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Flooding South Lebanon

Israel's Use of Cluster Munitions in Lebanon in July and August 2006

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Acronyms

BLU	Bomb Live Unit
CBU	Cluster Bomb Unit
CCW	Convention on Conventional Weapons
COI	UN Commission of Inquiry
DPICM	Dual Purpose Improved Conventional Munition
ICRC	International Committee of the Red Cross
IDF	Israel Defense Forces
IHL	International Humanitarian Law
IMI	Israel Military Industries
LMRC	Landmines Resource Center
MACC SL	UN Mine Action Coordination Center South Lebanon
MAG	Mines Advisory Group
MLRS	Multiple Launch Rocket System
NGO	Nongovernmental Organization
TCS	Trajectory Correction System
UN	United Nations
UNDP	UN Development Program
UNICEF	UN Children's Fund
UNIFIL	UN Interim Force in Lebanon
UNOCHA	UN Office for the Coordination of Humanitarian Affairs
UXO	Unexploded Ordnance

Map of Lebanon

Map Source Data: Vector Map Level 0 (Digital Chart of the World), U.S. National Imagery and Mapping Agency, September 2000.

Summary

The Israel Defense Forces (IDF) issued a short statement on December 24, 2007, on the results of an internal inquiry into its controversial use of cluster munitions during the 34-day war with Hezbollah in July and August 2006.[1] During that short conflict, the IDF rained an estimated 4 million submunitions on south Lebanon, the vast majority over the final three days when Israel knew a settlement was imminent. The inquiry was the second internal IDF investigation into the use of the weapon, and like its predecessor it exonerated the armed forces of violating international humanitarian law (IHL). Neither a detailed report nor the evidence supporting conclusions has been made public, however, making it impossible to assess whether the inquiry was carried out with rigor and impartiality, and whether it credibly addressed key issues about targeting and the lasting impact of cluster munition strikes on the civilian population.

Human Rights Watch's researchers were on the ground in Lebanon throughout the conflict and after, and our findings paint a quite different picture of the IDF's conduct. Research in more than 40 towns and villages found that the IDF's use of cluster munitions was both indiscriminate and disproportionate, in violation of IHL, and in some locations possibly a war crime. In dozens of towns and villages, Israel used cluster munitions containing submunitions with known high failure rates. These left behind homes, gardens, fields, and public spaces—including a hospital—littered with hundreds of thousands and possibly up to one million unexploded submunitions.[2] By their nature, these dangerous, volatile submunitions cannot distinguish between combatants and non-combatants, foreseeably endangering civilians for months or years to come.

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[1] Israel Ministry of Foreign Affairs, "Opinion of the Military Advocate General Regarding Use of Cluster Munitions in Second Lebanon War," December 24, 2007, http://www.mfa.gov.il/MFA/Government/Law/Legal+Issues+and+Rulings/Opinion+of+the-Military+Advocate+General+regarding+use+of+cluster+munitions+in+Second+Lebanon+War+24.htm (accessed December 29, 2007).

[2] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 15, 2008.

Israel continues to have a duty to investigate publicly, independently, impartially, and rigorously these extensive violations of international humanitarian law. Investigation should include a thorough examination of whether individual commanders bear responsibility for war crimes—that is, for intentionally or recklessly authorizing or conducting attacks that would indiscriminately or disproportionally harm civilians.

The continuing failure of the Government of Israel to mount a credible investigation one and a half years after the end of the 2006 conflict in Lebanon—and failure on the Lebanese side of the border to investigate Hezbollah's compliance with international humanitarian law—reaffirms the need for the Secretary-General of the United Nations (UN) to establish an International Commission of Inquiry to investigate reports of violations of international humanitarian law, including possible war crimes, committed by both sides during the conflict. The commission should formulate recommendations with a view to holding accountable those on both sides of the conflict who violated the law.[3] The findings of this report by Human Rights Watch indicate that Israel's use of cluster munitions should be part of the commission's mandate.

Cluster munitions are large, ground-launched or air-dropped weapons that, depending on their type, contain dozens or hundreds of submunitions. During strikes they endanger civilians because they blanket a broad area, and when they are used in or near populated areas, civilian casualties are virtually guaranteed. They also threaten civilians after conflict because they leave high numbers of hazardous submunitions that have failed to explode on impact as designed—known as duds—which can easily be set off by unwitting persons. As yet these weapons are not explicitly banned. However, their use is strictly limited by existing international humanitarian law on indiscriminate and disproportionate attacks. Moreover, global concern at the impact of cluster munitions, all too graphically manifested in south Lebanon, is lending impetus to international efforts to develop a legally binding instrument banning those that have an unacceptable humanitarian effect.

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[3] Human Rights Watch has separately reported on violations of international humanitarian law by Israel in the wider bombing campaign in Lebanon in 2006 and violations of international humanitarian law, including incidents involving cluster munitions, by Hezbollah. The scale of Israel's use of cluster munitions in south Lebanon dwarfed that of Hezbollah. See Human Rights Watch, *Why They Died: Civilian Casualties in Lebanon during the 2006 War,* vol. 19, no. 5(E), September 2007, http://hrw.org/reports/2007/lebanon0907/, and Human Rights Watch, *Civilians under Assault: Hezbollah's Rocket Attacks on Israel in the 2006 War,* vol. 19, no. 3(E), August 2007, http://hrw.org/reports/2007/iopto807/.

Israel's strikes in 2006 were the most extensive use of cluster munitions anywhere in the world since the 1991 Gulf War.[4] Based on its own field response and a review of public reports, the UN Mine Action Coordination Center South Lebanon (MACC SL) estimated, as of January 15, 2008, that Israel fired cluster munitions containing as many as four million submunitions in 962 separate strikes.[5] According to information provided to Human Rights Watch by Israeli soldiers who resupplied Multiple Launch Rocket System (MLRS) units with cluster munitions, the number of submunitions used could be as high as 4.6 million.[6] That is more than twice as many submunitions used by Coalition forces in Iraq in 2003 and more than 15 times the number used by the United States in Afghanistan in 2001 and 2002.

The IDF's cluster munition strikes were spread over an area of approximately 1,400 square kilometers north and south of the Litani river, an area comparable in size to the US state of Rhode Island (1,214 square kilometers). Within the 1,400 square kilometer area, deminers have so far confirmed an aggregate area of 38.7 square kilometres, including at least 4.3 square kilometers of urban land, 20 square kilometers of agricultural land, and 4 square kilometers of woodland, as directly contaminated by submunitions.[7] Looking at the number of submunitions they have cleared compared to the number of strikes, clearance experts have indicated that the failure rates for many of Israel's submunitions appear to have averaged 25 percent,

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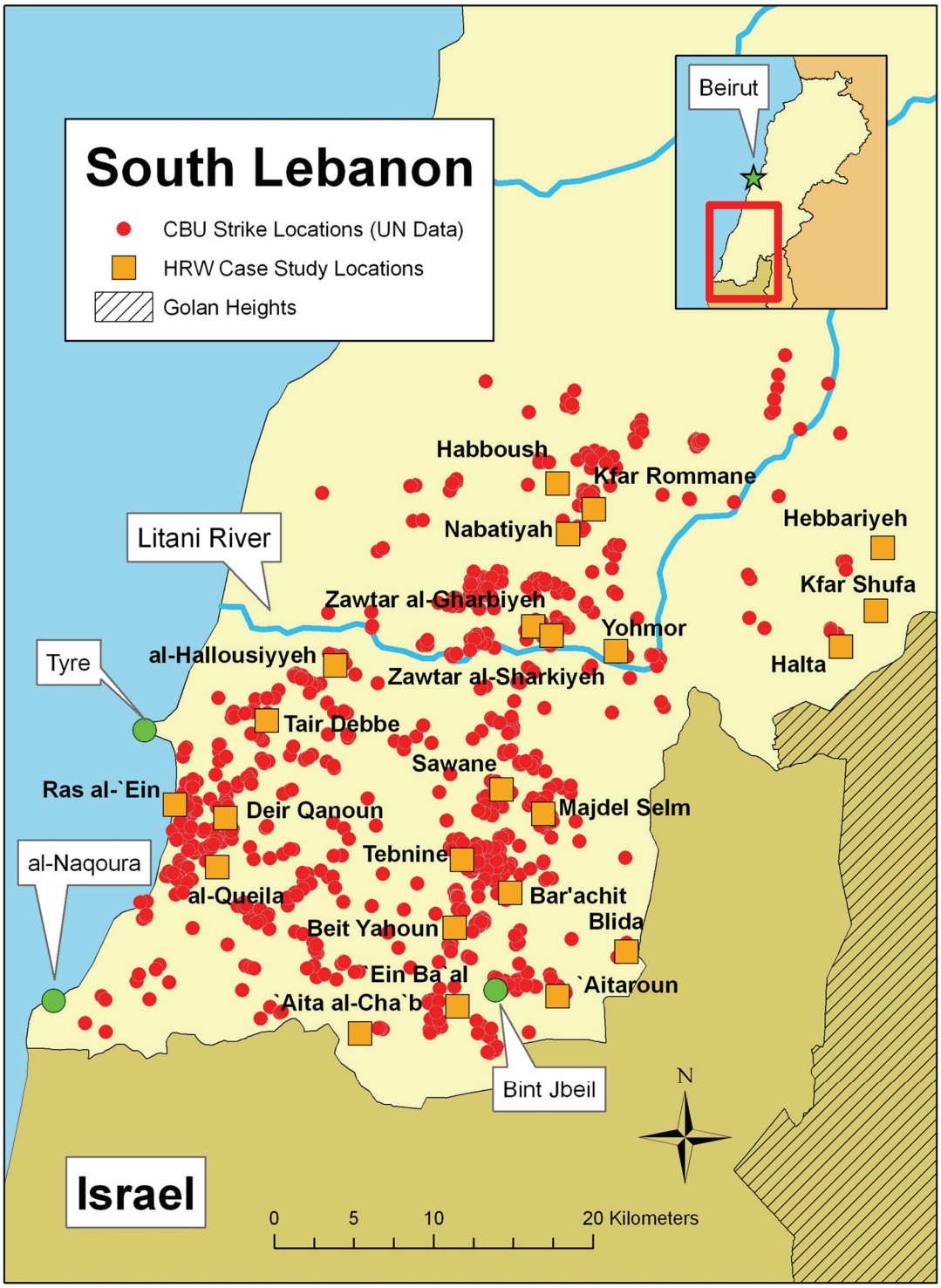
[4] Between January 17 and February 28, 1991, the United States and its coalition allies used a total of 61,000 cluster munitions, releasing 20 million submunitions in Iraq, a country more than 40 times bigger than Lebanon. Human Rights Watch, *Fatally Flawed: Cluster Bombs and Their Use by the United States in Afghanistan*, vol. 14, no. 79(G), December 2002, http://hrw.org/reports/2002/us-afghanistan/, p. 40.

[5] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 15, 2008.

[6] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006. Unless otherwise noted, all interviews cited in this report were done in Lebanon.

[7] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 15, 2008. For a breakdown of land by type, as of November 2006, see United Nations Development Program (UNDP), "CBU Contamination by Land Use," current as of November 29, 2006.



Map Source Data: Human Rights Watch; United Nations; and Vector Map Level 0 (Digital Chart of the World), U.S. National Imagery and Mapping Agency, September 2000.

leaving behind vast numbers of hazardous unexploded submunitions.[8] Based on their personal observations, experts from Human Rights Watch and the UN have judged the level and density of post-conflict contamination in south Lebanon to be far worse than that found in Iraq, Afghanistan, or Kosovo following the use of cluster munitions in those countries. However, it is not just civilians in areas currently known by deminers to be directly contaminated whose lives have been severely affected—people living throughout the 1,400 square kilometer area have had their lives disrupted, as they cannot live in safety until their homes and fields have been inspected and, if necessary, cleared by demining crews.

The cluster munitions fired by Israel into south Lebanon caused serious and ongoing civilian harm. While immediate civilian casualties from the explosions appear to have been limited, the long-term effects in terms of injuries, deaths, and other loss have been considerable. As of January 15, 2008, according to MACC SL, the explosion of duds since the ceasefire had caused at least 192 civilian and 29 deminer casualties.[9] The huge number of submunitions used and the high dud rates have severely damaged the economy by turning agricultural land into de facto minefields and interfering with the harvesting of tobacco, citrus, banana, and olive crops.

In the first two weeks of the conflict, Israel launched a relatively small number of cluster munition strikes. Attacks increased in the days after the 48-hour partial suspension of air strikes from July 31 to August 1, 2006; Israeli soldiers serving with an MLRS unit told Human Rights Watch that it was in August that they fired many of their cluster rockets.[10]

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[8] MACC SL, "South Lebanon Cluster Bomb Info Sheet as at November 4, 2006," http://www.maccsl.org/reports/Leb%20UXO%20Fact%20Sheet%204%20November,%202006.pdf (accessed March 18, 2007); email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, September 12, 2007.

[9] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 15, 2008 (including attachment of cluster munition casualty data) [hereinafter MACC SL Casualty List]. The Landmines Resource Center (LMRC) also keeps track of cluster munition casualties and counted 239 civilian and 33 deminer casualties as of January 2, 2008. Email communication from Habbouba Aoun, coordinator, Landmines Resource Center, to Human Rigths Watch, January 2, 2008 (including attachment of cluster munition casualty data) [hereinafter LMRC Casualty List].

[10] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006.

A submunition seriously injured Muhammad Abdullah Mahdi, an 18-year-old mechanic, when he tried to move a car motor at his garage in Zawtar al-Sharkiyeh on October 4, 2006. Shown here about three weeks later, he hemorrhaged, lost half of his left hand, was injured in his right leg, and suffered psychological trauma. © 2006 Bonnie Docherty/Human Rights Watch

The overwhelming use of cluster munitions took place during the final 72 hours of the conflict, when Israel engaged in saturation cluster bombing, hitting more than 850 strike sites with millions of submunitions. According to the United Nations, 90 percent of Israel's cluster munition strikes took place over this brief period.[11] A commander of an IDF MRLS unit told a *Ha'aretz* reporter, "What we did was insane and monstrous; we covered entire towns in cluster bombs." He said that, in order to

[11] UN officials citing this statistic include the UN's then emergency relief coordinator and under-secretary-general for humanitarian affairs, Jan Egeland; the UN's humanitarian coordinator in Lebanon, David Shearer; and the program manager of the UN Mine Action Coordination Center South Lebanon, Chris Clark. See, for example, UN Office for the Coordination of Humanitarian Affairs (OCHA), "Lebanon: Cluster Bomb Fact Sheet," September 19, 2006; "UN Denounces Israel Cluster Bombs," BBC News, August 30, 2006. Ninety percent of the war's total of 962 strike sites is about 866 strike sites from the last three days. Note that each site may include multiple strikes. Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 15, 2008.

compensate for the cluster rockets' imprecision, his unit was ordered to "flood" the area with them.[12]

These strikes occurred after the UN Security Council had adopted Resolution 1701 on August 11 calling for an immediate ceasefire, but before the Lebanese and Israeli cabinets met individually to set the time for the formal ceasefire to take effect on August 14.[13] At that time, Israel knew a settlement was likely to be imminent. At this late stage of the war, the majority of civilians had fled the area, but the imminent settlement would clearly lead civilians to return to their homes, many now either directly contaminated by duds or surrounded by contaminated land. It is inconceivable that Israel, which has used cluster weapons on many previous occasions, did not know that that its strikes would have a lasting humanitarian impact.

