not fielded yet." Speaking about a type of grenade used widely in Iraq, Lee said, "There really is no difference in terms of the dud rate between the first Gulf War and the most recent conflict in Iraq." Experts say the military has focused on building new precision weapons systems. "Safety and collateral damage are not as high a priority as mission effectiveness," said David Ochmanek, a RAND Corp. defense analyst who was a deputy assistant defense secretary in the Clinton administration.

The Defense Department defended its recent use of cluster weapons in Iraq. Gen. Richard Myers, chairman of the Joint Chiefs of Staff, blamed the civilian casualties on Hussein for deliberately placing Iraqi weapons in populated areas where they would draw return fire. "War is not a tidy affair. It's a very ugly affair," Myers said in April. "And this enemy had no second thoughts about putting its own people at risk." The U.S. military has known about the dangers of the unexploded grenades for decades, since the Vietnam War, when Viet Cong fighters used unexploded grenades as land mines against the U.S. forces that fired them by the millions [photo L and M].

In the three decades since, the duds have killed thousands in Laos, says the International Committee of the Red Cross. The Red Cross, human rights groups and the European Parliament have campaigned to ban cluster-weapon use until nations agree to improve grenade reliability, avoid firing them in populated areas and regulate their cleanup.

The United States did little in the 1970s and 1980s to improve the reliability of the grenades, said Darold Griffin, former deputy director for research and development in the Army Material Command. "Some felt duds were an asset on the battlefield. You fire them into an area where an enemy is, and having some duds decreases his freedom of movement," he said.

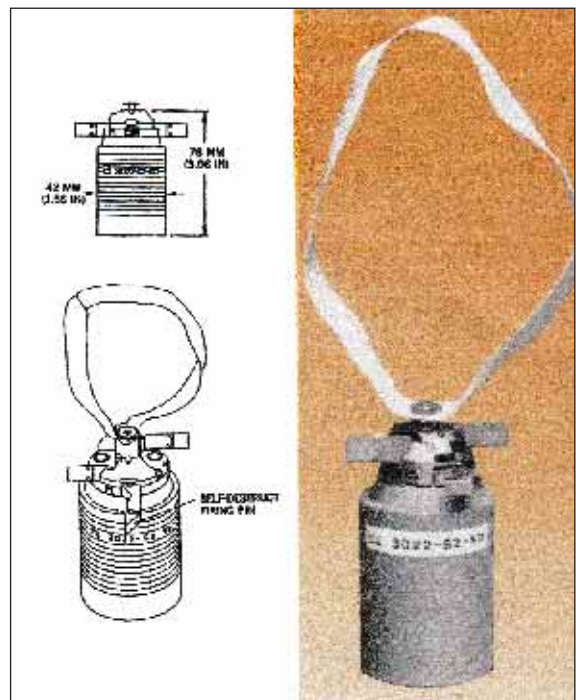
Countries that have fought wars on their own soil, most notably Israel, have made improvements, out of fear that duds would harm their own civilians and under public pressure. Israeli-made grenades now have a dud rate of less than 1 percent, said Davison, the Israeli Military Industries official [photo NJ]. The company has sold tens of millions of grenades to Britain, Germany, Denmark and Finland, and to Switzerland, which has proposed international standards to improve grenade reliability.

Sweden also requires its cluster grenades to have secondary fuses, said Lt. Col. Olof Carelius of the Swedish Armed Forces.

Grenades fail to detonate mostly when their landing impact is lessened, because they fall on a soft surface or sloped terrain, or they collide in midair and lose speed. The Pentagon says many grenades fail only 2 percent of the time but acknowledges dud rates are difficult to ascertain and vary widely depending on conditions. It says the weapons are ideal for hitting spread-out targets like troop formations and tank columns. But the consequences of failure rates are magnified by the numbers of grenades used: To destroy one air-defense system covering 100 square yards requires 75 rockets, each carrying 644 grenades—a total of 48,300. The 16 percent failure rate listed by the Pentagon produces 7,728 unexploded grenades, scattering them over 600 square yards.

Bonnie Docherty, part of a Human Rights Watch team that recently spent a month surveying battle damage throughout Iraq, said she "saw evidence of thousands of submunitions in or near populated areas." Cluster-weapon use was "significantly more extensive than in Afghanistan," where the United States dropped 1,228 cluster bombs containing 248,056 grenades in a six-month span, according to Human Rights Watch.

