



26 June 2011

Global contamination from cluster munition remnants and cluster munition casualties

Overview of contamination and impact

As of 26 June 2011, 25 states, and three disputed areas were believed to have cluster munition remnants on their territory. At least 12 other states may also be contaminated or contain a small residual threat from unexploded submunitions. Casualties from submunition blasts have been recorded in a total of 27 states and three areas.

Cluster munition remnants are defined in the Convention on Cluster Munitions as covering four types of hazard: unexploded submunitions, unexploded bomblets, failed cluster munitions, and abandoned cluster munitions.¹ Unexploded submunitions pose a major threat to civilians, primarily as a result of their sensitive fuzing, but also because of their shape, color, and metal content, which often attracts tampering, playing, or collection, especially by boys and young men.

States and other areas contaminated with cluster munition remnants

Africa	Asia-Pacific	Europe-CIS	Middle East & North Africa
Angola	Afghanistan	Azerbaijan	Iraq
Chad	Cambodia	Bosnia and Herzegovina	Lebanon
Dem. Rep. of Congo	Lao PDR	Croatia	Libya
Rep. of Congo	Vietnam	Georgia (South Ossetia)	Syria
Guinea-Bissau		Germany	<i>Western Sahara</i>
Mauritania		Montenegro	
Sudan		Norway	
		Russia	
		Serbia	
		Tajikistan	
		<i>Kosovo</i>	
		<i>Nagorno-Karabakh</i>	

Note: Other areas are indicated by *italics*

Libya is the most recent addition, following use of cluster munitions by government forces in April 2011.

At the Mine Ban Treaty Standing Committee meetings in June 2011, Germany declared that it suspected it had areas containing cluster munition remnants at a former Soviet military training range at Wittstock in Brandenburg.

¹ Unexploded submunitions are where submunitions have been dispersed and have landed, but have failed to explode as intended. Unexploded bomblets are similar to unexploded submunitions but refer to “explosive bomblets” which have been dropped from a fixed-wing aircraft dispenser but have failed to explode as intended. Failed cluster munitions are where cluster munitions are dropped or fired but a dispenser fails to disperse the submunitions as intended. Abandoned cluster munitions are where unused cluster munitions have been left behind or dumped, and are no longer under the control of the party that left them behind or dumped them. See Convention on Cluster Munitions, Article 2, paragraphs 4, 5, 6, 7, and 15.

Two of the affected states, Republic of Congo and Guinea-Bissau, are believed to be contaminated as a result of explosions at ammunition storage areas, and not from use of cluster munitions during armed conflict.

Montenegro did not declare any contaminated areas under its jurisdiction or control in its initial Article 7 transparency report, but it has acknowledged the existence of such areas in the past.

Norway declared in its initial Article 7 report that a firing range is contaminated with cluster munition remnants.

At least 12 other states may also be contaminated or contain a small residual threat from unexploded submunitions. This includes Argentina (Malvinas/Falkland Islands), Colombia, Eritrea, Grenada, Iran, Israel, Kuwait, Mozambique, Palau,² Saudi Arabia, the United Kingdom (Falkland Islands/Malvinas),³ and Yemen, as well as a number of other states that may have contamination from firing ranges, including, for example, Chile and Jordan.

Albania and Zambia, both States Parties to the Convention on Cluster Munitions, declared that they had cleared all cluster munition remnants from their territory by November 2009 and May 2010, respectively. In its Article 7 transparency report for 2010, Malta declared no cluster munition remnants on areas under its jurisdiction or control. A child found a World War II submunition in October 2009.⁴

Three other states where cluster munitions were used in the past—Ethiopia, Sierra Leone, and Uganda—are no longer believed to be contaminated, but the possibility is not excluded. Sierra Leone is a State Party while Uganda is a signatory to the convention. The region most affected by cluster munitions, by far, is Southeast Asia, followed by Europe.

The extent of contamination across affected states varies significantly. The table below highlights those states and other areas with the greatest contamination from unexploded submunitions, based on the best available information as of mid-2011.

Extent of contamination in most heavily affected states and other areas

State/area	Estimated extent of contamination (km ²)	No. of confirmed and suspected hazardous areas	Convention status
Lao PDR	No credible estimate, but massive	Not known	State Party
Vietnam	No credible estimate, but massive	Not known	Non-signatory
Iraq	No credible estimate, but very large	Not known	Signatory
Cambodia	No credible estimate, but very large	Not known	Non-signatory
Nagorno-Karabakh	69.5	Approx. 250	N/A

² Cleared Ground Demining (CGD), which is clearing ordnance in Palau since 2009, found a cluster munition remnant in 2010. CGD, “Republic of Palau – 2010 Landmine Monitor Clearance Statistics,” undated but 2011.