Israel has repeatedly argued that its use of cluster munitions in south Lebanon was in accordance with "the principles of armed conflict" and was a response to Hezbollah's deployment and camouflaging of missile launchers "in built-up areas and areas with dense vegetation."[14] According to the IDF, the decision to use cluster munitions "was only made after other options had been examined and found to be less effective in ensuring maximal coverage of the missile launching areas."[15] The Israeli government has told Human Rights Watch that its forces directed all cluster munition fire at legitimate military targets and that for humanitarian reasons "most was directed at open areas, keeping a safe distance from built up areas."[16] When the IDF used cluster munitions in "residential areas/neighborhoods," it claims it did so "as an immediate defensive response to rocket attacks by Hizbullah from launching

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[12] Meron Rapoport, "When Rockets and Phosphorous Cluster," *Ha'aretz*, September 30, 2006, http://www.haaretz.com/hasen/spages/761910.html (accessed July 24, 2007).

[13] The 19-point resolution called for, among other provisions, "a full cessation of hostilities based upon, in particular, the immediate cessation by Hizbollah of all attacks and the immediate cessation by Israel of all offensive military operations." United Nations Security Council, Resolution 1701 (2006), S/RES/1701 (2006), http://daccessdds.un.org/doc/UNDOC/GEN/N06/465/03/PDF/N0646503.pdf?OpenElement (accessed May 13, 2007), para. 1. See also "Security Council Calls for End to Hostilities between Hizbollah, Israel, Unanimously Adopting Resolution 1701 (2006)," United Nations press release, August 11, 2006, http://www.un.org/News/Press/docs/2006/sc8808.doc.htm (accessed July 26, 2007).

[14] Israel's Response to Accusations of Targeting Civilian Sites in Lebanon During the "Second Lebanon War," document contained in email communication from Gil Haskel, Israel Ministry of Foreign Affairs, to Human Rights Watch, May 8, 2007, in response to a Human Rights Watch letter to Defense Minister Amir Peretz sent January 8, 2007.

[15] Ibid.

[16] Ibid.

sites located within villages."[17] The IDF says "significant measures were taken to warn civilians to leave the area."[18]

Human Rights Watch's researchers visited the sites of cluster munition strikes and talked to local people. They found that cluster munitions affected many villages and their surrounding agricultural fields—locations used intensively by the civilian population.

Human Rights Watch also found that many of the cluster attacks on populated areas do not appear to have had a definite military target. Our researchers, who focused their investigation immediately after the ceasefire on cluster strikes in and around population centers, found only one village with clear evidence of the presence of Hezbollah forces out of the more than 40 towns and villages they visited. While some Israeli cluster attacks appear to have been instances of counter-battery fire, in many of the attacks in populated areas that we examined the few civilians present at the time of the attacks could not identify a specific military target such as Hezbollah fighters, rocket launchers, or munitions.

At this late stage, the final three days of the fighting, the majority of potential eyewitnesses had either fled or were hiding inside buildings or other shelter, making it difficult for them to see activity around them and thus for Human Rights Watch to prove definitively the presence or absence of Hezbollah military targets from interview testimony alone. However, the apparent absence of legitimate military targets in these populated areas matches our broader findings into the conduct of Hezbollah during the war, which revealed that Hezbollah fired the vast majority of its rockets from pre-prepared positions outside villages.[19] Furthermore, the staggering number of cluster munitions rained on south Lebanon over the three days

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[17] Israel Ministry of Foreign Affairs, "Opinion of the Military Advocate General Regarding Use of Cluster Munitions in Second Lebanon War."

[18] Ibid.

[19] For fuller analyses of Hezbollah's violations of international humanitarian law during the conflict, see Human Rights Watch, *Civilians under Assault*, and Human Rights Watch, *Why They Died*. Our research shows that on some occasions, Hezbollah fired rockets from within populated areas, allowing its combatants to mix with the Lebanese civilian population, or stored weapons in populated civilian areas in ways that violated international humanitarian law. Such violations, however, were not widespread. We found strong evidence that Hezbollah stored most of its rockets in bunkers and weapons storage facilities located in uninhabited fields and valleys, that in the vast majority of cases Hezbollah left populated civilian areas as soon as the fighting started, and that Hezbollah fired the vast majority of its rockets from pre-prepared positions outside villages.

immediately before a negotiated ceasefire went into effect puts in doubt the claim by the IDF that its attacks were aimed at specific targets or even strategic locations, as opposed to being efforts to blanket large areas with explosives and duds. Treating separate and distinct military objectives in a single populated area as one target is a violation of international humanitarian law, and if done intentionally, a war crime.

IHL, which governs conduct during armed conflict, requires belligerents to distinguish between combatants and non-combatants and prohibits as "indiscriminate" any attacks that fail to do so.[20] Cluster munition attacks on or near population centers, like those launched by Israel, give rise to a presumption that they are indiscriminate, as the weapons are highly imprecise with a large area effect that regularly causes foreseeable and excessive civilian casualties during strikes and afterwards. Furthermore, none of the cluster munition carriers used by Israel was precision-guided. Only a small number of carriers had any type of guidance mechanism. None of the submunitions was guided in any way. These factors support the view that these weapons were used in circumstances in which they were incapable of distinguishing between any actual or potential military objects and the civilians actually or soon to be in the area.

Even in cases where the IDF was attacking a specific military target, its use of cluster munitions violated the principle of proportionality, the legal requirement that the attacker should refrain from launching an attack if the expected civilian harm outweighs the military advantage sought. There is increasing international recognition that when cluster munitions are used in any type of population center, there is a strong, if rebuttable, presumption that the attack is disproportionate, both because of the immediate risk to civilians and the predictable future harm from cluster duds.

In calculating expected civilian harm, Israel needed to consider the presence of civilians. Throughout the war, Israel issued general warnings to civilians in south Lebanon to leave through Arabic flyers and radio broadcasts. Large numbers of civilians fled the area. However, Israel undoubtedly knew that some civilians were unable or unwilling to go because they were poor, elderly, afraid of being killed on the roads, unable to secure transport, or responsible for family property. These

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[20] Protocol Additional to the Geneva Conventions of 12 August 1949 Relating to the Protection of Victims of International Armed Conflicts (Protocol I) of 8 June 1977, 1125 U.N.T.S. 3, entered into force December 7, 1978, arts. 48, 51(4)(a, b).

civilians thus remained vulnerable to cluster munition attacks. This was the case in the 1993 conflict between Israel and Hezbollah in south Lebanon, and indeed during the course of the 2006 conflict the media was filled with stories on Lebanese civilians dying in Israeli strikes or trapped in place.

In any event, giving warnings does not allow the warring parties then to disregard the continuing presence of some civilians for the purpose of determining whether a planned attack is either indiscriminate or disproportionate. In the latter case, all potential harm to civilians remaining must still be weighed against the concrete and direct military advantage anticipated from an attack, and the attack cancelled if the damage to civilians is disproportionate. Furthermore, given the nature this weapon type and Israel's overwhelming use of it in the final days of the conflict, the lasting impact of duds must also be a factor in determining whether a planned attack is indiscriminate or disproportionate.

Given the extremely large number of submunitions employed and their known failure rates, harm to remaining and returning civilians was entirely foreseeable. Israel's use of old weapons and the conditions under which they were fired (often low trajectory or short-range) radically increased the number of duds. Israel was well aware of the continuing harm to Lebanese civilians from the unexploded duds that remained from its prior use of munitions in South Lebanon in 1978 and 1982. Unexploded cluster submunitions from weapons used more than two decades ago—though far less extensively than in 2006—continued to affect Lebanon up to the beginning of the 2006 conflict. Furthermore, testimony from soldiers and the reported IDF prohibition of firing cluster munitions into areas it would subsequently enter indicate that the dangers posed by duds were known to the IDF.

Neither Human Rights Watch's research nor the limited information offered by the IDF provides affirmative evidence that Israel's cluster attacks had potential military advantage greater than the significant and ongoing harm that they caused. The paucity of evidence of specific military objectives, the known dangers of cluster munitions, the timing of large scale attacks days before an anticipated ceasefire, and the massive scope of the attacks combine to point to a conclusion that the attacks were of an indiscriminate and disproportionate character. If the attacks were

knowingly or recklessly indiscriminate or deliberate, they are war crimes, and Israel has a duty to investigate criminal responsibility on the part of those who authorized the attacks.

Finally, the cluster munitions strike on the Tebnine Hospital on August 13, 2006, appears to have been in violation of the prohibition under international humanitarian law of attacking medical personnel, facilities, and protected persons, including persons *hors de combat* because of their injuries. We have found no evidence that the hospital was being used for military operations, was housing combatants other than patients (i.e., those rendered *hors de combat*), or was being used for any other military purpose. These acts, too, must be investigated as violations of the laws of international armed conflict, and as potential war crimes.

Israel's cluster strikes prompted several investigations after the conflict. The internal inquiry results made public in December 2007 were a follow up to an initial internal IDF "operational inquiry" that had exonerated the Army of violating IHL, but which found that the IDF fired cluster munitions into populated areas against IDF regulations, and that the IDF had not always used cluster munitions in accordance with the orders of then Chief of Staff Lt. Gen. Dan Halutz.[21] Some IDF commanders vehemently rejected this charge, saying that they acted within their orders.

IDF statements have provided only generalized observations to justify cluster munition attacks, rather than case-by-case information justifying attacks on specific targets. For example, while indicating that there were deviations from orders not to target built up areas, IDF statements do not provide case-by-case information justifying why deviations occurred. Instead, the IDF claims summarily that "IDF forces used the resources in their possession in an effort to curtail the relentless rocket fire at Israeli civilians." Their statements do not explain the high saturation of towns and villages across south Lebanon. They do not give any reasons why dud rates were so

[21] Greg Myre, "Israeli General Orders Lebanon Inquiry," *New York Times*, November 20, 2006; UNOCHA, "Israel: Army to Investigate Use of Cluster Bombs on Civilian Areas," IRINnews.org, November 22, 2006. The Israeli government statement on the probe refers to the earlier "operational inquiry into the use of cluster munitions during the conflict, when questions were raised regarding the full implementation of the orders of the General Staff concerning the use of cluster munitions." Israel Ministry of Foreign Affairs, "IDF to Probe Use of Cluster Munitions in Lebanon War," November 21, 2006, http://www.mfa.gov.il/MFA/Government/Communiques/2006/IDF%20to%20probe%20use%20of%20cluster%20munitions%20in%20Lebanon%20War%2021-Nov-2006 (accessed September 3, 2007). Israel has not made public either the regulations or the orders.

high. The statements do not acknowledge the foreseeable future effects on civilians of high dud rates.[22]

Two UN inquiries concluded that Israel's use of cluster munitions contradicted the IHL principles of distinction and proportionality. The US State Department concluded that Israel may have violated classified agreements with the United States regarding when and how US-supplied cluster munitions could be used.[23]

Human Rights Watch believes that cluster munitions stand out as the weapon category most in need of stronger national and international regulation to protect civilians during armed conflict. Urgent action is necessary to bring under control the immediate danger that cluster munitions pose to civilians during attacks, the long-term danger they pose after conflict, and the potential future dangers of widespread proliferation. Human Rights Watch believes that parties to a conflict should never use unreliable and inaccurate cluster munitions. In 1999 Human Rights Watch was the first nongovernmental organization (NGO) to call for a global moratorium on their use until their humanitarian problems have been resolved. Governments should bear the burden of demonstrating that any cluster munition is accurate and reliable enough not to pose unacceptable risks to civilians during and after strikes.[24]

International awareness of the need to address cluster munitions is growing rapidly. Most notably, on February 23, 2007, in Oslo, Norway, 46 countries agreed to conclude a treaty banning cluster munitions that cause unacceptable harm to civilians by 2008.[25] Another eight states joined the movement in a follow-up meeting in Lima, Peru, in May 2007, and a total of 94 states were on board by the end of the next meeting in Vienna, Austria, in December. The treaty will "prohibit the use,

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[22] Israel Ministry of Foreign Affairs, "IDF to Probe Use of Cluster Munitions in Lebanon War"; Israel Ministry of Foreign Affairs, "Opinion of the Military Advocate General Regarding Use of Cluster Munitions in Second Lebanon War."

[23] David Cloud, "Inquiry Opened Into Israeli Use of US Bombs," *New York Times*, August 25, 2006.

[24] Some states are developing and procuring cluster munitions that may not present the same dangers to civilians as most existing cluster munitions because they are capable of more accurate targeting and are more reliable. For example, some sensor fuzed weapons contain a small number of submunitions, each with an infrared guidance system directing the submunition to an armored vehicle.

[25] Oslo Conference on Cluster Munitions, "Declaration," February 22-23, 2007, http://www.regjeringen.no/upload/UD/Vedlegg/Oslo%20Declaration%20(final)%2023%20February%202007.pdf (accessed March 2, 2007).

production, transfer and stockpiling of cluster munitions that cause unacceptable harm to civilians" and have provisions for clearance, victim assistance, risk education, and stockpile destruction.[26] In 2008, governments will develop and negotiate the treaty at meetings in New Zealand and Ireland.[27] "We have given ourselves a strict timeline to conclude our work by 2008. This is ambitious but necessary to respond to the urgency of this humanitarian problem," said Norway's Foreign Minister Jonas Ghar Støre.[28] This initiative, which closely mirrors the Ottawa process banning antipersonnel mines, follows years of advocacy by Human Rights Watch, the Cluster Munition Coalition, which Human Rights Watch co-chairs, other NGOs, the International Committee of the Red Cross (ICRC), and states. Lebanon has been a vocal participant in the "Oslo Process," while Israel has stayed away.

States are also pursuing domestic measures to address cluster munitions. Belgium became the first country to adopt a comprehensive ban on cluster munitions in February 2006, and Austria followed suit in December 2007. Norway declared a moratorium on use in June 2006 and Hungary in May 2007. Parliamentary initiatives to prohibit or restrict cluster munitions are underway in numerous countries. Many countries have in recent years decided to remove from service and/or destroy cluster munitions with high failure rates, and some have called for a prohibition on use in populated areas.

International humanitarian law on the use of cluster munitions is in the process of development, but a consensus is developing that their use in populated areas is a violation, on account of the likelihood of indiscriminate or disproportionate harm to civilians both at the time of the attack and in the future because of unexploded duds. The preamble of the final declaration of the Third Review Conference of the Convention on Conventional Weapons (CCW), for example, recognizes "…the foreseeable effects of explosive remnants of war on civilian populations as a factor to be considered in applying the international humanitarian law rules on proportionality in attack and

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[26] Ibid.

[27] Ibid.

[28] "Cluster Munitions to Be Banned by 2008," Norwegian Ministry of Foreign Affairs press release, February 23, 2007, http://www.regjeringen.no/en/ministries/ud/Press-Contacts/News/2007/Cluster-munitions-to-be-banned-by-2008.html?id=454942 (accessed March 2, 2007).

precautions in attack."[29] States parties, including Israel and the United States, adopted this language on November 17, 2006. Human Rights Watch believes that the international community should move to establish predictable future effects as not only a violation of IHL but also as a basis for criminal responsibility. The tragedy that has taken place in Lebanon should serve as a catalyst to both national measures and a new international treaty on cluster munitions.

Methodology

This report is based on Human Rights Watch's on-the-ground research in Lebanon and Israel, supplemented most notably with information provided by MACC SL. It also draws on more than a decade of field research and documentary research on cluster munitions by Human Rights Watch.

Human Rights Watch researchers were in Lebanon throughout the conflict and were the first to confirm Israel's use of cluster munitions when they documented the IDF's attack on Blida on July 19, 2006. At the same time, Human Rights Watch researchers working in northern Israel confirmed the widespread presence of cluster munition artillery shells in the arsenals of IDF artillery teams stationed along Israel's border with Lebanon.

Immediately after the ceasefire, Human Rights Watch researchers traveled to south Lebanon, the location of the most intense cluster munition contamination. They spent six days surveying the extent of the damage from cluster attacks and conducting interviews. Researchers returned to south Lebanon in mid-September 2006 for several days and spent another week in late October 2006 documenting the ongoing aftereffects of the submunitions.

