

LANDMINE MONITOR FACT SHEET**CLUSTER MUNITION CONTAMINATION AND CLEARANCE****Background**

This fact sheet summarizes available information on cluster munition use and clearance, especially in 2006–2007.¹ Where possible, this information has been updated through March 2008 but the picture is incomplete and must be considered a work-in-progress.

Cluster munitions have been used in at least 27 states² and four other areas.³ It is unclear how many of these are still contaminated. Indeed, despite the specific threat they pose (as well as the challenge for explosive ordnance disposal (EOD) personnel),⁴ reporting of cluster munition clearance has been generally inadequate. In particular, only rarely have national demining programs systematically disaggregated clearance statistics between submunition duds⁵ and other unexploded ordnance (UXO).

Information by state/area on contamination and clearance**Afghanistan**

Cluster munitions were used by the Soviet Union, the Taliban, the Northern Alliance and the United States (US) between 1980 and 2002.⁶ The US-led coalition's intervention in late 2001 added considerable UXO to the problem, including large quantities of submunition duds.⁷

As of February 2007, 222 of 269 identified cluster munition strike sites had been cleared of recent US contamination. Due to US bunker bombings, Soviet submunitions resurfaced in certain locations. Danish Demining Group, for example, still clears Soviet submunitions in Herat, Kapisa and Mazar-i-Sharif. It cleared 18,877 Soviet submunitions in 2002, but the number had declined to 604 in 2006.⁸

Albania

By September 2000 Albanian explosive ordnance disposal (EOD) teams were reported to have cleared some 2,700 submunition duds in 16 areas. More recent figures for clearance of cluster munitions are not available. The Swiss Foundation for Mine Action began clearance activities in 2002 but ceased operations in 2004 due to lack of funds. They used two specially trained battle area clearance (BAC) teams, clearing 837 pieces of UXO, the overwhelming majority of which were submunitions.⁹

¹ The information is based on the *Landmine Monitor Report 2007*, unless another source is given.

² Afghanistan, Albania, Angola, Azerbaijan, Bosnia and Herzegovina, Cambodia, Chad, Croatia, the Democratic Republic of the Congo, Eritrea, Ethiopia, Grenada, Iraq, Israel, Kuwait, Laos, Lebanon, Montenegro, Russia (Chechnya), Saudi Arabia, Serbia, Sierra Leone, Sudan, Syria, Tajikistan, Uganda and Vietnam.

³ The Falkland Islands/Malvinas, Kosovo, Nagorno-Karabakh and Western Sahara.

⁴ Owing to the sensitivity of their fuzes, clearance of submunitions typically requires that clearance personnel possess Level 2 EOD qualifications. As a comparison, deminers normally need only Level 1 EOD qualifications to undertake mine clearance.

⁵ EOD specialists tend to prefer the term "blinds" to describe unexploded submunitions, however "duds" is more widely used.

⁶ Handicap International, "Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities," Brussels, May 2007.

⁷ See *Landmine Monitor Report 2005*, p. 88; Human Rights Watch, "Fatally Flawed: Cluster Bombs and their Use by the United States in Afghanistan," 2002.

⁸ Handicap International, "Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities," *op. cit.*

⁹ Rosy Cave, Anthea Lawson and Andrew Sherriff, *Cluster Munitions in Albania and Lao PDR, The Humanitarian and Socio-Economic Impact*, UN Institute for Disarmament Research, Geneva, 2006, p. 11.

Angola

Based on information provided since 2004 by three international demining NGOs the national database has recorded cluster munition contamination in several locations, although its full extent and exact geographical location is not known. Norwegian People's Aid (NPA) has reported submunitions in the municipality of Ebo in Kwanza Sul province. MAG has reported submunitions in Moxico province and HALO Trust has reported submunitions in the municipality of Kunhinga in Bie province. Two types of Soviet cluster munitions (PTAB-2.5 K0 and AO-2.5 RT) have been found.¹⁰

Azerbaijan

In the summer of 2007, the Azerbaijan Campaign to Ban Landmines (AzCBL) conducted a survey of cluster munition contamination in Azerbaijan's non-occupied border regions with Armenia. AzCBL conducted interviews with cluster munition victims and former military personnel that have indicated that at least two types of cluster munitions, ShOAB 2.5 and AO 0.5, had been used in these regions during the Nagorno-Karabakh conflict. Both Azerbaijan and Armenia made extensive use of 'Grad' rockets and 120mm artillery shells at the time of the conflict, which may have been used as the primary carrier/delivery means. In addition, the Azerbaijan National Agency for Mine Action has found around 100 cluster bombs at the former Soviet military base in Saloglu, Aghstafa region.¹¹

Bosnia and Herzegovina

Cluster munitions were used during the conflict in BiH by internal factions from 1992 to 1995, and at least once during NATO's "Operation Deliberate Force" in August 1995.¹² Casualties continue to occur, with one woman killed by a submunition in 2006.