A report by the Air Force in late April said U.S. aircraft over Iraq dropped 1,714 cluster bombs containing about 275,000 grenades. No report is available on the number of ground-fired cluster weapons, but throughout the war launchers could be seen firing grenade-carrying rockets.



[N] U.S. submunition weapons with a self-destruction system that reduces its failure rate. (DR)

cluster munition systems
National positions
 cluster munition systems

PART FOUR : PAGE 51

NATIONAL POSITIONS

Several States seem to have already decided on how best to solve the unexploded submunition problem. If we examine their positions, some commonalities emerge.

I – The technical solution

Three States are advocating this approach, which would first reduce, then completely eliminate, submunition failure.

- **The United States** is the largest producer (its stockpiles are said to be on the order of a billion)⁴⁷ and user of submunitions. On 10 January 2001, Secretary of Defense William Cohen recognized that the failure rate for current weapons is too high: "It is the policy of the DoD [Department of Defense] to reduce overall UXO [unexploded ordnance] through a process of improvement in submunition system reliability. . . .⁴⁸ " The U.S. goal is a reliability rate of 99% or higher.
- **France**⁴⁹ would like to see submunitions subject to universal regulation via a new legal instrument within the framework of the CCW. The French government draws a distinction between different submunition types, and would like to concentrate its efforts on two types: so-called saturation weapons, which carry a large number of submunitions, and low-precision cargo bombs. Three kinds of technical fix would be needed: improving the reliability rate, requiring self-destruct or self-neutralizing fuzes, and requiring special markings.
- **Switzerland**⁵⁰ would like to see the adoption of an international reliability standard of at least 98%. To reduce the risk of non-explosion, it also recommends that each munition be equipped with a self-destruct fuze⁵¹.

While these countries' suggestions for reducing the submunition failure rate should not be tossed aside, there are several things we need to consider.

- A reliability rate of 99% or higher would only apply to future submunition production. But what about current stockpiles? Will they be used or destroyed?
- How will the 99% (U.S.) or 98% (Swiss) reliability rate be assessed, and by whom? Will testing be done under combat conditions?
- **Reducing the failure rate to 1% or 2%, if it can be done, would correspond to 6,580 unexploded submunitions in Kosovo, and 4,961 in Afghanistan. Should these rates be considered acceptable for local populations?**
- More reliable submunitions will necessarily mean higher manufacturing costs. One wonders whether all the current producer States are going to want to spend more for something that benefits civilian populations, not them.

47 - Human Rights Watch, *Cluster munitions: Measures to prevent ERW and to protect civilian populations*, March 2003.

48 - Ibid.

49 - The French government offered its solutions at the second session of the Group of Governmental Experts of States Parties to the CCW on 18 July 2002, where the submunition issue was discussed.

50 - Switzerland produces submunitions jointly with Italy.

51 - Human Rights Watch *Memorandum, Cluster munitions: Measures to prevent ERW*, March 2003, p. 3.

- France is firmly opposed to air-dropped cluster munitions. Why this distinction between surface- and air-based systems? Could it have anything to do with the recent production of the BONUS shell for its artillery?

II – Moratorium, or ban treaty

These measures have been suggested by **Austria** and **Norway**, two countries that have been strongly committed in recent years to establishing international positions on questions of human rights, development, and peace:

- Austria's current position⁵² is unique. At the international conference on ERW in Dublin⁵³, its official representative stated unequivocally the country's desire for a cluster munition ban treaty;
- In 2001, Norway decided to stop using cluster bombs in international military operations. This decision was put into effect immediately by its air force, which was in Afghanistan at the time.

While the Austrian position is admirable, we hope it will be restated publicly, followed by details on the contents of a future treaty.

Norway's moratorium is an important decision, but not irreversible, which diminishes its value. The moratorium only applies to cluster munitions delivered by aircraft. All other delivery systems (artillery, MLRS, rockets, mortars, guided bombs, etc.) are exempt. Norway, like France, makes a distinction between cluster munition delivery methods.

III – Destruction of stockpiles

The military periodically destroys a certain number of weapons and explosives that are obsolete. For example,

- In 2002, the **United States** destroyed nearly 5,994 tons of submunitions at a cost of 4.9 million dollars⁵⁴;
- **Belgium**⁵⁵, equipped with British-made BL 755 bombs and submunitions, has decided to destroy all these weapons because they are obsolete;
- **Sweden**⁵⁶ has withdrawn its Rockeye submunitions for the same reason.