Our researchers investigated more than 50 cluster munition strikes, including strikes in more than 40 towns and villages in south Lebanon. They collected physical evidence of the strikes, took photographs, visited hospitals, and interviewed dozens of civilians who had been directly affected by the cluster munition attacks, including

[29] Third Review Conference of the High Contracting Parties to the Convention on Conventional Weapons (CCW), "Final Document, Part II, Final Declaration," CCW/CONF.III/11 (Part II), Geneva, November 7-17, 2006, p. 4 [hereinafter CCW Third Review Conference, "Final Declaration"].

numerous men, women, and children who had been injured by submunitions or submunition duds. Researchers spoke to many Lebanese in their towns and villages just as they were returning home. Human Rights Watch also met with demining professionals from the Lebanese Army, the UN, and NGOs who were cataloguing and clearing the vast fields of deadly submunition duds in Lebanon. Those civilians that had remained in these villages and towns at the time of the attacks, however, were usually taking shelter from bombardment, and so often unaware of whether there were any military targets or military movements in the vicinity.

During the conflict, Human Rights Watch on several occasions made inquiries with Israeli officials regarding use of cluster munitions, especially following the attack on Blida. Human Rights Watch made further inquiries immediately after the conflict, as the scope of use in the final days became clear. Human Rights Watch also called on Israel to provide information about its use of cluster munitions in press releases and public presentations.

In October 2006, Human Rights Watch researchers met with Israeli officials and soldiers in Tel Aviv and Jerusalem to discuss the use of cluster munitions. Most notably, the researchers interviewed four soldiers in MLRS and artillery units that used clusters in July and August. In July 2007, another Human Rights Watch team met with lawyers from the IDF, who provided an overview of the IDF's position but no specifics about discrete military objectives. In this report, Human Rights Watch has utilized all of the publicly available statements on cluster munitions issued by the Israeli government, as well as statements reported in the media. It also relies on the interview with IDF lawyers and an Israeli document sent in response to Human Rights Watch inquiries, which briefly discusses use of cluster munitions and is annexed to this report.[30]

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[30] The document sent by the Israel Ministry of Foreign Affairs to Human Rights Watch on May 8, 2007, is a verbatim excerpt from a ministry document posted on its website on April 1, 2007, entitled "Preserving Humanitarian Principles While Combating Terrorism: Israel's Struggle with Hizbullah in the Lebanon War," http://www.mfa.gov.il/MFA/Terrorism-+Obstacle+to+Peace/Terrorism+from+Lebanon-+Hizbullah/Preserving+Humanitarian+Principles+While+Combating+Terrorism+-+April+2007.htm (accessed August 14, 2007). The document is not a direct response to the information requested by Human Rights Watch. To date, we have not received any further information from the Israeli authorities responding directly to our request for information.

Recommendations

To the Government of Israel

- Prohibit the use, transfer, and production of unreliable and inaccurate cluster munitions, including all of those types used in Lebanon, and destroy all existing stockpiles.
- Constitute and empower an independent inquiry to examine all relevant data and investigate impartially and independently the IDF's use of cluster munitions in Lebanon to assess carefully whether the munitions were used in a manner consistent with international humanitarian law. The investigation should address questions about deliberate use in populated areas, the timing of attacks, the quantity and reliability of cluster munitions used, the specific military objectives for each attack (or lack thereof), whether separate and distinct military objectives were treated as a single one for the purpose of bombardment, and whether there was knowing or reckless disregard for the foreseeable effects on civilians and other protected objects. The results of the investigation should be made public.
- Hold accountable, including through disciplinary action or prosecution if the facts warrant, those responsible for using cluster munitions in violation of international humanitarian law.
- Immediately provide to the UN the specific locations of cluster munition attacks, including the specific types and quantities of weapons used, to facilitate clearance and risk-education activities.
- Provide all possible technical, financial, material, and other assistance to facilitate the marking and clearance of submunition duds and other explosive remnants of war.

To the Secretary-General of the United Nations

Consistent with recommendations made to the UN Secretary-General in the separate reports *Civilians under Assault: Hezbollah's Rocket Attacks on Israel in the 2006 War*, published in August 2007, and *Why They Died: Civilian Casualties in Lebanon during the 2006 War*, published in September 2007:

- Use your influence with Israel and Hezbollah to urge them to adopt measures to better comply with international humanitarian law.
- Establish an International Commission of Inquiry to investigate reports of violations of international humanitarian law, including possible war crimes, in Lebanon and Israel and to formulate recommendations with a view to holding accountable those on both sides of the conflict who violated the law. Include investigation into the use of cluster munitions in the mandate of the inquiry.

To the Government of the United States

- Press the Israeli government to mount a credible independent and impartial investigation into the IDF's use of cluster munitions.
- Cancel the delivery of 1,300 M26 cluster munition rockets for Multiple Launch Rocket Systems requested by Israel and prohibit any future transfer of unreliable and inaccurate cluster munitions.
- Make public the findings of its investigation into Israel's use of cluster munitions in Lebanon, as well as the agreements it has with Israel regarding the use of US-supplied cluster munitions.
- As the supplier of most of the cluster munitions and other weapons that Israel used in Lebanon, accept special responsibility for assisting with the marking and clearance of submunition duds and other explosive remnants of war.
- Prohibit the use, transfer, and production of unreliable and inaccurate cluster munitions and begin destruction of existing stockpiles.

To all governments

- Take steps to ban cluster munitions that cause unacceptable humanitarian harm by participating in the international effort initiated by Norway to negotiate a treaty.

- Take national measures to prohibit the use, transfer, and production of unreliable and inaccurate cluster munitions and destroy stockpiles of such cluster munitions.
- Prohibit the use of cluster munitions in or near populated areas.
- Provide support for submunition clearance, risk education, and victim assistance activities in Lebanon.

Cluster Munitions and International Humanitarian Law

Background on Cluster Munitions

Cluster munitions are large weapons that contain dozens and often hundreds of smaller submunitions. After being dropped from the air by planes or helicopters or fired from the ground by artillery or rocket launchers, cluster munitions open up in the air and release their submunitions over a wide area. The submunitions from air-dropped cluster munitions are called bomblets, and those from ground-delivered cluster munitions are called grenades. The submunitions often have both antipersonnel and anti-armor effects. With very few exceptions, both cluster munitions and submunitions are unguided weapons. All of the submunitions used in the conflict in Lebanon were unguided.[31]

The military values cluster munitions because of their wide footprint; they can destroy broad, relatively soft targets, like airfields and surface-to-air missile sites. They can also be effective against targets that move or do not have precise locations. The military advantages of cluster munitions, however, must be weighed against their documented harm to civilians both during and after strikes.

The humanitarian effects of a cluster munition attack are often more serious than those of other types of attacks because of the submunitions' wide dispersal. Even if a cluster munition hits its target, which is not guaranteed because it is usually unguided, the submunitions may kill or injure civilians within the footprint. The inherent risks to civilian life and property increase when a party uses these weapons in or near populated areas. If cluster munitions are used in an area where combatants and civilians commingle, civilian casualties are almost assured.

Cluster munitions also produce deeply problematic aftereffects because many of the submunitions do not explode on impact as intended. While all weapons have a failure rate, cluster munitions are more dangerous because they release large numbers of

[31] Israel is not known to possess cluster munitions with individually guided submunitions, such as the Sensor Fuzed Weapons produced in the United States.

submunitions and because certain design characteristics, based on cost and size considerations, increase the likelihood of submunition failure. Manufacturers and militaries have typically indicated that failure rates for submunitions under test conditions range between 5 and 20 percent. Actual failure rates in combat conditions have been higher, including in south Lebanon. As a result, every cluster munition strike leaves some unexploded ordnance. The dud, or initial failure, rate (i.e., the percentage that does not explode) not only reduces the immediate military effectiveness of cluster munitions but also puts civilians at great risk. Unexploded bomblets and grenades are often highly unstable and can explode at the slightest touch or movement, becoming de facto landmines that kill or injure civilians returning to the battle area after an attack.

An unexploded, air-dropped BLU-63 submunition lies hidden in a farmer's field just outside Beit Yahoun on October 24, 2006. Such US-made submunitions, carried in a CBU-58B, date back to the Vietnam War. © 2006 Bonnie Docherty/Human Rights Watch

At least 14 states and a small number of non-state armed groups have used cluster munitions in at least 30 countries and territories. While the number of conflicts in which cluster munitions have been used is still relatively limited, the danger of the problem growing exponentially is great. A total of at least 76 countries stockpile cluster munitions. Thirty-four countries have produced over 210 different types of cluster munitions, and at least 13 countries have transferred over 50 different types of cluster munitions to at least 60 other countries, as well as non-state armed groups.[32]

International Humanitarian Law

During the war in Lebanon, Israeli and Hezbollah forces were bound by international humanitarian law, which requires parties to an armed conflict to respect and protect civilians and other persons not or no longer taking a direct part in hostilities. It also limits permissible means and methods of warfare. The most relevant IHL provisions are the four Geneva Conventions of 1949, to which Israel is party, and the First Additional Protocol of 1977, to which it is not.[33] Protocol I codified and in some measure expanded upon existing law, particularly relating to the conduct of hostilities. Today, many, if not most, of its provisions are considered reflective of customary international law.[34]

The principle of distinction is the keystone of the law regulating protection of civilians during hostilities. It requires parties to a conflict to distinguish at all times between combatants and civilians. Parties may not attack civilians and civilian objects and may

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[32] Human Rights Watch internal research; Human Rights Watch, "Dirty Dozen Chart," December 2007, www.stopclustermunitions,org; Human Rights Watch, "Updated Human Rights Watch Cluster Munition Information Chart," June 2007, http://hrw.org/arms/pdfs/munitionChart061507.pdf ; Human Rights Watch, "Human Rights Watch Cluster Munition Information Chart," March 2006, http://hrw.org/arms/pdfs/munitionChart.pdf.

[33] Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (First Geneva Convention), adopted August 12, 1949, 75 U.N.T.S. 31, entered into force October 21, 1950; Geneva Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea (Second Geneva Convention), adopted August 12, 1949, 75 U.N.T.S. 85, entered into force October 21, 1950; Geneva Convention Relative to the Treatment of Prisoners of War (Third Geneva Convention), adopted August 12, 1949, 75 U.N.T.S. 135, entered into force October 21, 1950; Geneva Convention Relative to the Protection of Civilian Persons in Time of War (Fourth Geneva Convention), adopted August 12, 1949, 75 U.N.T.S. 287, entered into force October 21, 1950 [hereinafter Fourth Geneva Convention]; Protocol Additional to the Geneva Conventions of 12 August 1949 relating to the Protection of Victims of International Armed Conflicts (Protocol I), adopted June 8, 1977, 1125 U.N.T.S. 3, entered into force December 7, 1978 [hereinafter Protocol I].

[34] See generally International Committee of the Red Cross (ICRC), *Customary International Humanitarian Law: Volume 1: Rules* (Cambridge: Cambridge University Press, 2005), pp. 3-77.

direct attacks against only military objectives.[35] Military objectives are members of the armed forces, other persons taking a direct part in hostilities, and "those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage."[36] IHL prohibits attacks "of a nature to strike military objectives and civilians or civilian objects without distinction."[37] Indiscriminate attacks include those that "are not directed at a specific military objective," those that use means that "cannot be directed at a specific military objective," and those that "employ a method or means of combat the effects of which cannot be limited."[38] Bombardments that treat as a single military objective a number of clearly separated and distinct targets are indiscriminate as well.[39]

Another key principle is that of proportionality. Attacks that violate the principle of proportionality are indiscriminate because they are "expected to cause incidental loss of civilian life, injury to civilians [or] damage to civilian objectives…which would be excessive in relation to the concrete and direct military advantage anticipated" from that attack.[40]

When conducting military operations, parties to a conflict must take constant care to spare the civilian population and civilian objects from the effects of hostilities. Precautions include:

- Doing "everything feasible to verify" that the objects to be attacked are military objectives and not civilians or civilian objects or subject to special protection.
- Taking "all feasible precautions in the choice of means and methods" of warfare so as to avoid and in any event minimize "incidental loss of civilian life, injury to civilians and damage to civilian objects."

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[35] Protocol I, art. 48.

[36] Ibid., arts. 51(3), 52.

[37] Ibid., art. 51(4).

[38] Ibid., art. 51(4)(a, b, c).

[39] Ibid., art. 51(5)(a).

[40] Ibid., art. 51 (5)(b).

- Refraining from launching attacks "expected to cause incidental loss of civilian life, injury to civilians, [or] damage to civilian objects…which would be excessive in relation to the concrete and direct military advantage expected."
- When circumstances permit, giving "effective advance warning…of attacks which may affect the civilian population."
- "When a choice is possible between several military objectives for obtaining the same military advantage," carrying out the attack that may be "expected to cause the least danger to civilian lives and civilian objects."
- Avoiding "locating military objectives within or near densely populated areas."
- Endeavoring "to remove the civilian population…from the vicinity of military objectives."[41]

The enemy's failure to respect one or more of these precautions does not permit the other party to the conflict to ignore precautions on its side.

Medical establishments benefit from special protection under international humanitarian law. Hospitals and other medical units must be "respected and protected" and must not be the object of attack.[42] They must not be used "to shield military objectives from attack."[43] They lose this protection, however, if they are used to commit "acts harmful to the enemy."[44]

With respect to individual responsibility, violations of international humanitarian law when committed with criminal intent are war crimes. This would include deliberate attacks on civilians, as well as indiscriminate or disproportionate attacks when committed with knowledge or reckless indifference to their illegal character. Individuals may also be held criminally liable for attempting to commit a war crime, as well as planning, instigating, assisting in, facilitating, aiding, or abetting a war crime.[45] Commanders and civilian leaders may be prosecuted for war crimes as a

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[41] Ibid., arts. 57, 58.

[42] Fourth Geneva Convention, art. 18; Protocol I, art. 12(1).

[43] Protocol I, art. 51(7).

[44] Fourth Geneva Convention, art. 19.

[45] See ICRC, *Customary International Humanitarian Law,* p. 554.

matter of command responsibility when they knew or should have known about the commission of war crimes and took insufficient measures to prevent them or punish those responsible.[46]

International Humanitarian Law Applied to Cluster Munitions

Cluster munitions raise serious concerns under the above provisions. Cluster munition strikes in or near population centers are likely to be indiscriminate because the weapons cannot be precisely targeted. Cluster munitions are area weapons, useful in part for attacking dispersed or moving targets. Most cannot, however, be directed at specific fighters or weapons, a limitation that is particularly troublesome in populated areas, even if there is a specific legitimate military target within the area. When cluster munitions are fired into civilian areas, civilian casualties and damage to civilian infrastructure are difficult to avoid.

Whether a cluster strike is discriminate must be judged not only on its immediate impact but also its later effects. Cluster duds do not distinguish between combatants and civilians and will likely injure or kill whoever disturbs them. The effects become more dangerous if the submunitions litter an area frequented by civilians or the dud rate is high (due to poor design, age, use in inappropriate environments, or delivery from inappropriate altitudes or distances). The large number of submunitions released by cluster munitions combined with a high dud rate makes the aftereffects in civilian areas particularly deadly. In that situation, the unexploded duds take on a character similar to antipersonnel landmines, which have been banned under international law.[47]

The lawfulness of an attack may also be determined by its disproportionate effect on civilians. A cluster attack will be unlawfully disproportionate if expected civilian harm outweighs anticipated military advantage.

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[46] Ibid., pp. 558-563.

[47] Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, adopted September 18, 1997, entered into force, March 1, 1999. As of December 2007, there were 156 states parties. Israel is not party.