Cambodia

At least 26 million submunitions were dispersed over Cambodia by the US in 1969-1973. Cambodia continues to be contaminated with an unknown number of duds, with casualties reported for 2007.¹³

Chad

Submunitions and/or their containers have been found in the Borkou-Ennedi-Tibesti region, Biltine region (northeastern Chad) and east of N'Djamena. The 2002 Landmine Impact Survey (LIS) identified 92 sites with cluster munitions contamination.

Croatia

A deminer was killed in Zagreb following the attack ordered by Milan Martić in 1995. Additionally, the Croatian Government has claimed that Serb forces dropped BL-755 cluster bombs in Sisak, Kutina, and along the Kupa River during the conflict in the early 1990s.

Democratic Republic of the Congo

DanChurchAid has reported finding cluster munitions during its clearance operations in the country.

Eritrea

Cluster munitions were used by Ethiopian forces in 1990 following the Battle of Massawa and during the 1998-2000 Badme border area conflict between Ethiopia and Eritrea. The Mine Action Coordination Centre of the UN Mission in Ethiopia and Eritrea (UNMEE MACC) knows of approximately 30 to 40 strikes.

¹⁰ Email from Mohammad Qasim, Management Information System (MIS) Advisor/acting Chief Technical Advisor, UNDP Mine Action, CNIDAH Capacity Building Project, Luanda, 22 February 2008.

¹¹ AzCBL, "Information Bulletin," January 2008, Baku.

¹² Handicap International, "Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities," *op. cit.*

¹³ *Ibid.* See also *Landmine Monitor Report 2006*, p. 245.

CONTAMINATION AND CLEARANCE

Submunition duds were found in the Asmara airport, the Badme area, the ports of Assab and Massawa on the Red Sea coast, the Korokon IDP camp in Gash-Barka administrative sector and the Adi Bare IDP camp in Shambiko. A UN explosive ordnance disposal team in the area of Melhadega identified and destroyed a dud M20G DPICM grenade of Greek origin in October 2004.¹⁴ However, in 2007 UNMEE MACC reported that clearance teams have not cleared any failed submunitions “for a long while.”

Ethiopia

In 1998, during the 1998-2000 Badme border area conflict between Ethiopia and Eritrea, Eritrean forces carried out at least two cluster munitions strikes. Reportedly, CB-500 cluster munitions containing 240 PM-1 submunitions were used. It is not clear whether contamination from cluster munitions remains. As of April 2007, the Ethiopian Mine Action Office had not found submunition duds during its clearance operations.¹⁵

Falkland Islands/Malvinas

At least two areas containing submunitions have been fenced on the islands for later clearance. On 28 May 2000, the then-Minister of State for Defence, John Spellar MP, wrote in response to a Parliamentary Question: “I am afraid that surviving records are a little inconsistent on the question of how many BL755s were dropped during the conflict. The number was either 106 or 107, we cannot be certain which. We do know, however, that 1,492 submunitions from these weapons were cleared from the Falkland Islands after the conflict.”¹⁶

Grenada

A declassified US military document notes that at least one US unit dropped 21 Mk 20 Rockeye cluster munitions during close air support operations in Grenada in 1983.¹⁷

Guinea-Bissau

Landmine Action has documented the presence of PTAB 2.5 bomblets and RBK series air-dropped cluster munitions in Guinea-Bissau. The munitions were ejected by an explosion at an ammunition storage facility in Bra Barrio, located in the outskirts of Bissau City, sometime in 2000.

Iraq

In the center south of the country, cluster munitions and unexploded air and ground ordnance used by Coalition forces in their advance on Baghdad in 2003 have been a major cause of casualties.¹⁸

Israel

Locations hit by cluster munitions fired by Hezbollah during the 2006 war in Lebanon included Kfar Mrar, Carmiel, Kiryat Motzkin, Nahariya, and Safsufa in northern Israel.¹⁹ Israeli police reported that the clearance operation of all UXO, including submunition duds, took six months. The operation was carried out by the police, border guards, and volunteers supervised by EOD experts.²⁰

Kosovo

Significant contamination resulted from the conflict between NATO and Serbia and Montenegro in 1999. Clearance data indicates that at least 18,318 cluster submunitions were destroyed between June 1999 and 2005. Submunition duds continue to be cleared.