The other 18 States with BL 755 or Rockeye submunitions should take notice of the Belgian and Swedish decisions. Are the criteria for obsolescence different in Islamabad, Bern, Paris (the French military uses Rockeye submunitions), or Washington? In any case, despite the fact that Belgium and Sweden have destroyed these stockpiles, neither country has questioned their military's use of other cluster munition systems.

52 - Austria has no cluster weapons.

53 - *"Explosive remnants of war and development: Voices from the field"* 23-25 April 2003.

54 - Human Rights Watch, *Cluster munitions: Measures to prevent ERW and to protect civilian populations*, March 2003.

55 - Ibid.

56 - Ibid.

cluster munition systems
NGOS: toward a joint struggle
 cluster munition systems

PART FIVE : PAGE 53

NGOS: TOWARD A JOINT STRUGGLE?

Over the past ten years, the NGOs have become increasingly influential and familiar players in the international decision-making process. It now seems unthinkable to ignore civil society's viewpoint, while those in diplomatic circles are constantly in need of ideas. As an example, the ban on antipersonnel mines was the result of a long struggle that was initiated by NGOs and only later joined by numerous States (in the mid-90s), giving birth to the Ottawa Treaty.

A number of NGOs fighting the scourge of antipersonnel mines – through either field work, research, or communications – are now mobilizing against ERW and, more specifically, against unexploded cluster munitions.

These organizations agree on the need to create a binding instrument to eradicate cluster munitions. But though they agree on the basic idea, different tendencies seem to be emerging. A closer look at three of the organizations (ICRC, HRW, and LMA) working on this issue reveals two different preferences:

- To campaign against ERW. The advantage of this approach is that it deals with all types of weapons left behind after a conflict, and thus would not exclude the many countries that are not affected by submunitions, but are affected by other categories of ERW;
- To concentrate only on cluster munitions. This is a less ambitious, but more realistic, goal, focusing as it does on a single weapon system.

I – Human Rights Watch (HRW)

HRW is clearly focused on the problem of cluster munitions. This American organization wants States to begin discussing this issue separately. Such discussions would eventually lead to a mandate to negotiate a new legal instrument or framework specifically dealing with cluster munitions.

HRW is calling for a moratorium on the use, production and transfer of cluster munitions. Until such a moratorium is established, HRW wants (at a minimum) preventative measures both before and during conflict to reduce the area contaminated by unexploded munitions. In addition, Human Rights Watch believes that the initiatives adopted by some governments could be developed and incorporated as “best practices” for prevention in an ERW instrument.

Preventative measures to take before hostilities:

- Manufacturing: submunition reliability should be 99% or greater. In the future, submunitions should be equipped with auto-destruct fuzes. Finally, quality standards should be established to guarantee the reliability of these munitions;
- Lots that fail to meet standards or which have exceeded their shelf-life should be destroyed;
- Restrictions or prohibitions should be applied. Only States Parties to the CCW should be authorized to buy these weapons;
- All technical information should be clearly listed.

Preventative measures to take during hostilities:

- Target choice is critical in reducing the number of civilian casualties. Prohibit use in urban areas, and set out other restrictions or conditions for the use of these weapons;
- Disseminate information on where cluster munitions have been used, to facilitate future demining efforts and warn the civilian population.

II – The International Committee of the Red Cross (ICRC)

The ICRC wants States to take a “comprehensive approach” to explosive remnants of war. To be effective, such an approach would include measures to:

- Reduce the risk of ever-increasing amounts of unexploded ordnance;
- Quickly warn civilians about the dangers of UXO;
- Clean up contaminated areas.

To achieve these goals, the ICRC wants the States Parties to the CCW to adopt a new protocol dealing with explosive remnants of war. The protocol would encompass all unexploded or abandoned weapons posing a threat to civilians. Creation of this future protocol would embrace three principles:

- Belligerents whose munitions remain active after hostilities cease would be responsible for providing the material and technical assistance necessary for clearing contaminated areas. Article 9 of Protocol II of the CCW and Article 5 of the Ottawa Treaty state a similar principle;
- At the end of hostilities, States must immediately provide all technical information needed for clearing areas contaminated by ERW. This will reduce the delay in obtaining information on what weapons were used. Accurate information ensures the safety of demining personnel. This principle is also established in Protocol II, Article 9 of the CCW;
- The civilian population must be kept informed of the dangers of ERW.