This does not just mean immediate civilian losses, but also encompasses casualties over time—it is increasingly accepted that long-term effects should be a factor in judging the proportionality of cluster munition attacks. The preamble of the final declaration of the Third Review Conference of the Convention on Conventional Weapons recognizes "…the foreseeable effects of explosive remnants of war on civilian populations as a factor to be considered in applying the international humanitarian law rules on proportionality in attack and precautions in attack."[48] States parties, including Israel and the United States, adopted this language on November 17, 2006.

Taking into account both strike and post-strike civilian harm greatly increases the likelihood that the loss will be excessive in relation to the military advantage, especially if an attack occurred in a populated area or an area to which people might return. Based on its field research in Yugoslavia, Afghanistan, and Iraq, as well as Lebanon, Human Rights Watch believes that when cluster munitions are used in any type of populated area, there should be a strong, if rebuttable, presumption that an attack is disproportionate.

States are legally bound to minimize civilian harm. Taking "all feasible precautions" to do so entails a legal obligation to choose means and methods of attack that would minimize harm to civilians, or even to cancel or refrain from attack where the attack can be expected to cause disproportionate harm to civilians.[49] Given the high potential for cluster weapons to be disproportionate and indiscriminate, states should avoid strikes in or near population centers and minimize the long-term effects of duds.

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[48] CCW Third Review Conference, "Final Declaration," p. 4.

[49] Protocol I, art. 57(2).

Israel and Cluster Munitions

Israel has made few public remarks regarding its general policy toward cluster munitions, despite its long history of use, production, and trade of the weapon. Israel is party to the Convention on Conventional Weapons but did not support a proposal at the CCW Review Conference in November 2006 to begin negotiations on cluster munitions within the CCW.[50] Israel was also not among the states that gathered in Oslo in February 2007, Lima in May 2007, and Vienna in December 2007 to commit to negotiating a new cluster munitions treaty outside the CCW.

Israel has not ratified CCW Protocol V on Explosive Remnants of War, although it participated in the development of the protocol in 2003 and has expressed support for it. The protocol has provisions regarding the obligations of the user of weapons that become explosive remnants, including cluster munitions, to assist with the cleanup.

Use, Production, Trade, and Stockpiling

Prior to 2006, Israel had used cluster munitions in Syria in 1973 and in Lebanon in 1978 and 1982.[51] During the 1978 and 1982 Lebanon conflicts, the United States placed restrictions on the use of its cluster munitions by Israel, although this appeared to have little impact. Indeed, in response to Israel's use of cluster munitions in 1982 and the civilian casualties that they caused, the United States issued a moratorium on the transfer of cluster munitions to Israel. The moratorium was lifted in 1988. Unexploded cluster submunitions from the weapons used more than two decades ago—though far less extensive than in 2006—continued to affect Lebanon up to the beginning of the 2006 conflict.[52]

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[50] Israel also was not among the dozens of CCW states parties that provided information regarding their views on IHL and explosive remnants of war, including cluster munitions, as part of the work of the CCW Group of Governmental Experts in 2005 and 2006.

[51] There are unconfirmed reports of Israeli use of cluster munitions in Lebanon in 1996 and 2005. See Handicap International, "Circle of Impact: Footprint of Cluster Munitions on People and Communities," May 2007, http://www.handicap-international.org.uk/page_709.php (accessed September 3, 2007).

[52] For details on past use and on the US restrictions and moratorium, see Landmine Action, "Cluster Munitions in Lebanon," November 2005, http://www.landmineaction.org/resources/resource.asp?resID=1009 (accessed September 3, 2007).

Israel is a major producer and exporter of cluster munitions. Israel Military Industries (IMI), an Israeli government-owned weapons manufacturer, has produced, license-produced, and exported artillery projectiles (105mm, 122mm, 130mm, 152mm, 155mm, 175mm, and 203mm), mortar bombs (120mm), and rockets (TCS, EXTRA, GRADLAR, and LAR-160) with submunitions.[53]

Most notably, it has produced artillery projectiles and ground rockets containing the M85 Dual Purpose Improved Conventional Munition (DPICM) submunition equipped with a back-up pyrotechnic self-destruct fuze. Experts have touted the M85 as among the most reliable and sophisticated submunitions in existence, but as discussed in the Civilian Harm chapter below, it performed poorly in Lebanon in 2006.[54] IMI reported that by 2002 it had produced more than 60 million M85 DPICM submunitions.[55] IMI concluded licensing agreements in 2004 with companies in India (Indian Ordnance Factories) and the United States (Alliant Techsystems) to produce M85 DPICMs. Companies in Argentina (CITEFA), Germany (Rheinmetall), Romania (Romtechnica), and Switzerland (RAUG Armasuisse) have assembled or produced these submunitions under license to Israel.[56]

Israel also produces several types of air-dropped cluster munitions. The Rafael Corporation is credited with producing the ATAP-300, ATAP-500, ATAP-1000 RAM, TAL-1, and TAL-2 cluster bombs, as well as the BARAD Helicopter Submunition Dispenser.[57]

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[53] Information on surface-launched cluster munitions produced and possessed by Israel is taken primarily from Israel Military Industries Ltd. (IMI), http://www.imi-israel.com/Homepage.aspx?FolderID=11 (accessed September 3, 2007). It has been supplemented with information from *Jane's Ammunition Handbook* , Terry J. Gander and Charles Q. Cutshaw, eds. (Surrey, UK: Jane's Information Group Limited, 2001) and US Defense Intelligence Agency, "Improved Conventional Munitions and Selected Controlled-Fragmentation Munitions (Current and Projected) DST-1160S-020-90," June 8, 1990, partially declassified and made available to Human Rights Watch under a Freedom of Information Act request.

[54] Military experts from numerous countries that stockpile the M85 or variants of it have made this claim in discussions with Human Rights Watch during sessions of the CCW in recent years.

[55] Mike Hiebel, Alliant TechSystems, and Ilan Glickman, Israeli Military Industries, "Self-Destruct Fuze for M864 Projectiles and MLRS Rockets," presentation to the 48th Annual Fuze Conference, Charlotte, North Carolina, April 27-28, 2004, slide 9, http://www.dtic.mil/ndia/2004fuze/hiebel.pdf (accessed November 28, 2006).

[56] See Israel Military Industries Ltd. (IMI), http://www.imi-israel.com/Homepage.aspx?FolderID=11 (accessed September 3, 2007); *Jane's Ammunition Handbook*; US Defense Intelligence Agency, "Improved Conventional Munitions and Selected Controlled-Fragmentation Munitions."

[57] *Jane's Air Launched Weapons*, Robert Hewson, ed. (Surrey, UK: Jane's Information Group Limited, 2004), pp. 370-380.

Israel has imported M26 rockets with 644 DPICMs each from the United States for its MLRS launchers. Experienced Israeli non-commissioned officers leading platoons with an MLRS unit told Human Rights Watch that prior to the 2006 conflict, the IDF's stockpile of M26 rockets totaled approximately 18,000. These weapons would contain about 11.6 million submunitions.[58] Israel has also imported from the United States M483A1 155mm artillery projectiles with 88 or 72 DPICMs each, Rockeye cluster bombs with 247 Mk 118 bomblets each, and CBU-58B cluster bombs with 650 BLU-63 bomblets each.[59]

In addition to the US-supplied M26 rockets, IMI has produced a new MLRS rocket called the Trajectory Correction System (TCS). Dubbed "Destroyer" by the IDF, Israeli media first reported its use in Lebanon on July 17, 2006.[60] According to IMI, the TCS "improves the accuracy of free flight artillery rockets to that of conventional tube artillery…. By providing in-flight trajectory correction, the system simultaneously controls up to 12 rockets in the air, increasing engagement potential while reducing the number of rockets needed per target."[61] The TCS underwent operational testing in April 2006 and reportedly reduces the circular error probable (the radius of the area in which half of rockets can be expected to fall) for rocket impact to less than 50 meters at a maximum range of 40 kilometers.[62] The number of M85 dual-purpose submunitions contained in each TCS rocket is not publicly known. The US company Lockheed Martin won a contract in 1998 to produce 1,974 rocket motors for integration with the TCS warhead.[63]

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[58] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006.

[59] All of these US-produced cluster munitions, except the Rockeye bombs, were used by Israel in Lebanon. The details of the transfers are not known.

[60] Hanan Greenberg, "IDF: Our Rockets More Dangerous," Ynetnews.com, July 17, 2006, http://www.ynetnews.com/Ext/Comp/ArticleLayout/CdaArticlePrintPreview/1,2506,L-3277034,00.html (accessed October 26, 2006).

[61] Israel Military Industries Ltd. (IMI), "TCS–Trajectory Corrected System," http://www.imi-israel.com/Business/ProductsFamily/Product.aspx?FolderID=36&docID=311 (accessed October 26, 2006).

[62] Ibid.

[63] "Lockheed Martin Vought Systems Receives Contract for Israeli MLRS Trajectory Correction System," PRNewswire, November 2, 1998.

Types of Cluster Munitions and Submunitions Used in Lebanon

In the 2006 conflict in Lebanon, Israel used cluster munitions delivered by artillery projectiles, ground rockets, and aircraft bombs carrying five main types of submunitions: M42, M46, M77, M85 (with and without self-destruct devices), and BLU-63. These submunition types are unguided weapons that pose grave danger to civilians because of their inaccuracy, wide dispersal pattern, and high dud rates. Human Rights Watch researchers documented each of the five types lying unexploded in villages and surrounding fields in south Lebanon.

The M42, M46, M77, and M85 submunitions are DPICMs whose purpose is to injure persons and pierce armor. The majority of submunitions found in Lebanon have been DPICMs. These submunitions are cylinder shaped; civilians often describe them as resembling batteries. Connected to the top of each of these submunitions is a white ribbon that unfurls when the submunition is released. The ribbon both releases the firing pin, thus arming the submunition, and orients the submunition so that it falls with its shaped charge facing downward.[64] The shaped charge is a concave copper cone inside a DPICM designed to explode and pierce armor when it hits perpendicular to its target. A metal fragmentation cylinder is designed to explode and kill people.

M42 and M46 submunitions are delivered by M483A1 155mm artillery projectiles. Each projectile carries 88 M42 and M46 submunitions. Both the submunitions and the projectiles were made in the United States. The submunitions are able to penetrate more than 2.5 inches of armor.[65] The test condition failure rate of these two submunitions is between 3 and 14 percent.[66] As of January 2008, clearance

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[64] Database of Demining Incidents and Victims, "Ribbon Oriented Dual Purpose Submunition," http://www.ddasonline.com/SubsKB1-M42.htm (accessed November 29, 2006).

[65] Globalsecurity.org, "Dual-Purpose Improved Conventional Weapons," http://www.globalsecurity.org/military/systems/munitions/dpicm.htm (accessed November 29, 2006).

[66] The 3 percent figure is contained in Office of the Under Secretary of Defense (Acquisition, Technology and Logistics), "Report to Congress: Cluster Munitions," October 2004. The 14 percent figure is from US Army Defense Ammunition Center, Technical Center for Explosives Safety, "Study of Ammunition Dud and Low Order Detonation Rates," July 2000, p. 9, and Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, "Unexploded Ordnance Report," undated, but transmitted to the US Congress on February 29, 2000, table 2-3, p. 5.

personnel have destroyed 46,082 unexploded M42 and M46 submunitions, 33 percent of the total number of duds destroyed.[67]

Israel also widely used the M77 in Lebanon. M77 submunitions are delivered by M26 MLRS rockets. The launchers, rockets, and submunitions were produced in the United States. Each rocket contains 644 M77 submunitions, and each MLRS can fire up to 12 rockets at once. A typical volley of six rockets would release 3,864 submunitions over an area with a one-kilometer radius. Called "Steel Rain" by Gulf War soldiers, the submunitions can pierce up to four inches of armor.[68] The M77, visually distinguishable from the M42 and M46 by its white stripe, has a reported test condition failure rate of 5 to 23 percent.[69] The US use of M26 rockets in Iraq in 2003 caused hundreds of civilian casualties.[70] Deminers in Lebanon have cleared more M77s than any other type of submuntion—57,271 submunitions, which represent 41 percent of the total.[71]

M85 submunitions are delivered by M395 and M396 155mm artillery projectiles, which contain 63 and 49 M85 submunitions, respectively. The submunitions and the projectiles were made in Israel. Israel has produced at least two versions of the M85 submunition, an older model similar to the M42, M46, and M77, and a newer model with a self-destruct device. Many military experts consider the newer version to be one of the most reliable and sophisticated submunitions in existence.[72] The

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[67] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 18, 2008.

[68] Globalsecurity.org, "Dual-Purpose Improved Conventional Weapons."

[69] A 5 percent failure rate was reported in US Office of the Under Secretary of Defense (Acquisition, Technology and Logistics), "Report to Congress: Cluster Munitions," pp. 2-6. A 16 percent failure rate was reported in US Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, "Unexploded Ordnance Report," table 2-3, p. 5. A 23 percent failure rate for some newly produced lots was reported in US General Accounting Office, "GAO/NSIAD-92-212: Operation Desert Storm: Casualties Caused by Improper Handling of Unexploded US Submunitions," August 1993, pp. 5-6. UK testing has indicated a 5 to 10 percent failure rate, which is largely dependent on ground conditions and range. DLO Secretariat, DLO Andover, "Response to Landmine Action Question," Reference 06-02-2006-145827-009, March 27, 2006.

[70] Human Rights Watch, *Off Target: The Conduct of the War and Civilian Casualties in Iraq* (New York: Human Rights Watch, 2003), http://www.hrw.org/reports/2003/usa1203/.

[71] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 18, 2008.

[72] Military experts from numerous countries that stockpile the M85 or variants of it have made this claim in discussions with Human Rights Watch during sessions of the CCW in recent years.

An unexploded M77, a US-made dual purpose improved conventional munition (DPICM) fired from a Multiple Launch Rocket System (MLRS), lies in a field in Majdel Selm on October 26, 2006. The site was less than 50 meters from the nearest home. © 2006 Bonnie Docherty/Human Rights Watch

submunition's reported failure rate is 1.3 to 2.3 percent under test conditions.[73] Based on a study of strike locations where the self-destruct models landed, however, both weapons experts and MACC SL estimate that the self-destruct M85s had an actual failure rate 10 percent or higher.[74] (See below for more information.) Clearance

[73] In tests carried out in Norway in September and October 2005 of the Norwegian stockpile of cluster munitions as well as of identical UK-owned DPICM projectiles, submunition failure rates of 2.3 percent, 2 percent and 1.3 percent were achieved. Some UK test results have also been made available: "The manufacturers firing trials indicated that 97% of armed grenades will have a successfully functioning self-destruct mechanism.... The results of the acceptance proofs for lots 1 to 3 for which 60 shells (2,940 bomblets) were fired with 22 bomblet failures represent[s] a failure rate of 0.74%. Of these failures, only 6 of the bomblets had armed.... In Sep 05 the first in-service safety and performance test was carried out...at Hjerkinn Range, Dombass, Norway. During the test 175 shells were fired of which none failed, 8,575 bomblets deployed of which 197 failed, giving a bomblet failure rate of 2.3%." DLO Secretariat, DLO Andover, "Response to Landmine Action Question."