³ The UK found and destroyed two submunitions during clearance operations in 2009–2010. See “Compliance with Article 4 of the Convention on Cluster Munitions” in the ICBL, “Country Profile: UK: Mine Action,” www.the-monitor.org, 18 October 2010.

⁴ See Malta Article 7 Report (for calendar year 2010), Form F.

<i>Western Sahara</i>	32.7	85	N/A
Serbia*	22.7	404	Non-signatory
Lebanon	18.1	758	State Party
Mauritania	9	2	Signatory
Croatia	5.3	Not reported	State Party
Bosnia and Herzegovina*	2	18	State Party
Kosovo*	Not quantified	60	N/A
Sudan	Not quantified	34	Non-signatory

Note: Other areas are indicated by *italics*.

N/A = *Not applicable*

** 2010 figures.

Casualties and survivors from cluster munitions

Neither the number of casualties each year nor the total number of survivors from cluster munitions is known for most countries. The table below sets out total known submunition casualties⁵ and landmine and ERW survivors in affected states and other areas. Figures of all landmine and ERW survivors have been included since the Convention on Cluster Munitions requires that all survivors have access to the same services, regardless of the cause of their injury. According to the Convention, cluster munition victims include those persons directly impacted by cluster munitions as well as their families and affected communities. There are, however, no reliable estimates of the number of cluster munition victims in this broad sense. In addition, in many cases, cluster munition survivors are often not properly distinguished from other survivors in national casualty databases and thus general survivor figures may more accurately reflect the impact of cluster munitions remnants in context.

Total known submunition casualties and mine/ERW survivors in the most heavily affected states and other areas

State or area	No. of casualties*	No. of mine and ERW survivors
Bosnia and Herzegovina	155	5,703
Cambodia	125	44,024
Croatia	238	1,420
Iraq	2,994	Several thousand
Kosovo	203	At least 445
Lao PDR	7,816	20,276
Lebanon	706	2,897
Mauritania	None reported	30
Montenegro	8	Unknown
<i>Nagorno-Karabakh</i>	14	at least 253
Serbia	191	1,300–8,000
Sudan	82	2,861
Vietnam	2,100	65,852
<i>Western Sahara</i>	8	at least 1,050

* Bold text indicates estimated figures.

⁵ The submunition casualties listed below include casualties that occurred during cluster munition strikes as well as those caused by cluster munition remnants.

Clearance obligations under the Convention on Cluster Munitions

Each state is obliged to clear and destroy all unexploded submunitions located in areas under its jurisdiction or control as soon as possible, but not later than 10 years after becoming a party to the Convention on Cluster Munitions. Of the 57 states that had signed and ratified the convention as of 26 June 2011, seven (Bosnia and Herzegovina, Croatia, Germany, Lao PDR, Lebanon, Montenegro,⁶ and Norway) were believed to be still affected by unexploded submunitions. The legal deadline for completing clearance for these states is 1 August 2020, except for BiH, which has a deadline of 1 March 2021, and Lebanon, which has a deadline of 1 May 2021.

In seeking to fulfill their clearance and destruction obligation, affected States Parties are required to:

- survey, assess, and record the threat, making every effort to identify all contaminated areas under their jurisdiction or control;
- assess and prioritize needs for marking, protection of civilians, clearance, and destruction;
- take “all feasible steps” to perimeter-mark, monitor, and fence affected areas;
- conduct risk reduction education to ensure awareness among civilians living in or around cluster munition contaminated areas;
- take steps to mobilize the necessary resources (at the national and international levels); and
- develop a national plan, building upon existing structures, experiences, and methodologies.

Victim assistance obligations under the Convention on Cluster Munitions

The Monitor reported 27 states (and three other areas) with cluster munition casualties in 2010. As of 1 June 2011, seven were States Parties to the Convention on Cluster Munitions (Albania, Bosnia and Herzegovina, Croatia, Lao PDR, Lebanon, Montenegro, and Sierra Leone)⁷ and eight were signatories (Afghanistan, Angola, Chad, the Democratic Republic of Congo, Guinea-Bissau, Iraq, Mozambique, and Uganda).