The ICRC emphasizes that when it comes to the use of cluster munitions, belligerents should start by scrupulously applying the rules of international humanitarian law governing the methods and means of war and the protection of civilians. Beyond this, the ICRC would like to see a ban on the use of air- and ground-based cluster weapons in civilian-populated areas. There are two reasons why banning these specific weapons would strengthen humanitarian law:

- They pose an indiscriminate risk: civilians are hit during attacks on military targets near urban areas;
- Too many submunitions end up as unexploded ordnance, causing numerous, often fatal, accidents.

III – Landmine Action United Kingdom (LMA)

LMA is unquestionably one of the NGOs most involved in this issue. It recently launched an international action “Clear Up Campaign” calling for a new protocol on ERW. The protocol would include:

- The obligation of States using explosive weapons to clean up all conflict areas once hostilities have ended, or to provide financial assistance for this;
- The obligation to inform and warn civilians.

Landmine Action United Kingdom wants an ERW instrument for two reasons:

- To avoid excluding countries who are not victims of cluster munitions, but who are affected by other ERW;
- To obtain a global legal instrument on all ERW.

In addition to their ERW campaign, LMA wants governments to institute unilateral moratoria on the sale and use of cluster munition systems until new rules of international humanitarian law are in place.

cluster munition systems

What to ban: ERW or submunitions?

cluster munition systems

WHAT TO BAN: ERW OR SUBMUNITIONS?

The use of submunitions could well become wider and wider as time goes on, contributing that much more to the threat posed by explosive remnants of war. For this reason, the debate between governmental actors and representatives of civil society centers on which legal instrument would be most beneficial and what actions can be taken to reduce this threat.

At its December 2002 meeting, the Group of Governmental Experts of States Parties to the Convention on Certain Conventional Weapons decided to:

- Create a legal instrument regulating ERW. It will deal only with post-conflict measures;
- Hold discussions to determine whether or not to include pre-conflict measures to reduce the incidence of ERW;
- To hold discussions about preventative measures aimed at improving the design of some weapon types, including cluster munitions.

Looking at the viewpoints of the three NGOs discussed above, we see that two of them (ICRC and LMA) support implementation of a new protocol on explosive remnants of war. This protocol would take effect following a moratorium on submunitions.

HRW would prefer that a new legal instrument banning submunitions be created within the framework of the CCW. Failing this, they are calling for preventative measures (at the least) or, even better, a moratorium.

For their part, the States have decided to focus on the overall problem of ERW, and refuse to treat submunitions separately. Unexploded submunitions will thus be dealt with in the same general way as, say, an unexploded artillery shell.

An instrument against explosive remnants of war could pave the way for a specific instrument on submunitions, either within the framework of the CCW or as a separate treaty (perhaps a second Ottawa Treaty?).

In June 2003, NGOs decided to create the CMC⁵⁷, Cluster Munition Coalition, and launched a call which states:

1. No use, production or trade of cluster munitions until their humanitarian problems have been resolved;
2. Increased resources for assistance to communities and individuals affected by unexploded cluster munitions and all other explosive remnants of war;
3. Users of cluster munitions and other munitions that become ERW to accept special responsibility for clearance, warnings, risk education, provision of information and victim assistance.

57 - Core group: Handicap International; Human Rights Watch; Landmine Action UK; Landmine Struggle Unit; Mine Action Canada; Pax Christi Ireland; Pax Christi Netherlands; Austrian Aid For Mine Victims; Russia CBL; Mennonite Central Committee; Nepal CBL.

SUBMUNITION-SPECIFIC RECOMMENDATIONS:

Given the positions of the various States and the orientation of the Group of Governmental Experts, a ban on the use, production and transfer of submunitions and all projectiles, bombs and rockets capable of carrying them appears impossible at this time. Until a submunition-specific legal instrument is created, the most appropriate solution would be a complete moratorium. Many States, however, might reject such a moratorium, ending all discussions between the States and the NGOs on the subject.

Therefore, recommendations should be aimed at reducing and restricting the use of these weapons as much as possible. We should note that each State could unilaterally adopt these measures, thus creating a de facto ban.