[74] For a detailed discussion of the M85 with self-destruct device and its failure in Lebanon, see C. King Associates, Ltd., Norwegian Defence Research Establishment, and Norwegian People's Aid, *M85: An Analysis of Reliability* (Norway: Norwegian People's Aid, 2007). See also information provided by Ove Dullum, Chief Scientist, Norwegian Defence Research Establishment, April 19, 2007; Chris Clark, program manager, MACC SL, "Unexploded Cluster Bombs and Submunitions in South Lebanon: Reliability from a Field Perspective," paper presented at ICRC Expert Meeting, Montreux, Switzerland, April 18-20, 2007, http://www.icrc.org/web/eng/siteengo.nsf/htmlall/cluster-munition-montreux-310507 (accessed April 30,

groups have destroyed 6,892 M85s with and without self-destruct systems, 5 percent of the total number of submunitions found in Lebanon.[75]

Israel used only limited numbers of its new Trajectory Correction System MLRS rockets with M85 submunitions. Israeli soldiers told Human Rights Watch that the IDF fired a total of 130 TCS rockets and used them exclusively in the earlier stages of the conflict.[76] An IDF reserve officer told a reporter that his battalion used only a small number of RAMAM rockets (the Hebrew acronym for TCS) and just in the first days of the war.[77] The control unit for TCS, inside an armored vehicle, required level ground for proper guidance operation. TCS fire missions involved shooting one to three rockets at a target, in contrast to the mass firing of M26 rockets in later weeks. Soldiers in the battalion received little, but contradictory, feedback on the performance of TCS.[78]

Israel also used aerially delivered CBU-58B cluster bombs with BLU-63 submunitions, both made and supplied by the United States. Each CBU-58B contains 650 BLU-63 bomblets, which are ball-shaped, weigh roughly one pound, and measure three inches in diameter.[79] The bombs and bomblets are Vietnam war-era weapons developed in the early 1960s. While fewer BLU-63s were used than DPICMs, deminers have still found 28,136 duds from 2006 throughout Lebanon, 20 percent of their total clearance numbers.[80] MACC SL officials blame the submunition's high dud rate on the fact that it is an "ancient weapon."[81] The United States last used this cluster bomb in the 1991 Gulf War and no longer has it in its inventory.

2007); email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 16, 2008.

[75] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 18, 2008.

[76] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006. The TCS was used only during the second week of operations according to one soldier serving in the reserve MLRS battalion.

[77] Meron Rapoport, "A Barrage of Accusations," *Ha'aretz*, December 8, 2006.

[78] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006.

[79] Designation-Systems.net, "BAK to BSU/BSG–Equipment Listing," http://www.designation-systems.net/usmilav/asetds/u-b.html (accessed September 3, 2007).

[80] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 18, 2008.

[81] Human Rights Watch interview with Chris Clark, program manager, MACC SL, Tyre, October 21, 2006.

This CBU-58B cluster bomb casing, seen here in Zawtar al-Gharbiyeh on October 23, 2006, was loaded in September 1973 and had a one-year warranty. Such antiquated munitions proved highly unreliable in Lebanon. © 2006 Bonnie Docherty/Human Rights Watch

In Nabatiyah, Zawtar al-Gharbiyeh, and Beit Yahoun, among other places, Human Rights Watch researchers examining sites in the immediate aftermath of the 2006 conflict saw CBU-58B canisters stamped with load dates of September 1973, meaning that their original contents were loaded in 1973. Most of the CBU/BLUs found by deminers have been from the 1970s, particularly the years 1973, 1976, and 1978.[82] Deminers have also encountered several CBU-58B "catastrophic" failures, where the weapon completely failed to function and none of the submunitions dispersed or exploded.[83]

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[82] Human Rights Watch interview with Allan Poston, chief technical advisor, National Demining Office, UNDP, Beirut, November 29, 2006.

[83] Chris Clark, program manager MACC SL, presentation to CCW Delegates, Geneva, August 30, 2006 (notes by Human Rights Watch).

An unexploded Chinese-made MZD-2 submunition lies on the side of a road in Beit Yahoun on October 24, 2006. Hezbollah fired such submunitions, which shoot out three millimeter steel spheres, into Israel, and this one is possibly from a Hezbollah cluster munition that never fired. © 2006 Bonnie Docherty/Human Rights Watch

In addition, demining groups have found 1,207 Chinese-made MZD-2 submunitions in Lebanon, 1 percent of the total submunitions cleared so far.[84] Human Rights Watch saw one unexploded MZD-2 on the side of a road in Beit Yahoun. Human Rights Watch documented that Hezbollah fired Type-81 122mm cluster munition rockets containing MZD-2 (also called Type-90) submunitions into Israel during the conflict.[85] Since Israel is not known to have this Chinese-made weapon in its arsenal, it is most

[84] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 18, 2008.

[85] "Lebanon/Israel: Hezbollah Hit Israel with Cluster Munitions During Conflict," Human Rights Watch news release, October 19, 2006, http://hrw.org/english/docs/2006/10/18/leban014412.htm.

likely that the MZD-2s found in Lebanon belonged to Hezbollah and not Israel, and either misfired, fell short, or were left behind following Israeli strikes on the weapons.[86]

[86] Human Rights Watch interview with Andy Gleeson, program manager and technical operations manager, Mines Advisory Group, Kfar Joz, October 25, 2006. The speculation is that the submunitions were dropped or abandoned by Hezbollah, or dislodged by an Israeli strike. For more information on Hezbollah's cluster munition attacks, see Human Rights Watch, *Civilians under Assault,* pp. 44-48.

The Impact of Israel's Use of Cluster Munitions in Lebanon in July and August 2006

During Human Rights Watch's visits to south Lebanon in August, September, and October 2006, researchers saw dozens of towns hit by cluster munitions and hundreds of submunition duds littering backyards and fields.[87] The teams also witnessed UN, nongovernmental, and Lebanese Army deminers struggling to cope with a problem of unprecedented magnitude. Israel had hit only the peripheries of some towns with cluster munitions but had elsewhere blanketed built-up areas. As civilians returned home immediately after the ceasefire, they found their property had become de facto minefields. Villagers and deminers discovered unexploded cluster duds inside houses, in the streets, in gardens, on roofs, on patios, and hanging from trees and fences. In Tebnine, a hospital had been struck, and the hundreds of duds strewn across the entryway trapped doctors and patients inside (see Case Study below). MACC SL reported, on January 15, 2008, 192 civilian casualties, including 20 killed and 172 wounded.[88] Exploding duds were still injuring civilians in the south in December 2007.

A senior Human Rights Watch military analyst who arrived in south Lebanon immediately after the ceasefire had surveyed cluster munitions on the ground in both Kosovo and Iraq. The sheer number and density of dud fields in urban areas dwarfed anything he had ever seen before.

The IDF's cluster munition strikes were spread over an area of approximately 1,400 square kilometers north and south of the Litani river, an area comparable in size to the US state of Rhode Island (1,214 sq km). Of the 1,400 square kilometers affected by the cluster munitions, an aggregate area of 38.7 square kilometers, including 4.3 square kilometers of urban areas, 20 square kilometers of agricultural land, and 4 square kilometers of woodland, has been confirmed by deminers as directly

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[87] Human Rights Watch has separately reported on violations of international humanitarian law by both Israel and Hezbollah during the 2006 conflict. See Human Rights Watch, *Why They Died,* and Human Rights Watch, *Civilians under Assault*.

[88] MACC SL Casualty List. The Landmines Resource Center reported, on January 2, 2008, 220 civilian injuries and 19 deaths from cluster munition duds. LMRC Casualty List.

contaminated by submunitions.[89] However, the lives of civilians in the entire 1,400 square kilometer area have been severely affected, as they cannot live in safety until demining crews clear and inspect their homes and fields.

Shocking Scope: Number of Submunitions and Strikes

In the first two days after the ceasefire, UN deminers beginning emergency survey and clearance work in south Lebanon identified 10 locations where Israel used cluster munitions. A UN official said he feared it could be only the "tip of the iceberg."[90] By January 2008, the number of strike sites identified was 962, and continued to grow as clearance professionals pushed into new corners of south Lebanon.[91]

MACC SL has estimated that Israel used cluster munitions (artillery shells, ground rockets, and air-dropped bombs) containing between 2.6 and four million submunitions in Lebanon.[92] It arrived at that estimate in the following fashion. First, it calculated that Israel fired some 16,000 to 32,000 artillery cluster shells containing a total of 1.4 to 2.8 million submunitions.[93] To those figures, it added 1,800 MLRS rockets carrying 1,159,200 M77 submunitions, which Israeli soldiers reported to *Ha'aretz* newspaper.[94] It also noted that Israel dropped an unknown number of aerially delivered CBU-58B cluster bombs, each containing 650 BLU-63 bomblets.[95] Given the high failure rates of these different types of submunitions, the UN has

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[89] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 15, 2008; UNDP, "CBU Contamination by Land Use," current as of November 29, 2006.

[90] See "Lebanon: Israeli Cluster Munitions Threaten Civilians," Human Rights Watch news release, August 17, 2006, http://hrw.org/english/docs/2006/08/17/leban014026.htm.

[91] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 15, 2008.

[92] MACC SL, "South Lebanon Cluster Bomb Info Sheet as at November 4, 2006"; Chris Clark, program manager, MACC SL, presentation at UN Mine Action Service briefing on Lebanon, Seventh Meeting of States Parties to the Mine Ban Treaty, Geneva, September 19, 2006 (notes by Human Rights Watch).

[93] MACC SL, "South Lebanon Cluster Bomb Info Sheet as at November 4, 2006." MACC SL took a press report of 160,000 artillery shells and assumed that 10 to 20 percent of them were cluster munitions containing 88 submunitions.

[94] Ibid.; Meron Rapoport, "IDF Commander: We Fired More than a Million Cluster Bombs in Lebanon," *Ha'aretz*, September 12, 2006.

[95] One source cited an estimate of 500,000 BLU-63 bomblets from CBU-58 cluster bombs. James Brooks, "How Israel Cluster Bombed Future of South Lebanon, with US help," PalestineChronicle.com, http://www.palestinechronicle.com/printstory.php?sid=101606172430 (accessed October 18, 2006). As of January 18, 2008, MACC SL reported that 28,136 BLU-63 duds had been cleared. Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 18, 2008.

estimated that the cluster barrages left behind hundreds of thousands, possibly up to one million, hazardous duds.[96]

Outside of the UN estimate, Israeli soldiers told Human Rights Watch that the 1,800 MLRS rockets accounted for only those fired by a reserve MLRS battalion, and that an active duty battalion fired 1,000 more, which would contain 644,000 submunitions, bringing the number of rocket submunitions to more than 1.8 million.[97] This additional information could raise the estimated total of Israeli submunitions fired into Lebanon to some 3.2 to 4.6 million submunitions.

Israel's use of cluster munitions was the most extensive use of the weapon anywhere in the world since the 1991 Gulf War and was concentrated in a relatively small geographical area. The number and density of cluster munitions used in Lebanon vastly exceeded their use in prior wars in Kosovo, Afghanistan, and Iraq where Human Rights Watch also conducted investigations. NATO air forces used 1,765 cluster bombs with about 295,000 bomblets in Kosovo in 1999, the US Air Force used 1,228 cluster bombs with about 248,000 bomblets in Afghanistan in 2001 to 2002, and Coalition forces used about 13,000 cluster munitions with about 1.9 million submunitions in Iraq in 2003.[98]

"I've seen every single cluster use since 1991 and this is more than I have ever seen," Chris Clark, program manager of MACC SL, told Human Rights Watch. "A similar amount of ordnance was thrown in Iraq, but south Lebanon is much smaller."[99] Israel's use of cluster munitions in Lebanon compares most closely to Coalition use in Iraq in 2003 because in both cases most of the attacks were ground-launched and included counter-battery fire. Still, the use of so many cluster munitions in such a small area is shocking and unprecedented.

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[96] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 15, 2008.

[97] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006. The reservists were experienced non-commissioned officers leading platoons with an MLRS unit. They also commanded resupply missions from the active unit to the reserve unit.

[98] See Human Rights Watch, *Cluster Bombs in Afghanistan*, October 2001, http://www.hrw.org/backgrounder/arms/cluster-bck1031.htm; Human Rights Watch, *Fatally Flawed*, p. 15; Human Rights Watch, *Off Target*, p. 6.

[99] Interview with Chris Clark, program manager, MACC SL, Tyre, September 14, 2006.

Timing and Targets: When and How Cluster Munitions Were Used

The Early Phases of the War

Israel launched sporadic cluster munition attacks on south Lebanon in the first two weeks of the war. Human Rights Watch first confirmed Israeli use of cluster munitions when it reported on a July 19 attack on Blida that left one civilian dead and at least 12 wounded.[100] Meanwhile, Human Rights Watch researchers observed large numbers of artillery-fired cluster munitions in the arsenals of the IDF artillery teams deployed in Israel's border with Lebanon.

Attacks increased in the days after the 48-hour partial cessation of air strikes of July 31 to August 1. Israeli soldiers serving with an MLRS unit told Human Rights Watch that it was in August when they fired many of their cluster rockets.[101] Through field visits and other sources, Human Rights Watch identified strikes that had taken place before the last three days of the war in about 10 towns other than Blida: `Ainata, `Aitaroun, Deir Qanoun, Hasbayya, Hebbariyeh, Kfar Dounine, Kfar Hamam, Rashaya al Foukhar, Sawane, and Tair Debbe.[102]

Human Rights Watch's investigations and interviews indicate that Israel aimed some of its cluster strikes prior to the last days at Hezbollah rocket launch sites, largely in olive groves and tobacco fields. Some villagers told Human Rights Watch researchers that Hezbollah fighters used such fields to fire rockets into Israel.[103] Others who

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[100] "Israeli Cluster Munitions Hit Civilians in Lebanon," Human Rights Watch news release, July 24, 2006, http://hrw.org/english/docs/2006/07/24/isrlpa13798.htm.

[101] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006. A launcher commander in the reserve MLRS unit said that this unit "did nothing" during the first week of conflict, and "only shot sporadically" during the second week. He said the largest volume of fire for the reserve MLRS unit was during the third week, immediately after the 48-hour ceasefire when civilians were told to leave. He said "we fired tons" during this time and noted that one launcher under his command shot 60 pods (360 rockets, 231,840 M77 submunitions) in a 24-hour period during this time. The volume of fire from his unit was reduced for the remainder of the conflict due to ammunition shortages.

[102] Lebanese security forces, UN sources, and medical personnel also identified these sites. Dr. Nasser al-Din Kassir, a surgeon at Hiram Hospital, told Human Rights Watch that during the war the hospital received at least four patients from Deir Qanoun al-Nahr with cluster injuries. Human Rights Watch interview with Dr. Nasser al-Din Kassir, Hiram Hospital, Tyre, August 30, 2006. See also Rym Ghazal and Leila Hatoum, "Investigators Probe Possible Use of Banned Weapons," *Daily Star*, July 26, 2006.

[103] Human Rights Watch interview with Shawki Yousif, head of Hebbariyeh municipality, Hebbariyeh, October 22, 2006; Human Rights Watch interview with Khalil Muhammad Hussein, farmer, Kfar Rommane, August 16, 2006; Human Rights Watch interview with Salih Ramez Karashet, farmer, Hammoud Hospital, Saida, September 22, 2006; Human Rights Watch interview with Hassan Muhammad Nasser, construction worker, `Ein Ba`al, September 22, 2006; Human Rights Watch interview with Hussein `Ali Kiki, construction worker, `Ein Ba`al, September 22, 2006.

suffered cluster attacks, such as those in Blida, said there was no Hezbollah military activity nearby.

Israeli soldiers told Human Rights Watch that their radar would locate Hezbollah launch sites while the rocket was airborne, and the IDF would then fire cluster munitions in the vicinity of the launch area, using the area-effect weapons in an attempt to kill the launch crew and destroy its launchers as they tried to escape. Shooting back—typically with a "six-pack" of US M26 rockets—at Hezbollah rocket launch sites generally occurred within one to 1.5 minutes of receipt of the launch detection coordinates.[104]

Civilian casualties from cluster munitions at the time of these strikes seem to have been fairly limited, reflecting the fact that so much of the population had vacated south Lebanon or hid in their basements, and that much of the Hezbollah rocket fire and Israeli counter-battery fire occurred in fields and valleys where civilians were not present at the time. However, the exact number of injuries and deaths from these cluster strikes may never be known, as hospital staff were too overwhelmed at the time to ask questions about the specific causes of injury or death.