Under the Convention, cluster munition victims are defined as all persons who have been killed or suffered physical or psychological injury, economic loss, social marginalization, or substantial impairment of the realization of their rights caused by the use of cluster munitions.

The Convention on Cluster Munitions requires States Parties with victims to implement victim assistance activities, including:

- collecting data on people directly affected by cluster munitions, their families, and communities and assess their needs;
- designating a responsible focal point in government;

⁶ As noted above, in its initial Article 7 transparency report, Montenegro did not report any contaminated areas under its jurisdiction or control.

⁷ Of these seven States Parties, two of the five that have submitted initial Article 7 transparency reports, Montenegro and Sierra Leone, have declared that they do not have cluster munition victims in areas under their jurisdiction.

- developing a national plan, budget, and timeframe for implementation;
- providing adequate assistance, including medical care, rehabilitation and psychological support, as well as providing for social and economic inclusion;
- enforcing non-discrimination and including survivors; and
- reporting on all aspects of implementation.

All States Parties to the Convention have obligations to provide assistance to cluster munitions victims under their jurisdiction and have the right to request international cooperation. This includes States Parties which complete, or have completed, clearance of cluster munitions remnants, such as Albania.

Progress in clearance and victim assistance in affected States Parties

Bosnia and Herzegovina

An assessment by Norwegian People's Aid (NPA) in 2009 identified 18 locations in eight municipalities that are contaminated with unexploded submunitions, posing a threat to 16 communities. NPA estimated the total area affected by submunitions at 1–2km². Under Article 4 of the Convention, BiH is required to complete clearance of all areas affected by unexploded submunitions under its jurisdiction or control not later than 1 March 2021.

The Monitor reported at least 155 cluster munition casualties in BiH. In terms of victim assistance, efforts have been made to assess survivors' needs and to revise casualty data. There were also some improvements in community-based rehabilitation services in 2010; psychological assistance services other than peer support provided by NGOs were lacking.

Croatia

Croatia has areas contaminated by cluster munition remnants left over from the conflict in the 1990s. According to its Article 7 report, at the beginning of 2011 the areas affected by unexploded submunitions covered a total of 5,313,451m² across eight counties and containing an estimated 5,810 cluster munition remnants. The types of submunitions in those areas are KB-1 and MK-1. CROMAC has previously stated that all contaminated areas are marked. The heaviest contamination is reported in Zadar country, with more than half of all the contamination.

The Monitor has recorded 238 submunition casualties in Croatia. In 2010, Croatia developed a victim assistance coordination body and drafted a victim assistance plan. Emergency medical care and physical rehabilitation services were generally available, but psychological support and social inclusion programs were insufficient.

Germany

As noted above, at the Mine Ban Treaty Standing Committee meetings in June 2011, Germany declared that it suspected it had areas containing cluster munition remnants at a former Soviet military training range at Wittstock in Brandenburg. In its initial Article 7 transparency report submitted previously, Germany had declared no confirmed or suspected cluster munition contaminated areas.⁸

⁸ Article 7 Report (for the period 1 August through 31 December 2010), Form F.

Lao People's Democratic Republic

Lao PDR is the most heavily cluster munition contaminated country. The National Regulatory Authority (NRA) overseeing mine action says 10 of Lao PDR's 17 provinces are "severely contaminated" but there is no credible estimate yet of the extent of the problem. The NRA is planning a district-level survey of cluster munition contamination involving three operators (Handicap International, Mines Advisory Group, and Norwegian People's Aid). The survey will be piloted in three districts before broadening, eventually to cover all 85 UXO-affected districts.

In 2010, operators cleared 35km² of land, in the process destroying 36,888 items of UXO, including 21,031 "bombies" (unexploded submunitions), while roving operations by six operators destroyed a further 33,630 items of UXO, including 14,417 bombies. The area cleared in 2010 was 5% less than the previous year and more than one-third less than clearance reported in 2008, reflecting the sharp decline in commercial company operations as a result of the global financial crisis. In 2011, commercial operators reported some recovery in activity. Lao PDR's initial Article 7 report records clearance of a total of 227km² between the start of 1996 and the end of November 2010.

The NRA has reported 7,816 submunition casualties in Lao PDR.⁹ Victim assistance is coordinated by the NRA. In 2010, the NRA estimated that available services had only half of the resources required to meet basic needs in all areas of victim assistance. Deficiencies were particularly acute in trauma response, physical and psychosocial support, and economic inclusion.