I – Pre-conflict recommendations

- Implementation of a moratorium on the use of cluster bombs. France and Norway have both, in different ways, questioned the use of cluster bombs. A moratorium on this type of weapon thus seems possible. This partial moratorium could well be the start of a worldwide moratorium on production, transfer, and use of cluster munition systems.
- The rules of international humanitarian law prohibit targeting civilians. This, together with the legal principle embodied in Article 2 of Protocol III of the CCW, could provide justification for incorporating an absolute ban on cluster munition systems in a future legal instrument: “It is forbidden under any circumstances to use cluster munitions against a military target located within a civilian concentration.”
- A prohibition against the sale of these weapons to any country that has not ratified the CCW or that does not respect the standards of good conduct (respect for human rights, etc.).
- Complete, annual disclosure by each State Party to the CCW of production and transfers of all cluster munition systems. This information is essential to the implementation of any future international legal instrument.
- Technical improvements are necessary; in addition to trying to achieve the highest possible reliability rate, it would be desirable and—more importantly—safer for civilians and deminers to:
 - Incorporate auto-destruct, not auto-neutralization, fuzes;
 - Clearly mark the submunition as dangerous. This could be done using a skull and cross-bones like those on signs marking mined areas. This way, a child would not mistake a submunition (for example, a BLU 97) for a simple scrap of metal or a food ration.

II – Recommendations for measures to be taken during conflicts

- Parties to the conflict should take measures to limit the use of these weapons. In particular, to prohibit their use in areas populated by civilians or crucial to civilian life. In addition to cities and villages, this includes all means of civilian subsistence, like rivers, farmland, and other places necessary to survival.
- Parties to the conflict must distribute information for civilians (pamphlets in the local language) and humanitarian organizations confronted with these weapons. The type of weapon used and the areas affected should be specified.

III – Recommendations for post-conflict measures

- Information on the location and type of weapons used should be made public once combat has ended. Because the first days are usually the most deadly, all data must be made available quickly to facilitate education and cleanup efforts.
- Article 8 of Protocol II of the CCW could serve as the legal basis for invoking a State's responsibility for areas contaminated by its unexploded munitions. At the request of the head of a peacekeeping operation, the accused State would have to provide help (either technical or financial) in cleaning up.
- Parties to conflicts should be obliged to participate in cleanup operations or to provide the necessary equipment.
- State parties to conflicts should carry out or finance missions dedicated to informing civilians, NGOs and the media. Giving information to the media will multiply the number of sources available to civilians and the international community.
- Each State party to a conflict should be obligated to bring in independent teams of experts to study the failure rates of weapons used. Based on the results of these studies, weapons with too high a failure rate should be placed on a list of those whose use or transfer are banned.

A C C O U N T S

Mahmoud is 29 years old, married and the father of two young children. He lives in a working-class area of Baghdad, where he used to work as a mechanic. His neighbourhood had been the target of bombings during the last war and the danger of submunitions there is still omnipresent: there are hundreds of them to be found, accidents are numerous and often involve children. Mahmoud was unwilling to stand by with folded arms when faced with this dramatic situation. On his own initiative, and well aware of the risk, he decided to start to collect the submunitions and to store them together in small piles topped with a flag so that everybody would be able to see and avoid them. He began this extremely perilous work alone, picking up each submunition cautiously with two fingers in order to move them. Then, given the enormity of his task, he asked for help from the American military. Four soldiers accompanied him to his area, and one of them even helped him to collect some of the explosive devices. The soldiers themselves felt powerless and were preparing to leave, when Mahmoud tripped up whilst carrying a submunition. The device exploded and blew off his right hand. He was quickly driven under military escort to a civilian hospital. Once there, Mahmoud did not receive any medical attention for almost 48 hours as the hospital had been looted and emptied of all medical material and medicine. His brother went back to see the soldiers who had accompanied him two days earlier to explain Mahmoud's situation to them and he was finally taken to be cared for in an American military hospital.

Accounts given to the Handicap International team in Baghdad, Iraq, in July 2003.

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ACKNOWLEDGEMENTS

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Elodie CHANRION, Pascal DREYER,
Nathalie HERLEMONT-ZORITCHAK,
Aline GERARD, Manuel GONZAL, Alice JARDIN,
Catherine LAURANSON, Nathalie MOINDROT,
Sylvain OGIER et Xavier PARISSÉ.

DOCUMENT EDITED BY HANDICAP INTERNATIONAL

Coverpage picture : © Alexandre Carle/HI

backpage picture : © EC. NEDEX

Graphisme : D'UN REGARD, studio de création - 1, rue d'Enghien 75010 Paris - France.

ISBN : 2-909064-67-0, 2003

In addition to continuing the campaign for the complete eradication of landmines, Handicap International has chosen to join those who fight against the equally horrifying "collateral damages" inflicted on civilian populations by the proliferation of explosive remnants of war and to demand, in particular, a complete ban on the use, production and transfer of cluster munitions until humanitarian concerns are properly addressed.

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This report has been published thanks to the support of :