¹⁴ UNMEE Mine Action Coordination Center, “Weekly Update, October 4, 2004,” Asmara, p. 4.

¹⁵ Handicap International, “Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities,” *op. cit.*

¹⁶ Statement by John Spellar, Minister of State for Defence, 28 May 2000, UK House of Commons, *Hansard*.

¹⁷ Memo from Commanding Officer, US Department of the Navy, Attack Squadron Fifteen, FPO Miami to Chief of Naval Operations, 18 February 1984, accessed at www.history.navy.mil/sqdhist/vfa/vfa-15/1983.pdf.

¹⁸ Handicap International, “Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities,” *op. cit.*

¹⁹ Human Rights Watch, “Civilians Under Assault: Hezbollah’s Rocket Attacks on Israel in the 2006 War,” Washington, DC, 2006.

²⁰ *Ibid.* See also Handicap International, “Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities,” *op. cit.*

Kuwait

In 2006, there were a number of unofficial reports of unexploded cluster munitions being found.²¹ However, their location is not specified nor were any details of clearance of these items provided. 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.²²

In 2002, more than a decade after the fighting stopped, 2,400 submunition duds were detected and destroyed. These included: 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 20% of submunition duds found in 2002 were from Rockeye air-dropped bombs.²³

Lao PDR

Lao PDR is the nation most affected by cluster munitions. At least 260 million submunitions were delivered in 414,920 cluster munitions dispensed by more than 181,000 aircraft. The three provinces of Lao PDR with the highest numbers of submunitions dispensed were: Savannakhet at 34.5% (89.6 million); Khammouane at 23.7% (61.5 million); and Xieng Khoang at 16.4% (42.6 million).²⁴ Lao PDR does not, however, have reliable, up-to-date information on the degree, location or impact of remaining contamination, and clearance data does not disaggregate between cluster munitions and other UXO.

Lebanon

The war between Israel and Hezbollah from 12 July to 14 August 2006 resulted in significant new contamination from cluster munitions. It has been estimated that approximately four million cluster munitions were fired on Lebanon, of which up to 500,000 did not detonate; Israel has admitted to firing only 1.2 million submunitions. By the end of 2007, operators had cleared 34km² of cluster munition-affected land, leaving about 2km² to be dealt with.²⁵ According to the Mine Action Coordination Centre South Lebanon (MACC SL), as of end March 2008 a total of 142,876 submunitions had been cleared.²⁶

Montenegro

Two areas are contaminated with mainly submunition duds from NATO air strikes in 1999. One is in Rozaje municipality on the border with Kosovo, where there are two contaminated locations, the villages of Besnik and Njeguši. A survey in July 2006 jointly managed by the Croatian Mine Action Center and Montenegro's Regional Centre for Divers' Training and Underwater Demining found 394,700m² of land affected by (R)BL 755 submunitions. The other suspected area is located on and around the airfield at Golubovci, near the capital, Podgorica, which affects four villages surrounding the airport.

Nagorno-Karabakh

Nagorno-Karabakh is affected by cluster munitions in addition to landmines and other ERW. Survey of cluster munition strike sites was accelerated at the end of 2006. Around 100 of the expected 150 sites were surveyed between January 2006 and the end of June 2007.

²¹ See *Landmine Monitor Report 2006*, p. 964; *Landmine Monitor Report 2004*, p. 1027.

²² Kuwait Ministry of Defense, Headquarters Land Forces Command, "Monthly Ammunition and Explosive Destroyed/Recovery Report," Annex A, 21 December 2002.

²³ *Ibid.* According to the same document, a similar number of cluster munitions were cleared in 2001.

²⁴ Handicap International, "Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities," *op. cit.*

²⁵ Interview with Dalya Farran, Media and Post Clearance Officer, MACC-SL, Tyre, 5 March 2008.

²⁶ "March 2008 Report of the Mine Action Co-ordination Centre, South Lebanon," 3 April 2008, p. 5, accessed at www.maccsl.org/reports/Monthly%20Reports/Monthly%202008/Monthly%20Report%20Mar%202008.pdf.

Russian Federation (Chechnya)

Cluster munitions were used extensively by Russian Federation forces in Chechnya, both during the 1994-1996 war and during the recurrence of hostilities in September 1999. Civilian targets, such as public markets, were struck on several occasions. Chechen use has also been alleged. Specific information regarding the full extent of contamination from submunition duds is not available.

