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## Human Rights Watch

Memorandum to Delegates  
To the Convention on Conventional Weapons  
Group of Governmental Experts  
On Explosive Remnants of War  
Geneva  
March 10-14, 2003

### CLUSTER MUNITIONS: MEASURES TO PREVENT ERW AND TO PROTECT CIVILIAN POPULATIONS

As the Group of Governmental Experts of the States Parties to the Convention on Conventional Weapons (CCW) meets in Geneva to consider a new instrument on explosive remnants of war (ERW), Human Rights Watch encourages them to acknowledge the special problems caused by cluster munitions and the need to address the humanitarian dangers of cluster munitions in a comprehensive fashion.

This memorandum identifies possible preventative measures to be taken both before and during a conflict to lessen the negative impact of cluster munitions on civilian populations, and cites steps that some States have already taken. This memorandum also updates information provided to delegates by Human Rights Watch in May 2002 regarding global use, production, stockpiling and trade in cluster munitions.

Human Rights Watch calls on CCW States Parties and other nations to adopt appropriate preventative measures at the national level, and to build up a body of “best practices” that could be implemented by other states. Human Rights Watch also urges States Parties to engage in a serious and in-depth discussion on submunitions and on international humanitarian law, as described in the mandate agreed to in December 2002. These discussions should lead to a new mandate to negotiate a legally-binding instrument aimed specifically at cluster munitions.

The long-term impact of use of cluster munitions is highlighted by recently obtained data from Kuwait. In the year 2002, eleven years after the end of the Persian Gulf War, a total of 2,400 cluster munition duds were detected and destroyed in Kuwait. A similar number were cleared in 2001. This average of nearly seven per day is all the more stunning in that one of the most extensive and expensive clearance operations in history was carried out immediately following the war.

The use of cluster munitions produces dangers to non-combatants that deserve special consideration in efforts to ameliorate the impact of explosive remnants of war.

These include both dangers during conflict and post-conflict. The battlefield utility of cluster munitions must be weighed against the problems of accurately targeting the weapons and the landmine-like consequences when they fail to function as designed.

Human Rights Watch and many other non-governmental organizations have called for moratoria on the use, production, and transfer of cluster munitions until the humanitarian problems can be addressed. Some NGOs have called for a permanent prohibition on use of cluster munitions. At a minimum, there should be requirements to lower the initial failure rate of cluster munitions, and regulations on the circumstances in which cluster munitions are used, including a prohibition on use in or near populated areas. There should also be a requirement to record, track, report, and mark cluster munition strikes.

There is in fact a confluence of humanitarian interests and military equities in reducing or eliminating the hazards posed by cluster munitions. This confluence of interests should make possible rapid progress on both national measures and an international instrument. The humanitarian imperative demands an aggressive response.

### **Possible Preventative Measures to Enact Before Hostilities**

Area	Measures
Manufacturing	<ul style="list-style-type: none"> <li>• Require a reliability standard (i.e. 99% or greater) for weapon and components</li> <li>• Incorporate self-destruct fuzes in all future production</li> <li>• Retrofit existing stocks with self-destruct fuzes</li> <li>• Incorporate other technology to assist in clearance (luminescence, visible hazard indicators, warnings)</li> <li>• Create international quality standards (i.e. ISO, MILSTD, STANAG)</li> </ul>
Ammunition Management	<ul style="list-style-type: none"> <li>• Test representative lots over entire shelf-life</li> <li>• Suspend or destroy lots which fail to meet standard or expire</li> </ul>
Proliferation	<ul style="list-style-type: none"> <li>• Restrict or prohibit availability of problematic types</li> <li>• Buy-back or assist in destruction of previously exported problematic types</li> <li>• CCW membership as a pre-condition for transfer</li> </ul>
Transparency	<ul style="list-style-type: none"> <li>• List existing types and technical characteristics (i.e. number of submunitions, fuze type, estimated footprint, known failure rate)</li> </ul>