The Final Barrage

Over the final days of the conflict, the Israeli use pattern changed dramatically. According to the UN, Israel fired 90 percent of its cluster munitions during the last 72 hours, after the UN Security Council had passed Resolution 1701 calling for a ceasefire on August 11, but before the ceasefire took effect at 8 a.m. on August 14.[105] During this period, there was also an intensification of bombardment by other weapons, including artillery strikes as well as the aerial strikes on civilian homes

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[104] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006. Human Rights Watch was told that for MLRS units Lebanon was divided into two sectors. The first was the tactical battle against Hezbollah forces south of the Litani River under the direction of the IDF's Northern Command. The second sector was the strategic effort targeting locations north of the Litani River controlled by the operations division of the General Staff Headquarters. Both active-duty and reserve MLRS battalions fired at targets in both sectors. Most MLRS attacks occurred prior to the final 72 hours of fighting.

[105] The UN has explained that "UNMACC's calculations are based both on-the-ground identification of cluster bomb strike locations and extensive conversations with South Lebanon residents." UNOCHA, "A Lasting Legacy: The Deadly Impact of Cluster Bombs in South Lebanon," undated, but information as of September 16, 2006, p. 1, fn 3. Chris Clark, program manager of MACC SL, told Human Rights Watch he reached this conclusion based largely on his own firsthand observations of Israeli attacks throughout the war. He also noted the small number of reports of cluster munition attacks and casualties prior to the final days of the war. Human Rights Watch interview with Chris Clark, program manager, Tyre, October 25, 2006.

with 500-pound bombs. The increase coincided with an increase in Hezbollah rocket strikes on Israel. According to Israeli government statistics and news accounts, Hezbollah increased its rocket attacks in the final days, and on the last day of the war launched 252 rockets, the highest daily toll of the conflict.[106] However, even given an increase in Hezbollah attacks, the use of more than four million submunitions to strike at hundreds of rocket launches posed a high likelihood of indiscriminate and disproportionate attacks, particularly when so many of the submunitions hit built-up areas, predictably leaving behind thousands of duds.

Witness testimonies from south Lebanon's villages also indicate that there was a massive increase in cluster munition attacks in the last few days before the ceasefire. The head of Tair Debbe municipality, `Ali Moughnieh, said that in the last several days of the war, "it started raining cluster bombs."[107] Hassan `Abass Hattab, the *mukhtar* (a local official with administrative responsibilities) of Habboush, similarly said that Israel launched cluster munitions on his village during "the last four days of the war."[108] Several others, including the *mukhtars* of both Tebnine and Kfar Rommane, echoed these statements.[109]

Soldier testimony further attests to the IDF's heavy use of cluster munitions in the final hours of the war. "In the last 72 hours we fired all the munitions we had, all at the same spot, we didn't even alter the direction of the gun," an IDF soldier said. "Friends of mine in the battalion told me they also fired everything in the last three days—ordinary shells, clusters, whatever they had."[110] UN Interim Force in Lebanon (UNIFIL) fire mission data supports these assertions.[111]

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[106] On the last three days of the conflict, Hezbollah launched 115, 70 and 252 rockets respectively. Israeli Police North District, Central Command Center, "War in the North," powerpoint presentation obtained by Human Rights Watch in October 2006. Israel has not presented information indicating that cluster munitions caused any significant damage to Hezbollah personnel or weaponry.

[107] Human Rights Watch interview with `Ali Moughnieh, head of Tair Debbe municipality, Tair Debbe, October 21, 2006.

[108] Human Rights Watch interview with Hassan `Abbas Hattab, *mukhtar*, Habboush, October 25, 2006.

[109] Human Rights Watch interview with Yousif Fawwaz, *mukhtar*, Tebnine, October 24, 2006.

[110] Meron Rapoport, "What Lies Beneath," *Ha'aretz*, September 8, 2006.

[111] Landmine Action, "Foreseeable Harm: The Use and Impact of Cluster Munitions in Lebanon, 2006," October 2006, http://www.landmineaction.org/resources/ForeseeableHarmfinal.pdf (accessed September 3, 2007), p. 11. This report has a chart titled "Fire Missions Observed by UN Observers in UNIFIL Areas of Operation, 16 July-13 August 2006," based on data provided by UNIFIL. It notes, "Whilst an average of 2,000 fire missions were recorded each day during the conflict, this increased to approximately 6,000 per day in the last three days before the ceasefire."

The use of cluster munitions in the last 72 hours elicited outrage from UN officials. The UN's humanitarian coordinator in Lebanon, David Shearer, said, "The outrageous fact is that nearly all of these [cluster] munitions were fired in the last three to four days of the war.... Outrageous because by that stage the conflict had been largely resolved in the form of [UN Security Council] Resolution 1701." He said it "defied belief" that Israel had used so many cluster munitions in the last hours of the war.[112] The UN's then emergency relief coordinator and under-secretary-general for humanitarian affairs, Jan Egeland, called Israel's use of cluster munitions "completely immoral."[113]

IDF lawyers told Human Rights Watch that the ceasefire negotiations did not change operational decisions over the last three days of the war because the IDF considered itself still in combat. Maj. Dorit Tuval, head of the strategic section in the IDF's International Law Department, said, "As a lawyer, it was not important. It was a legitimate decision to be taken by commanders. As far as we know, the use was legal."[114]

Attacks on Population Centers

Many cluster munitions struck population centers. According to a land use study commissioned by the UN Development Program (UNDP), cluster munitions contaminated about 4.3 million square kilometers of urban areas during the conflict.[115] A senior UN demining official said he had "no doubt" that Israel had deliberately hit built-up areas with cluster munitions, stating, "These cluster bombs were dropped in the middle of villages."[116] The program manager of MACC SL told Human Rights Watch that "the vast majority of clusters were used in towns."[117]

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[112] "UN Calls Israel's Use of Cluster Bombs in Lebanon 'Outrageous,'" *Ha'aretz*, September 19, 2006.

[113] "UN Slams Israel as Unexploded Cluster Bombs Discovered," *Irish Examiner*, August 31, 2006.

[114] Human Rights Watch interview with Maj. Dorit Tuval, head of the strategic section, International Law Department, IDF, Tel Aviv, Israel, July 2, 2007.

[115] UNDP, "CBU Contamination by Land Use," current as of November 29, 2006.

[116] Alistair Lyon, "Israel Cluster-Bombed 170 Sites in Lebanon—UN," Reuters, August 22, 2006 (quoting Tekimiti Gilbert, operations chief for MACC SL).

[117] Human Rights Watch interview with Chris Clark, program manager, MACC SL, Tyre, September 14, 2006. The NGO Landmine Action analyzed maps provided by MACC SL and concluded that 60 percent of cluster strikes hit built-up areas, and that there were cluster munition strikes in or near 90 towns and villages. This was based on data as of September 5, 2006, and indicated where the center of the strike hit less than 500 meters from a built up area. Landmine Action, "Foreseeable Harm: The Use and Impact of Cluster Munitions in Lebanon: 2006," pp. 13-15.

Human Rights Watch field research corroborated the widespread use of cluster munitions in population centers. In the first week after the ceasefire, Human Rights Watch visited about 30 villages and towns that the IDF attacked with cluster munitions and visited more than a dozen more in October. Cluster munitions landed in large villages such as Tebnine and Nabatiyah. Towns that were especially hard hit include: Ain B'al, Bar'achit, Bint Jbeil, Majdel Selm, Kfar Tebnit, Sawane, Srifa, Tebnine, Yohmor, Zawtar al-Gharbiyeh, and Zawtar al-Sharkiyeh.

The IDF has since acknowledged that it targeted built-up areas with cluster munitions. A statement released by the IDF Spokesman's Office in November 2006 said that "the use of cluster munitions against built-up areas was done only against military targets where rocket launches against Israel were identified and after taking steps to warn the civilian population."[118] In July 2007, IDF lawyers reiterated this position in a meeting with Human Rights Watch. "In cases where there was a need to direct cluster munitions toward the vicinity of a built-up area, they were always directed toward places where rockets were shot from toward Israel. It was always after messages to leave the area and then we made sure distinction and proportionality were applied," Major Tuval said.[119] She added, "Even if they were used in the vicinity of built-up areas, it was much less than necessary. Operational considerations were hurt because of our efforts."[120]

The IDF statement in December 2007 reporting the results of the second internal inquiry echoed these statements. It said that investigating officer Maj. Gen. Gershon HaCohen found that "cluster munitions were fired by the IDF on built-up areas only in direct response to Hizbullah's firing of rockets from within those areas.... Furthermore, the munitions were fired on villages only when the forces understood them to have been almost completely evacuated, hence the anticipated harm to civilians was small."[121]

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[118] Nir Hasson and Meron Rapoport, "IDF Admits Targeting Civilian Areas with Cluster Bombs," *Ha'aretz*, November 21, 2006.

[119] Human Rights Watch interview with Maj. Dorit Tuval, head of the strategic section, International Law Department, IDF, Tel Aviv, Israel, July 2, 2007.

[120] Ibid.

[121] Israel Ministry of Foreign Affairs, "Opinion of the Military Advocate General Regarding Use of Cluster Munitions in Second Lebanon War."

However, soldiers have offered eyewitness accounts with a very different description of the targets. A commander of an IDF MLRS unit told a *Ha'aretz* reporter, "What we did was insane and monstrous, we covered entire towns in cluster bombs." He said that to compensate for the cluster rockets' imprecision, his unit was ordered to "flood" the area with cluster munitions. In one case, his unit was ordered to fire cluster rockets toward "a village's outskirts" in the early morning because "people are coming out of the mosques and the rockets would deter them."[122]

Failure Rates

As described earlier, the presence of duds is an inevitable result of the use of cluster munitions. "It's a bad weapons system. So many things need to happen to deploy and arm properly," the program manager for MACC SL said.[123] A BACTEC deminer added, "A lot of things can go wrong."[124] Given the vast number of submunitions used in Lebanon, the only result could be a huge number of duds.

Mine clearance personnel in Lebanon report the failure rates for Israeli submunitions to be exceptionally high, with a large number of duds compared to impact sites. The program manager of MACC SL has projected an average failure rate of 25 percent, with up to 70 percent in some locations.[125] In some strikes, especially with BLU-63 submunitions, deminers have found dud rates of 90 to 100 percent.[126] The dud rates in the field of Israel's submunitions have been substantially higher than published test data and also substantially higher than those found in previous conflicts, such as Iraq and Kosovo.

Israel has not provided any reasons for the exceptionally high dud rates in Lebanon. It questioned MACC SL's estimates, claiming instead that the dud rate was under 10

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[122] Rapoport, "When Rockets and Phosphorous Cluster," *Ha'aretz*.

[123] Human Rights Watch interview with Chris Clark, program manager, MACC SL, Tyre, October 21, 2006.

[124] Human Rights Watch interview with Johan den Haan, BACTEC, Tyre, October 25, 2006.

[125] Chris Clark, program manager MACC SL, presentation to CCW Delegates, Geneva, August 30, 2006 (notes by Human Rights Watch).

[126] Human Rights Watch interview with Andy Gleeson, program manager and technical operations manager, Mines Advisory Group, Kfar Joz, October 25, 2006.

percent, and dismissed the problem as being quickly dealt with by clearance.[127] The rates have been documented by deminers, however, and may be the result of the extensive use of older cluster munitions, especially dated US weapons. Explosive materials deteriorate over time, making the weapons increasingly unstable and more likely to fail.

Another possible factor is low trajectory or short-range firing. A report in *Ha'aretz* said that in some cases the IDF fired M26 MLRS rockets "at a range of less than 15 kilometers, even though the manufacturer's guidelines state that firing at this range considerably increases the number of duds."[128] An IDF reservist told Human Rights Watch that he thought the reserve MLRS unit shot 20 to 25 percent of the M26 rockets at minimum ranges of 13 to 15 kilometers.[129] According to the US Army, the M26 rocket's M77 "submunition dud rate increases significantly at ranges less than 10 km."[130] The high dud rate may also be partially attributable to landscape characteristics, such as the soft ground of agricultural fields, and the density of trees and vegetation, which may catch cluster submunitions as they fall.[131]

The large number of Israeli-produced M85 submunition duds is particularly striking since one model of that submunition, used extensively during the conflict, has a self-destruct feature that reportedly reduces the failure rate to some 1.3 to 2.3 percent under testing conditions. As mentioned earlier, many experts have pointed to it as one of the most reliable submunitions in the world.[132] However, a report in December

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[127] Major Tuval said, "There is a certain rate of duds, but one could deal with it by clearing.... Even if we can't release [the dud rate], we're not talking about 25 percent. It's less than 10 percent as far as I know." Human Rights Watch interview with Maj. Dorit Tuval, Tel Aviv, Israel, July 2, 2007.

[128] Rapoport, "When Rockets and Phosphorus Cluster," *Ha'aretz*.

[129] Human Rights Watch interview with IDF reservist (name withheld), Tel Aviv, Israel, October 2006. He also estimated half of the targets fired at by the reserve unit were close to the maximum range of 38 to 40 kilometers and likely north of the Litani River. He said one time they were shooting at such a flat trajectory, almost horizontal, that they accidentally drilled their rockets into a mountain in Israel.

[130] US Department of the Army, "Tactics, Techniques and Procedures for Multiple Launch Rocket System (MLRS) Operations," FM 6-60, April 23, 1996, http://www.globalsecurity.org/military/library/policy/army/fm/6-60/index.html (accessed September 3, 2007), chap. 1.

[131] The US Marine Corps has stated that DPICMs "should not be fired into wooded areas. Submunitions may become suspended in tree branches and later pose a threat to friendly forces. Firing DPICMs into mountainous areas where the slope is greater than 60 percent increases the dud rate." US Marine Corps, "Fire Support Coordination in the Ground Control Element," MCWP 3-16, November 2000, pp. 5-38 and 5-39.

[132] The submunition (or variations of it) is found in the arsenals of many countries, including Argentina, Austria, Denmark, Finland, Germany, Greece, India, Italy, Norway, Romania, Switzerland, the United Kingdom, and the United States.

2007 by three organizations that carefully studied the performance of the M85 with self-destruct devices in Lebanon, including the primary institution responsible for defense-related research in Norway, estimated the failure rate to be about 10 percent.[133] The study said that the "inescapable conclusion from Israel's use of M85 bomblets…is that they failed far more often than would have been predicted based on the claims of stockpiling states and manufacturers."[134]

Earlier, the program manager of MACC SL had reached a similar conclusion. In April 2007, he stated, "Whilst several military users maintain that the M85 with self-destruct mechanism has a failure rate of less than 1%, the evidence on the ground in South Lebanon clearly shows that this weapon has a reality failure rate of between 5 and 10%. It is common to find at least 3 unexploded submunition grenades from individual carrier shells (M396/49 per shell) equating to a 6% failure rate."[135]

The IDF also used a version of the M85 without the self-destruct device, though the ratio of self-destruct to non-self-destruct is unknown at this time. As of January 18, 2008, MACC SL reported that it had cleared 6,892 M85s of all types.[136] Many of those

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[133] C. King Associates, Ltd., Norwegian Defence Research Establishment, and Norwegian People's Aid, *M85: An Analysis of Reliability*, pp. 14-22.

[134] Ibid., p. 6. The study said that in the three strike sites with the most conclusive information, the failure rates were 9.8, 11.5, and 12.2 percent. The study also concluded: "The specific example of the M85 demonstrates that while SD [self-destruct] mechanisms in general may help to lower failure rates, they are not capable of ensuring against post-conflict contamination at an unacceptable level. The specific example of M85 also illustrates the substantial differences between results obtained during testing and reality seen during operations. This suggests that current testing practices may have little or no utility as a predictor of the risk that will be created to the post-conflict civilian population." The report also "strongly rejects the distinction between 'hazardous' and 'non-hazardous' duds as conceptually flawed, misleading and dangerous." Ibid., p. 5.