Saudi Arabia

It is believed some parts are affected by UXO, including possibly submunition duds, remaining from the 1991 Gulf War. The engineering corps of the Saudi Army has a unit in every region of the kingdom responsible for on-demand clearance of UXO. These units cleared training areas and camps used by allied forces before and during the 1991 Gulf War.

Serbia

Unexploded ordnance, mainly submunition duds from NATO air strikes in 1999, remains a significant problem. As of March 2007, submunition duds remained in six main areas of Serbia (Nis, Kraljevo, Kursunlija, Sjenica, Mount Kopaonik and Vladimirci), affecting approximately 23km². A May 2007 report by NPA identified another six areas of suspected cluster submunition contamination.

In addition, according to NPA, “suspected areas in Bujanovac and Presevo Municipalities have not been considered in any formal surveys of submunition contamination. Many traces of cluster-munition use are still evident in the two municipalities....”²⁷ Bujanovac and Presevo municipalities adjoin the Ground Safety Zone bordering Kosovo, and therefore fall under military jurisdiction instead of the Serbian Mine Action Center.

Sierra Leone

A Nigerian intervention force used cluster munitions in 1997 and at least 28 people were injured and killed during the strikes. No further details regarding additional strikes or post-conflict cluster munition casualties are available and no ERW incidents causing casualties have been recorded since the end of the civil war in 2002.²⁸

Sudan

Contaminated provinces include Southern Kordofan, Bahr al-Jabal, Jongley, al-Buhairat, Eastern Equatoria, Blue Nile and Western Equatoria. The UN Mine Action Office (UNMAO) reported that most submunition duds have been found in al-Buhairat, Bahr al-Jabal and Southern Kordofan.²⁹

Syria

Cluster munitions were used by the Israel Defense Forces (IDF) in the Golan Heights during the Arab-Israeli conflict between October 1973 and May 1974. As a consequence, in addition to the presence of landmines, the Golan Heights (Qunaytra governorate) are contaminated with UXO, including submunitions.³⁰

Tajikistan

Three types of cluster munitions have been used in Tajikistan and recent analysis of data in the Information Management System for Mine Action database revealed significant contamination from submunition duds. The Tajik Mine Action Cell has reported clearing AO-2.5 (611) and ShOAB-0.5 (25) submunitions from the Rasht and Tavildara districts in the Rasht Valley.³¹

²⁷ NPA, “Yellow Killers: the Impact of cluster munitions in Serbia and Montenegro,” Belgrade, 4 May 2007, p. 57.

²⁸ Handicap International, “Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities,” *op. cit.*

²⁹ *Ibid.*

³⁰ *Landmine Monitor Report 2006*, pp. 1094–1095.

³¹ Handicap International, “Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities,” *op. cit.*

Uganda

It is unclear to what extent Uganda is affected by submunition duds. The UN Development Programme documented contamination in 2007.

Vietnam

Vietnam is heavily contaminated by UXO, including submunition duds, mainly from the war in the 1960s and first half of the 1970s. Almost 97 million submunitions were delivered across the country, equivalent to 294 submunitions per square kilometer, or about two submunitions for every Vietnamese man, woman and child. Mk118 submunitions were most common at 45.4% (44 million), followed by the BLU-26 series at 32.7% (31.7 million).³²

Almost all Vietnam's provinces and cities are affected to some extent. The most affected provinces are Ha Tinh, Quang Binh and Quang Tri in central Vietnam on either side of the former Demilitarized Zone that divided north and south during the war. Many items of UXO are also found along the border with Lao PDR, a target of intensive bombing during the war.³³ Information on the number of submunitions cleared is not available.

Western Sahara

A significant amount of Western Sahara is affected by mines and UXO as a result of years of colonial and post-colonial conflicts.³⁴ Areas east of the berm in Mehaires, Tifariti and Bir Lahlou, where the Royal Moroccan Army conducted offensive operations in 1991, are said to be scattered with submunition duds.³⁵ Landmine Action UK has reported that among ERW posing a serious threat are submunition duds.³⁶ Between April 2006 and April 2007 the UN Mission for the Referendum in Western Sahara (MINURSO) discovered and marked 15 cluster munition-contaminated areas.

³² *Ibid.*

³³ See *Landmine Monitor Report 2004*, pp. 1161–1162.

³⁴ MINURSO, "Mines and UXOs," www.minurso.unlb.org, accessed 12 May 2007.

³⁵ *Ibid.*

³⁶ Landmine Action, "First National Capacity for Weapons Clearance Established in Western Sahara," Press Release, 18 April 2007.