Lebanon

Cluster munition contamination originates primarily from the conflict with Israel in July–August 2006, though some contamination remains from conflict the 1980s. As of May 2011, 18.1km² was suspected to be still contaminated by cluster munition remnants across 758 suspected hazardous areas. This is an increase from the estimated 16km² remaining at the end of 2008.¹⁰ Data from Israel received in 2009 led to 282 previously unknown strike locations being identified, of which 166 are north of, and the other 116 south of, the Litani river.¹¹

All clearance of cluster munition remnants is subsurface as well as surface. In 2010, Lebanon cleared 2.2km² of contaminated land destroying in the process 3,650 unexploded submunitions. This compares to 4km² of clearance with the destruction of 4,784 unexploded submunitions in 2009.¹² In an interview with Cluster Munition Monitor, the head of the Lebanon Mine Action Center said it was possible Lebanon could be cleared of the "impact" of all cluster munition remnants by 2015.¹³

⁹ Email from Michael Boddington, Victim Assistance Technical Advisor, NRA, 26 August 2010. Based on data for 1964–2007 containing information on 48,549 mine/ERW casualties (20,117 killed and 28,432 injured).

¹⁰ The fluctuating figures are said to be the result of re-surveying the contaminated areas, completion reports, and especially the transmission of strike data by Israel in May 2009. Presentation by Maj. Pierre Bou Maroun, Regional Mine Action Center (RMAC), Nabatiye, 13 May 2011.

¹¹ "Eleventh report of the Secretary-General on the implementation of Security Council resolution 1701 (2006)," (New York: UN Security Council, 2 November 2009), UN doc. S/2009/566, p. 11.

¹² Presentation by Maj. Pierre Bou Maroun, RMAC, Nabatiye, 13 May 2011.

¹³ Interview with Brig.-Gen. Mohammed Fehmi, LMAC, Beirut, 12 May 2011. As noted above, Lebanon's treaty deadline for clearance is 1 May 2021.

The Monitor has recorded 706 submunition casualties in Lebanon. Victim assistance in 2010 was coordinated through a national steering committee. Survivors were getting their basic needs met across all service areas, including psychosocial support, mostly through national NGOs.

Montenegro

Cluster munition remnants were left after NATO air strikes on Serbian and Montenegrin military positions in 1999. The residual problem is reported to be unexploded BLU-97 submunitions, mainly located on and around Golubovci airfield, near the capital Podgorica. According to Montenegrin officials, contamination was estimated to cover 250,000m² in 2009,¹⁴ and affected four villages around the airport.¹⁵

Montenegro planned to start a technical survey of the area in 2007, but it was postponed and as of April 2010 had still not secured the necessary funding.¹⁶ Officials said in 2009 that cultivated land in the area had been cleared and was safe for use, but edges of the land had not been cleared and may still pose a threat to the population.¹⁷ As noted above, in 2011 Montenegro submitted its initial Article 7 report but did not declare any contaminated areas under its jurisdiction or control.

NPA research in 2007 identified eight submunition casualties in Montenegro.¹⁸ The country does not have a victim assistance focal point or coordinating mechanism. Health care is insufficient and economic inclusion initiatives are limited.

Norway

In its initial Article 7 report, Norway declared that the Hjerkin "Shooting Range", at HFK sletta, is contaminated with cluster munition remnants over an area of 617,300m² with an estimated total of 30 DM 1383/DM 1385 submunitions. The area, which is fenced in, was used in 1986–2007 as a firing range. Norway has also reported that clearance of the area is ongoing.¹⁹

¹⁴ "Field of Golubovac, Reconnaissance, Survey, and Removal of Cluster Bombs, Estimated Expenses," Podgorica, 21 February 2009, , provided by email from Veselin Mijajlovic, Director, Regional Centre for Divers' Training and Underwater Demining (RCUD), 26 March 2009.

¹⁵ Interview with Borislav Miskovic, then-Head, Explosive Ordnance Disposal Team, Montenegrin Police Force, Podgorica, 16 March 2008.

¹⁶ Telephone interview with Veselin Mijajlovic, RCUD, 30 March 2010.

¹⁷ Interview with Veselin Mijajlovic, RCUD, Podgorica, 18 February 2009; and telephone interview with Borislav Miskovic, Montenegrin Police Force, 18 February 2009.

¹⁸ NPA, "Yellow Killers, the Impact of Cluster Munitions in Serbia and Montenegro," January 2007, p. 33.

¹⁹ Article 7 Report (for the period 1 August 2010 to 31 December 2010), Form F.