[135] Chris Clark, program manager, MACC SL, "Unexploded Cluster Bombs and Submunitions in South Lebanon."

[136] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 18, 2008.

A UNIFIL deminer holds an Israeli-made M85 submunition that he has rendered safe in Beit Yahoun on October 24, 2006. Some such submunitions had self-destruct devices, but deminers and weapons experts have documented dud rates in the field of 10 percent even for these models. © 2006 Bonnie Docherty/Human Rights Watch

cleared were the self-destructing types, but the precise number is not known. According to MACC SL the M85 without the self-destruct mechanism is "commonly found with a 15% failure rate on the ground."[137]

In recent years, the United States and several other countries have identified a one percent failure rate as the desirable standard for submunition procurement, but the performance of the M85 in Lebanon calls into question the feasibility and effectiveness of this potential future standard, since even a very low failure rate in test conditions gives way to a much higher failure rate in the conditions of actual combat.

Israeli soldiers were well aware of the large numbers of duds their cluster strikes were producing. A soldier said that his MLRS commander gave a "pep talk" after a period of heavy fire, saying, "Just wait until Hezbollah finds the little presents we left them."[138] Soldiers also told Human Rights Watch that IDF soldiers were taught throughout their training to ignore the manufacturer's claim of a 5 percent submunition failure (dud) rate for the M77 submunitions contained in the M26 rocket, and to presume a 15 percent submunition failure rate instead.[139] A reserve officer told a reporter that there is an IDF regulation prohibiting the firing of cluster munitions on areas the IDF is planning to enter to avoid exposing IDF soldiers to risks of death or injury by duds.[140]

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[137] Chris Clark, program manager, MACC SL, "Unexploded Cluster Bombs and Submunitions in South Lebanon."

[138] Human Rights Watch interview with IDF reservist (name withheld), Tel Aviv, Israel, October 2006.

[139] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006. This dud rate is consistent with US testing data, which reports a 16 percent submunition failure rate. See Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Unexploded Ordnance Report," table 2-3, p. 5. The US General Accounting Office reported some lots of M26 in US stockpiles to have dud rates as high as 23 percent, based on testing done to accept newly produced batches. See US General Accounting Office, "GAO/NSIAD-92-212: Operation Desert Storm: Casualties Caused by Improper Handling of Unexploded US Submunitions," August 1993, pp. 5-6.

[140] Rapoport, "A Barrage of Accusations," *Ha'aretz*.

Civilian Harm

Cluster munitions have taken and continue to take a deadly toll on the civilian population of south Lebanon. The fatal results of cluster munitions began with the first strikes, including an attack on the village of Blida on July 19, 2006, where one civilian was killed and at least 12 wounded by a single cluster munition strike.[141] However, by the time of Israel's maximum use of the munitions over the final three days of the conflict, civilians had either fled south Lebanon or were under shelter, so the greatest civilian harm has come from the duds left behind, which continue to plague daily life in south Lebanon. As of January 2008, cluster munitions had caused close to 200 civilian casualties after the conflict.[142] Children face an especially acute threat; MACC SL reported at that time that 61 of 192 casualties were under 18 years old. At least 42 civilian and military deminers had suffered deaths and injuries.[143]

Civilians returning home after the ceasefire found unexploded cluster submunitions in homes, neighborhood streets, and fields. "The problem is getting so big that we can't face it," said an officer with the Lebanese Army's National Demining Office, speaking in October 2006.[144] Given the sheer number of cluster duds on the ground, casualties are unavoidable, but most injuries and deaths fall into one of several definable categories: (1) civilians cleaning up the rubble of their war-torn homes and fields; (2) children playing with the curiosity-provoking submunitions; (3) farmers trying to harvest their crops; (4) civilians simply moving about villages as part of everyday life; and (5) professionals and civilians clearing submunitions.

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[141] The actual number of casualties caused by cluster munitions during the war is not known. Civilians returned to find family members' bodies in their homes, but could not ascertain whether the cause of death was a cluster strike or other weapons fire. In addition, the hospital staff was too overwhelmed, at the time of the war, to query injured patients or families of the dead about the causes of the injury or death.

[142] MACC SL Casualty List; LMRC Casualty List.

[143] MACC SL Casualty List. The Landmines Resource Center reported that at least 62 of its 239 civilian casualties, including four killed, were under 18 years old although it did not provide ages for all the victims. It also reported 33 deminer casualties (12 killed and 21 injured) as of January 2, 2008. LMRC Casualty List.

[144] Human Rights Watch interview with officer (name withheld), Mine Victims Assistance and Mine Risk Education section, National Demining Office, Beirut, October 20, 2006.

Time of Attack Casualties

Though Human Rights Watch has documented several strike casualties, the precise number of injuries during the war is not known. Many civilians evacuated their homes before the barrage of cluster munitions fell during the final three days of the war. Frequently, the only villagers remaining in town were the elderly and infirm, who took shelter in their homes to avoid the weapons raining from the sky. When civilians returned home, they could not necessarily differentiate fatalities as a result of cluster munitions from casualties due to fighting, shelling, or other artillery fire.

On July 19, at around 3 p.m., the IDF fired several artillery-launched cluster munitions on the southern town of Blida, resulting in more than a dozen casualties. The cluster attack killed 60-year-old Maryam Ibrahim inside her home. At least two submunitions from the attack entered her basement, which the `Ali family was using as a shelter, wounding 12 persons, including seven children. Ahmed `Ali, a 45-year-old taxi driver and head of the family, lost both legs from injuries caused by the submunitions. Five of his children suffered injuries: Mira, 16; Fatima, 12; `Ali, 10; Aya, 3; and `Ola, 1. His wife, Akram Ibrahim, 35, and his mother-in-law, `Ola Musa, 80, were also wounded. The strike injured four other relatives, all German-Lebanese dual nationals sheltering with the family: Muhammad Ibrahim, 45; his wife, Fatima, 40; and their children `Ali, 16, and Rula, 13. On July 24, 2006, Human Rights Watch broke the news of the use of cluster munitions in Lebanon by the IDF.[145]

Returning Home after the Ceasefire

Civilians reported a significant number of casualties in the days immediately after the end of the war, as families returned home and began to clear the rubble of the villages. Shattered homes, concrete piles, and other signs of destruction easily hid the small submunitions. "I didn't have any idea of the cluster bombs," Ahmed Mouzamer, the vice head of Sawane municipality, told Human Rights Watch.[146] Many civilians were exposed to submunition duds without any knowledge of the dangers or even the presence of the submunitions.

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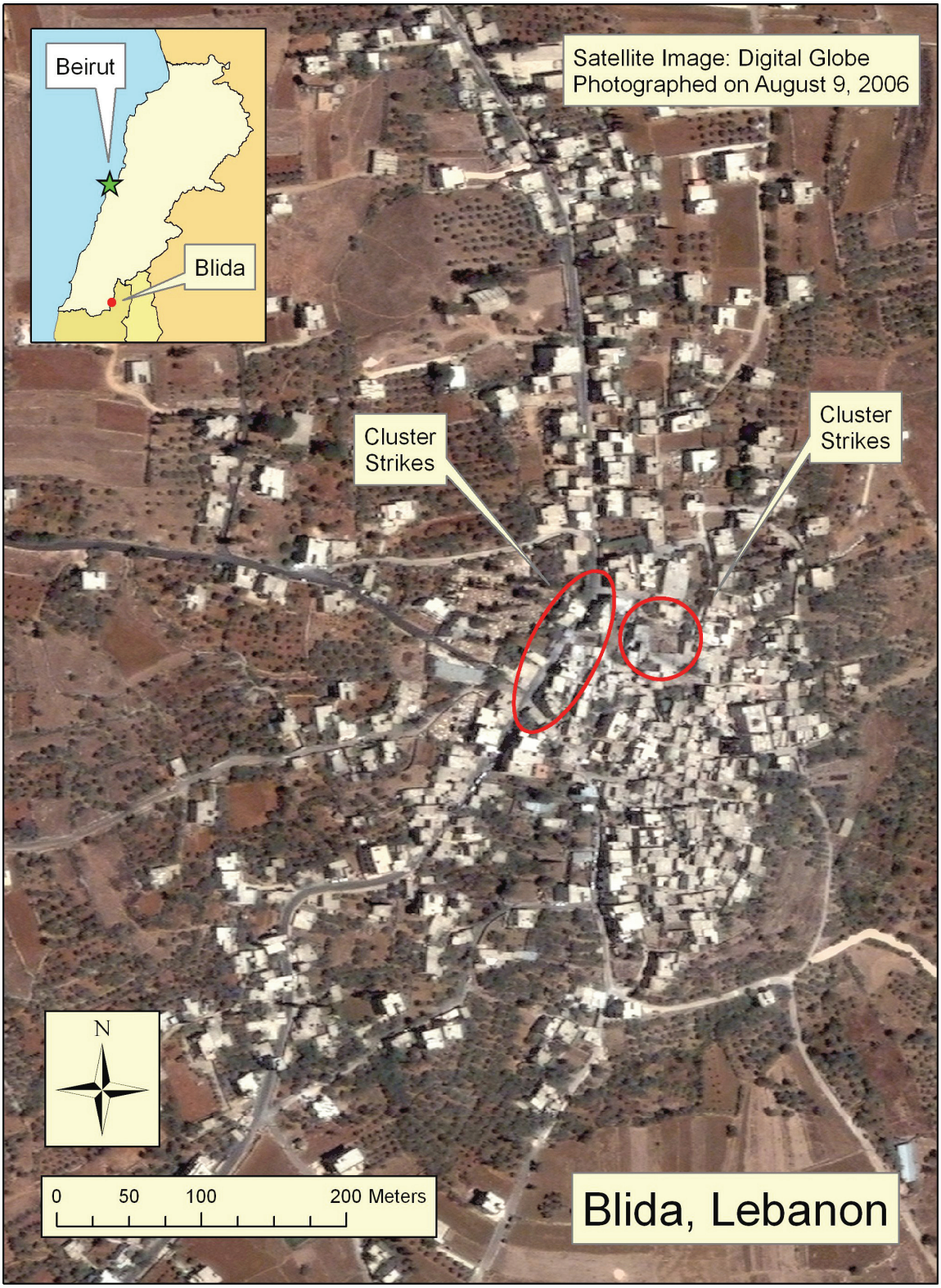
[145] "Israeli Cluster Munitions Hit Civilians in Lebanon," Human Rights Watch news release.

[146] Human Rights Watch interview with Ahmed Mouzamer, vice head of Sawane municipality, Sawane, October 26, 2006.



Map Source Data: Human Rights Watch; Digital Globe. Location data based on HRW field research. GPS coordinates were not available.

Salimah Barakat, a 65-year-old tobacco farmer in Yohmor, stayed in her home during the war to care for her disabled son and daughter. She told Human Rights Watch that she heard cluster munitions falling throughout the night during the last four to five days of the war, though she received no warning of an impending attack. When the ceasefire commenced on August 14, Barakat finally emerged from hiding to begin clearing the path to her home, trying to remove the large rocks so her blind daughter could safely walk around the house. She remembers moving a large rock blocking the stairs down to her home when a submunition exploded; she later learned that she had accidentally hit an unexploded dud. The explosion sent her to the hospital for shrapnel wounds to her chest, lower abdomen, and right arm. She has returned to work in her tobacco field and olive groves, which as of October 2006 remained littered with cluster submunitions.[147] During its visit, Human Rights Watch found an M77 submunition and several ribbons in the backyard of her downtown home.

Unlike Barakat, the Hattab family left during the war, returning to their home in the center of Habboush at 9:30 a.m. on August 14. Musa Hussein Hattab, 33, and several family members began to clean the space adjacent to his house when Musa picked up a submunition that exploded, killing him and his 13-year-old-nephew, Hedi Muhammad Hattab. The blast injured four other family members, including `Ali Hattab, 46, who remained in the hospital until late October, and his brother Ibrahim Hattab, 38, who had three operations to repair his right leg.[148] The doctors estimated it would be another year before Ibrahim Hattab would be able to resume work.

MACC SL reported 45 civilian casualties like these in the first week following the ceasefire, as civilians returned home.[149] Simple efforts to rebuild and construct a home, however, continued to threaten civilians even after late August. On September 12, with clearance efforts well underway, Raghda Idriss returned home and began removing the rubble that fell into her olive grove next to her home on the outskirts of Bar`achit.[150] In the course of her cleaning, she tossed a rock aside that hit a

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[147] Human Rights Watch interview with Salimah Barakat, farmer, Yohmor, October 26, 2006.

[148] Human Rights Watch interviews with Hassan `Abbas Hattab, *mukhtar*, Habboush, and Ibrahim Hattab, Habboush, October 25, 2006.

[149] Human Rights Watch interview with Chris Clark, program manager, MACC SL, Tyre, September 14, 2006.

[150] Human Rights Watch interview with daughter of Raghda Idriss, Bar`achit, October 24, 2006.

submunition causing it to explode. Idriss suffered injuries to her right arm, sending her to the hospital for a week. She now must live with her daughter to get the care she needs for recovery.

Children

Of MACC SL's 192 reported civilian casualties, about 32 percent were under the age of 18.[151] Children frequently grab submunitions out of curiosity, attracted by the ribbon or the weapon's unusual shape and size. Several also reported that they thought the submunition resembled a soda can or, in one case, a perfume bottle. The submunitions "look like a toy," said `Ali Fakih, the *mukhtar* of Kfar Dounine.[152]

Thirteen-year-old Hassan Hussein Hamadi was undergoing treatment in London when Human Rights Watch visited. Hassan's friend `Ali Hussein Dabbouk recounted that on August 27, in Deir Qanoun Ras al-`Ein:

> Hassan and a few of us were playing hide-and-seek next to the house. When Hassan went to hide, he found a cluster bomb, and he thought it had already exploded. So he brought it with him. It was black with the white ribbon completely burned. From the inside, there was red stuff. He brought it back to the house. When he was alone, he threw it and it exploded.[153]

Hassan's 19-year-old sister, Fatima Hussein Hamadi, said he lost his right thumb, part of three fingers on his right hand, and flesh on his right arm. He suffered shrapnel wounds to his stomach and neck, and doctors had to operate on his right shoulder.[154]

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[151] MACC SL Casualty List. The Landmines Resource Center found at least 26 percent of its casualties were children. LMRC Casualty List.

[152] Human Rights Watch interview with `Ali Fakih, *mukhtar*, Kfar Dounine, October 24, 2006.

[153] Human Rights Watch interview with `Ali Hussein Dabbouk, Deir Qanoun Ras al-`Ein, September 22, 2006.

[154] Human Rights Watch interview with Fatima Hussein Hamadi, Deir Qanoun Ras al-`Ein, September 22, 2006.

Marwa `Ali Mar`i, 12, recovers in the Jabal Amel Hospital, Tyre, with her mother on August 16, 2006. Marwa picked up a dud submunition in the town of `Aita al-Cha`b and it exploded. She was severely injured in the blast along with two other children. © 2006 Marc Garlasco/Human Rights Watch

Clusters intrigued other children, such as Sukna Ahmed Mar`i, 12, and her two cousins Marwa `Ali Mar`i, 12, and Hassan Hussein Tahini, 11, all from `Aita al-Cha`b. According to the children, with whom Human Rights Watch spoke in Tyre's Jabal Amel Hospital, the three were exploring a site where fighting had taken place during the war. As the children walked through the town, Marwa picked up a small cylindrical object she described as "like a Pepsi can but smaller."[155] She threw it to the ground, causing it to explode. Hassan said, "My stomach was pulled out. All three of us were injured, but I was injured most. Noise was coming out of my stomach. My hand and my stomach hurt me the most."[156]

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[155] Human Rights Watch interview with Marwa `Ali Mar`i, Jabal Amel Hospital, Tyre, August 18, 2006.