### **Possible Preventative Measures to be Followed During a Conflict**

Area	Measures
Targeting and Weapon Choice	<ul style="list-style-type: none"> <li>• Prohibit use in or near populated areas</li> <li>• Establish other restrictions or conditions on the use of cluster munitions</li> <li>• Review targets and weapon selection to minimize effects on civilians</li> <li>• Examine delivery parameters and impact medium in review process</li> </ul>
Record Keeping	<ul style="list-style-type: none"> <li>• Incorporate record keeping procedures into tactics, techniques, and procedures</li> <li>• Collect, format, transmit, and centralize cluster munition strike data</li> </ul>

### **Steps Being Taken: Best Practices**

Few States have articulated their policies and practices regarding cluster munitions. Few have detailed their procedures for targeting, choosing weapons, or reviewing the legality of attacks with cluster munitions. Fewer still have identified specific steps that have been taken to reduce the humanitarian impact of such weapons. However, there are some notable exceptions.

Some countries are unilaterally taking measures to reduce unexploded ordnance (UXO) from cluster munitions, both to reduce the dangers to civilian populations and to protect their military forces from the effects of their own weapons during operations. Such measures are an important starting point in developing “best practices” as generic preventative measures in an ERW instrument.

*Prohibit or suspend the use of certain types of cluster munitions.*

**Norway** has foresworn the use of air-dropped cluster munitions in future international operations and has issued instructions for Norwegian aircraft not to use them in Afghanistan.

*Destroy obsolete cluster munitions.*

**Belgium** has reportedly destroyed all of its obsolescent BL-755 air-dropped cluster munitions. Similarly, **Sweden** has acknowledged removing obsolescent Rockeye air-dropped cluster munitions from service.

Many countries routinely destroy munitions, including cluster munitions, at the end their shelf life. In fiscal year 2002, the **United States** Army destroyed 5,994 tons of submunitions, at a cost of \$4.9 million, as part of its routine conventional ammunition destruction program.

However, out-of-date cluster munitions like the BL-755 and Rockeye are still found in the stocks of other countries that imported or produced them decades ago. The BL-755 is stockpiled by Germany, Nigeria, Pakistan, Saudi Arabia, Serbia and Montenegro, Switzerland, and the United Kingdom. The Rockeye is stockpiled by Canada, Denmark, Egypt, France, Israel, Norway, Oman, Turkey, and the United States. Hazardous duds from the BL-755 and Rockeye are still being cleared in 2002 in Kuwait, more than a decade after their use. The use of the BL-755 in conflicts in the Balkans has also produced ERW.

*Increase the reliability rate of cluster munitions.*

The **United States** military has acknowledged that the initial failure rate on cluster munitions is too high. On January 10, 2001, then-U.S. Secretary of Defense William Cohen issued a memorandum stating, “It is the policy of the DoD [Department of Defense] to reduce overall UXO through a process of improvement in submunition system reliability – the desire is to field future submunitions with a 99% or higher functioning rate.... The Services shall evaluate ‘legacy’ submunition weapons undergoing reprocurement, product improvement, or block upgrades to determine whether modifications should be made to bring them into compliance with the above policy.”

**Switzerland** has indicated that its submunition reliability rate is at least 98%, and has recommended this standard for others. It states that this can be achieved with a fuze that detonates on impact with high probability and, in addition, a redundant system such as a self-destruct mechanism.

Most military ammunition production contracts stipulate a required reliability rate, before a weapon is accepted. Before a batch, or lot, of munitions is accepted a sample is tested for compliance with reliability requirements. Lot acceptance testing, however, rarely simulates actual operational conditions where failure rates can increase significantly. Few countries have made the results of surveillance testing, which is performed on stockpiles over the time in storage, publicly known. As the 2001 U.S. policy statement noted, “Submunition functioning rates may be lower under operational conditions due to environmental factors such as terrain and weather.”

*Utilize self-destruct fuzes.*

In addition to out of date air-dropped cluster munitions, certain other types of submunitions, notably dual purpose improved conventional munitions (DPICM) in both artillery projectiles and surface-launched rockets, are known to have a history of producing a high rate and large number of hazardous

duds in testing and combat. For example, the dud rate for submunitions in the cluster munition warhead for the Multiple Launch Rocket System (MLRS) is documented to be 16 percent; one in six submunitions in each MLRS DPICM rocket would likely be an unexploded hazardous dud. Some U.S. production lots had dud rates of 23 percent in acceptance testing. The DPICM warhead for the MRLS is in the arsenals of Bahrain, Denmark, France, Germany, Greece, Israel, Italy, Japan, Netherlands, Norway, Turkey, United Kingdom, and the United States.

The **United States** has plans to retrofit some its MLRS DPICM with submunitions that have a self-destruct backup fuze. The fuze is produced both domestically and under contract with Israeli Military Industries. The U.S. is also producing new DPICM ammunition for artillery projectiles and rockets that have self-destruct fuzes. At least eleven **countries** are reported to have developed or deployed cluster munitions with a self-destruct or self-neutralizing capability: **France, Germany, Israel, Italy, Romania, Russia, Singapore, Slovakia, Switzerland, United Kingdom**, and the United States.

### Prior Cluster Munition Use

Cluster munitions have been used in at least sixteen countries by at least eleven countries. They were also used in the Falklands/Malvinas conflict. Additionally, unconfirmed reports cite use of cluster munitions in Colombia, Sierra Leone, Turkey, and Morocco (in the Western Sahara). Surface-launched projectiles and rockets containing cluster munitions have been used in seven six of the sixteen conflicts. Air-dropped bombs containing cluster munitions have been use in all but one of the sixteen conflicts.

### Countries Where Cluster Munitions Have Been Used

Location Used	Country Using Submunitions
Afghanistan	USSR, United States, possibly other various factions
Albania	Yugoslavia
Bosnia Herzegovina	Yugoslavia, various separatist forces and ethnic militias
Cambodia	United States
Chad	France
Eritrea	Ethiopia
Ethiopia	Eritrea
Iraq	France, United Kingdom, United States
Kuwait	France, United Kingdom, United States
Laos	United States
Lebanon	Israel
Russia (Chechnya)	Russian Government forces
Saudi Arabia	Saudi forces, United States
Sudan	Sudanese Government forces
Yugoslavia (including Kosovo)	Yugoslav Government forces, Netherlands, United Kingdom, United States
Vietnam	United States

According to monthly clearance reports of the Kuwaiti Ministry of Defense, from the end of the conflict in 1991 through December 2002, 108 metric tons of cluster munitions were discovered and destroyed by mine clearance and explosive ordnance disposal teams in Kuwait. The cost for the clearance operation from 1991-2002 was close to one billion dollars.

In 2002, 2,400 dud cluster munitions were detected and destroyed including: M42/M46/M77 (DPICM), Mk-118 (Rockeye), BLU-61A/B, BLU-77B, BLU-91B (Gator antivehicle mine), BLU-92B (Gator antipersonnel mine), BLU-97 (CBU-87), and Belouga (a French air-dropped cluster munition). Almost one in five of the dud cluster munitions found in 2002 were from Rockeye air-dropped bombs. In

February 2003, soldiers with the U.S. 3<sup>rd</sup> Infantry Division discovered a dud BLU-63 submunition on one their urban combat training ranges in the Kuwaiti desert.

### Cluster Munition Production, Stockpiling, and Proliferation

A total of thirty-three countries produce at least 208 different types of cluster munitions. Seven of those countries are not party to the CCW. Cluster munitions are produced for surface-launched projectiles, air-dropped bombs, and rockets that can be either surface- or air-launched.

#### Countries That Produce Cluster Munitions

Argentina	India	Russia
Belgium	Iran*	Serbia and Montenegro
Brazil	Iraq*	Singapore*
Bulgaria	Israel	Slovakia
Canada	Italy	South Africa
Chile*	Korea, North*	Spain
China	Korea, South	Sweden
Egypt*	Netherlands	Switzerland
France	Pakistan	Turkey*
Germany	Poland	United Kingdom
Greece	Romania	United States of America

\* country not party to the 1980 CCW

Globally, at least fifty-seven countries stockpile cluster munitions. Eighteen of those countries are not party to CCW. The United States alone stockpiles over one billion cluster munitions in weapons currently in service. Other countries thought to possess stockpiles of that magnitude include China and Russia.

#### Countries That Stockpile Cluster Munitions

Algeria*	Croatia	Iran*	Netherlands	South Africa
Argentina	Czech Republic	Iraq*	Nigeria*	Spain
Bahrain*	Denmark	Israel	Norway	Sudan
Belgium	Egypt*	Italy	Oman*	Sweden
Belarus	Eritrea*	Japan	Pakistan	Switzerland
Bosnia Herzegovina	Ethiopia*	Jordan	Poland	Turkey*
Brazil	Finland	Kazakhstan*	Romania	Turkmenistan*
Bulgaria	France	Korea, North*	Russia	Ukraine
Canada	Germany	Korea, South	Saudi Arabia*	United Arab Emirates*
Chile*	Greece	Kuwait*	Serbia and Montenegro	United Kingdom
China	India	Moldova	Singapore*	United States of America
			Slovakia	Uzbekistan

\* country not party to 1980 CCW

According to available information, at least nine countries have transferred thirty different types of munitions containing submunitions to at least forty-six other countries. But, the true scope of the global trade in cluster munitions is difficult to ascertain. Some countries simply inherited stockpiles of cluster munitions when an older state broke up. There is concern that large stocks of unreliable early generation weapons that contain cluster munitions exist in the warehouses of successor states to the former Soviet Union and countries of the former Warsaw Pact. Early generation cluster munition systems are of particular concern because the effects of prolonged storage may contribute to high rates of hazardous unexploded duds when the munitions are used.

It appears some cluster munition transfers have occurred as excess defense articles, or surplus munitions, provided to allied governments and armed forces. As current generation cluster munitions and their delivery systems are phased out of active service in high technology military forces, they are sometimes passed on at little or no cost to lesser-developed militaries.

Some examples of the transfers, by any of the above mentioned means, of cluster munitions are contained in the following table. However, these examples are used only for illustration purposes and are not a comprehensive accounting of the global trade in cluster munitions and their delivery systems.

#### Examples of Known Transfers of Cluster Munitions

Supplier	Type	Recipient(s)
Brazil	Rocket	Iran, Iraq, Saudi Arabia, Qatar
Chile	Bomb	Ethiopia, Eritrea, Iraq, Sudan
Egypt	Rocket	Iraq
Germany	Projectile	Finland, Italy, Norway
Israel	Projectile	Germany, Romania, Switzerland, United Kingdom, United States
	Bomb	Argentina
Russia	Rocket	Algeria, Belarus, India, Kazakhstan, Kuwait, Moldova, Turkmenistan, Ukraine, Uzbekistan
United Kingdom	Bomb	Belgium, Eritrea, Germany, Nigeria, Pakistan, Saudi Arabia, Switzerland, Yugoslavia
United States of America	Projectile	Bahrain, Canada, Belgium, Greece, Jordan, Netherlands, Pakistan, South Korea, Turkey
	Bomb	Denmark, Egypt, France, Germany, Israel, Italy, Japan, Netherlands, Norway, Oman, Poland, Saudi Arabia, South Korea, Sweden, Turkey, United Arab Emirates, United Kingdom
	Rocket	Bahrain, Denmark, France, Greece, Israel, Italy, Japan, Netherlands, Norway, South Korea, Turkey, United Kingdom
Yugoslavia	Rocket	Bosnia Herzegovina, Croatia, Iraq

Note: Some recipient countries have subsequently disposed of the transferred weapons