[156] Human Rights Watch interview with Hassan Hussein Tahini, Jabal Amel Hospital, Tyre, August 18, 2006. From the ceasefire on August 14 until August 18, the hospital had received 12 cluster munition victims. Dr. Ahmed Mroue told Human Rights Watch that the hospital received a total of 841 injured patients during the conflict and 96 on the first day of the ceasefire. Human Rights Watch interview with Dr. Ahmed Mroue, Jabal Amel Hospital, Tyre, August 18, 2006.

Dr. `Abdel Nasser Farran told Human Rights Watch that Hassan was suffering from a shrapnel wound caused by a piece that entered at the waist and exited through the stomach.[157] It shredded his intestines and damaged his liver and stomach. He was in critical condition when Human Rights Watch saw him. Sukna had shrapnel injuries to her liver and other light wounds to her body. Marwa had minor leg injuries and was released from the hospital a few days later.

In late August, Human Rights Watch researchers returned to Blida, which Israel attacked with clusters on July 19. `Abbas Yousif `Abbas, a 6-year-old boy, was injured on August 30, suffering shrapnel wounds to the stomach, bladder, left lung, and right hand. He said that he was on the road in front of a friend's house when another friend picked up a submunition and threw it, and it exploded. "It looked like a perfume bottle," he said.[158]

Despite education efforts, many children remained unaware of the danger of submunitions into the fall of 2006. In Halta, Rami `Ali Hassan Shebli, 12, died on October 22 when he picked up a submunition while playing with his brother, Khodr, 14. Khodr, who suffered shrapnel wounds as a result of the incident, sat on a tree branch outside of his neighbor's home, dropping pinecones on his brother on the ground below. Rami picked up something to throw back at his brother. When a witness noticed that Rami had picked up a submunition and yelled at him to put it down, Rami raised his hand to throw it away. The dud exploded when his hand was behind his ear.[159] Human Rights Watch arrived in Halta several hours after the incident and saw the Lebanese Army destroy about 15 unexploded cluster duds in a backyard next to the village in the course of an hour.

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[157] Human Rights Watch interview with Dr. `Abdel Nasser Farran, Jabal Amel Hospital, Tyre, August 18, 2006.

[158] Human Rights Watch interview with `Abbas Yousif `Abbas, Najdeh Sha`biyyah Hospital, Nabatiyah, August 30, 2006.

[159] Human Rights Watch interview with witness (name withheld), Halta, October 22, 2006.

Two men collect the final remains of 12-year-old Rami `Ali Hassan Shebli, who was killed by a DPICM submunition in Halta on October 22, 2006. Rami unwittingly picked up the submunition while playing with his brother only a couple hours before this picture was taken. © 2006 Bonnie Docherty/Human Rights Watch

Agriculture

Perhaps the most dangerous threat to civilian safety came as farmers and shepherds resumed the agricultural activities that characterize much of south Lebanon's economy. Unexploded cluster duds blanketed the fields of south Lebanon, transforming olive and citrus groves and tobacco fields into de facto minefields. "Cluster bombs are causing great, great problems because they fell in all the olive and citrus groves," `Ali Moughnieh, head of Tair Debbe municipality, told Human Rights Watch in late October 2006.[160] According to MACC SL, 44 civilians have been injured and three killed in the course of working their fields or grazing their animals.[161] Habbouba Aoun, coordinator of the Landmines Resource Center in Beirut, said the danger is no longer a lack of awareness of cluster munitions, but the risks posed by agricultural work.[162] "At the beginning, people were being injured from doing reconnaissance in their homes," Allan Poston of the UNDP said in October 2006. "Now, they are getting injured when working for their livelihood."[163]

A woman injured by a submunition dud had just come out of an operation when Human Rights Watch visited Najdeh Sha`biyyah Hospital in Nabatiyah on August 30, 2006. A relative of the injured woman, `Aliya Hussein Hayek, 38, told `Aliya's story:

> The accident happened at 8:30 in the morning. `Aliya and her sister Hussneyyeh were picking tobacco. `Aliya was carrying a tobacco bag; when she placed the bag in the car, it exploded. The cluster bomb must have gotten stuck to the bag that she was using to carry the tobacco. She had carried the bag for 300 meters, and it is only when she put it in car that it exploded.

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[160] Human Rights Watch interview with `Ali Moughnieh, head of Tair Debbe municipality, Tair Debbe, October 21, 2006.

[161] MACC SL Casualty List. The Landmines Resource Center reported 51 civilians were injured and seven killed doing agricultural activities. LMRC Casualty List.

[162] Human Rights Watch interview with Habbouba Aoun, coordinator, Landmines Resource Center, Beirut, October 20, 2006.

[163] Human Rights Watch interview with Allan Poston, chief technical advisor, National Demining Office, UNDP, Beirut, November 29, 2006.

`Aliya had shrapnel in both legs and her face and injuries to the stomach and lost one finger. Hussneyyeh Hussein Hayek, 39, received light injuries.[164]

The hope of catching the end of the summer tobacco harvest and the urgency of the olive harvest, which takes place in the fall months, forced many civilians to work alongside unexploded submunitions. In the fields of Yohmor, for example, Human Rights Watch observed civilians picking olives as several dozen duds lay scattered around the tree trunks and ladders. Shawki Yousif, the head of Hebbariyeh municipality, said that farmers decided to harvest olives even though the IDF littered the area with submunitions during the war.[165] There had been no injuries in the village as of Human Rights Watch's visit in late October 2006; however, Yousif worried about his neighbors daily risking their lives to harvest their crops.[166]

In agricultural Tair Debbe, four farmers and one shepherd were injured in the course of their work.[167] Hamid Zayed, 47, was injured while grazing his animals, though the wounds on his right leg have healed and he has since returned to work. The four other men—Abdul Karim, 40; Halil Bassoun, 65; Sayan Hussein, 75; Sa`id `Aoun, approximately 40—suffered injuries while working in olive or citrus groves, all in separate incidents.[168] `Aoun was still in the hospital when Human Rights Watch visited Tair Debbe two weeks after the incident. The host of separate injuries in Tair Debbe, dispersed over the course of two months, demonstrated the ongoing threat that cluster duds posed to agricultural workers.

Others who resumed work in the fields often were injured in the course of their labor. Dr. `Ali Hajj `Ali, director of the Najdeh Sha`biyyah Hospital in Nabatiyah, told Human Rights Watch that he treated two separate casualties from farm work: a young man was picking grapes from a tree when a submunition fell on his head and

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[164] Human Rights Watch interview with relative of `Aliya Hussein Hayek (name withheld), Najdeh Sha`biyyah Hospital, Nabatiyah, August 30, 2006.

[165] Human Rights Watch interview with Shawki Yousif, head of Hebbariyeh munipality, Hebbariyeh, October 22, 2006.

[166] Ibid.

[167] Human Rights Watch interview with `Ali Moughnieh, head of Tair Debbe municipality, Tair Debbe, October 21, 2006.

[168] Ibid.

exploded, and a young woman was picking tobacco when a submunition blew off two of her fingers.[169]

The risk of injury from agricultural activities was especially acute since the demining organizations focused initial efforts on more heavily populated areas.[170] Frederic Gras of Mines Advisory Group (MAG) said that his organization primarily focused its efforts on where people were living, not where they worked.[171] At the time of Human Rights Watch's October 2006 visit, demining organizations were concerned about increasing dangers in rural areas once the autumn rains start to fall, softening the ground so that submunitions sink and become buried landmines. "We knew the problem would get more complicated because submunitions would get covered by mud," said an official with the National Demining Office.[172] Civilians have a difficult time seeing—and thus avoiding—a submunition covered in mud. As of July 2007, deminers were still dealing with the effects of the rains, which had buried some submunitions and covered others with fresh vegetation.[173]

Moving through the Town

Civilians have suffered many injuries from submunition duds while merely walking or even sitting in their village. `Ali Haraz was injured in Majdel Selm at about 12 p.m. the day after the ceasefire. He began walking down the main road of his hometown—which "looked like a city of ghosts"—and, while carefully focusing on avoiding a submunition he saw on the road, accidentally stepped on another dud with a ribbon and a green cylinder.[174] It immediately exploded. He showed Human Rights Watch shrapnel scars across his chest, legs, and arms; he still had shrapnel in his left middle finger. He spent four days in the Jabal Amel Hospital in Tyre. The US$1,500 the government gave

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[169] Human Rights Watch interview with Dr. `Ali Hajj `Ali , director of the Najdeh Sha`biyyah Hospital, Nabatiyah, August 30, 2006.

[170] Human Rights Watch interview with officer (name withheld), Mine Victims Assistance and Mine Risk Education section, National Demining Office, Beirut, October 20, 2006.

[171] Human Rights Watch interview with Frederic Gras, technical field manager, Mines Advisory Group, Yohmor, October 26, 2006.

[172] Human Rights Watch interview with officer (name withheld), Mine Victims Assistance and Mine Risk Education section, National Demining Office, Beirut, October 20, 2006.

[173] Email communication from Julia Goehsing, program officer, MACC SL, to Human Rights Watch, May 14, 2007; email communication from Julia Goehsing, program officer, MACC SL, to Human Rights Watch, July 20, 2007.

[174] Human Rights Watch interview with `Ali Haraz, car mechanic, Majdel Selm, October 26, 2006.

him after his injury was starting to dwindle, and he did not yet know when he would be able to return to his job as a car mechanic. "When you have the war, the war is for one month and three days," Haraz said. "But the cluster bombs are war for life."[175] Haraz's injury demonstrated what the head of the municipality of Tair Debbe told Human Rights Watch: "the basic problem is that they cannot move freely in their land."[176]

In Deir Qanoun Ras al-`Ein, 14-year-old Elias Muhammad Saklawi was injured on the Monday of the ceasefire (August 14). He said he was sitting on the stairs of his family's house when something exploded a few meters away, sending shrapnel into his neck. He said, "I had not noticed it [the submunition] before. It was stuck on a lemon tree across the street from the stairs. When the wind blew up, it must have pushed it to the ground and then it exploded." He said that his family's house and three or four others on the edge of town were hit by many cluster munitions.[177]

Submunitions, quite simply, were nearly everywhere. Salih Ramez Karashet, a farmer from al-Quleila, near Tyre, had asked the government to clear the estimated 200 submunitions from his land for weeks. "We started putting stones around the clusters to mark their location—especially because we needed to irrigate the olive grove and we feared that the irrigation would bury them or move them."[178] Karashet was injured when he accidentally stepped on some hay covering a submunition on his way to check on a water pump.

Good-faith clearance efforts also can easily miss an unexploded dud. "You cannot say you have totally cleaned [the submunitions]," Muhammad `Alaa Aldon, the *mukhtar* of Majdel Selm, said. "The people are scared now. Maybe they have cluster bombs in the olive fields."[179] On the morning of September 27, 2006, a family of boys in Sawane became victims of a submunition in a "cleared" area as they sat underneath a tree outside a collapsed home, seeking protection from the morning sun. Ten-year-old Hussein Sultan said they were watching a bulldozer clear rubble

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[175] Ibid.

[176] Human Rights Watch interview with `Ali Moughnieh, head of Tair Debbe municipality, Tair Debbe, October 21, 2006.

[177] Human Rights Watch interview with Elias Muhammad Saklawi, Deir Qanoun Ras al-`Ein, September 22, 2006.

[178] Human Rights Watch interview with Salih Ramez Karashet, farmer, Hammoud Hospital, Saida, September 22, 2006.

[179] Human Rights Watch interview with Muhammad `Alaa Aldon, *mukhtar*, Majdel Selm, October 26, 2006.

from the war.[180] Tragedy struck when a submunution fell from the tree above. Muhammad Hassan Sultan, 16, died; five of his cousins and brothers, `Abbas Sultan, Hussein Sultan, Jamil Sultan, Hilal Sultan, and Hassan Sultan, were injured.[181]

Casualties during Clearance

According to MACC SL, cluster munition duds had injured 25 and killed 17 clearance professionals by January 15, 2008.[182] Chris Clark of MACC SL said that Army demining cluster deaths as of the end of October 2006 were all the result of civilians collecting cluster munitions in boxes and bags.[183] "The danger then multiplies," said Ryszard Morczynski, UNIFIL's civil affairs officer.[184] A UNIFIL team working just outside of Tebnine, for example, said that when they arrived to clear the fields, people had already gathered the cluster munitions into piles for the deminers to explode.[185] Another major source of deminer casualties is the density of the submunitions. Dalya Farran of MACC SL explained, "If a deminer/searcher is working in an area with 10-20 sub-munitions for example, he/she is less exposed to an accident than a deminer/searcher working in a clearance site with 100-200 sub-munitions."[186]

In some areas, civilians have been unable to wait for professional clearance and instead have taken it upon themselves to begin removing submunitions. Farmers pressured by the quickly passing harvest season cleared unexploded duds alone and without guidance. So-called community clearance by individuals untrained in munitions and bomb destruction endangers both the clearer himself and any nearby civilians.

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[180] Human Rights Watch interview with Hussein Sultan, Sawane, October 26, 2006.

[181] Human Rights Watch interview with Ahmed Mouzamer, vice head of Sawane municipality, Sawane, October 26, 2006.

[182] MACC SL Casualty List. As of January 2, 2008, the Landmines Resource Center had recorded 33 deminer casualties including 12 killed. LMRC Casualty List.

[183] Human Rights Watch interview with Chris Clark, program manager, MACC SL, Tyre, October 21, 2006.

[184] Human Rights Watch interview with Ryszard Morczynski, civil affairs officer, UNIFIL, al-Naqoura, October 27, 2006.

[185] Human Rights Watch interview with UNIFIL deminer (name withheld), Tebnine, October 24, 2006.

[186] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 16, 2008.

Shadi Sa`id `Aoun, a 26-year-old farmer, talked to Human Rights Watch from his hospital bed in Saida:

> I got injured on Wednesday, September 13th [2006] in Tair Debbe. I had gone to work in the orange orchard. After the war, we saw over 1,000 unexploded clusters in my orchard. We exploded over 800 of them. We would put some plastic material with diesel oil and light it up next to the cluster bomb, and the heat would cause it to explode a few minutes later. We had been doing this for 20 to 25 days. In a carton, I had gathered 80 of the cluster bombs. Those looked like they had lost their trigger, so I assumed it was safe to gather them and had not exploded them. The Lebanese Army came on Wednesday and was clearing a neighboring field. I wanted to carry the box with the 80 cluster bombs to the other field. While I was lifting the box, the bottom fell out and one or more of them exploded. My two legs are broken. The left leg went left, and the right leg went right. The bones were crushed.[187]

In `Ein Ba`al, Hussein `Ali Kiki, a 32-year-old construction worker, told Human Rights Watch about a submunition incident on August 19, 2006, that injured him and killed a friend:

> We went to take a number of clusters out of a friend's orchard. It was the first Saturday after the ceasefire. The orchard is between Batoulay and Ras al-`Ein. I was working with my friend `Ali Muhammad Abu `Eid, who had worked in the past for BACTEC [a demining group]. We were removing the ones with the white ribbons with no difficulty. We had already removed a bunch of them. But then we saw one that looked slightly different. It looks like the other ones but it is a bit thicker. It is also a bit more white with a red dot on it. We did not know how to disarm it, and it exploded. My friend `Ali died immediately. I got

[187] Human Rights Watch interview with Shadi Sa`id `Aoun, farmer, Hammoud Hospital, Saida, September 22, 2006.

> injured in my legs. I still can't walk. The shrapnel tore through muscle and tendons.[188]

The gathering of scrap metal for income also caused casualties. Fifteen-year-old `Ali Muhammad Jawad had just returned from the hospital when Human Rights Watch visited his home in al-Hallousiyyeh. From his bed, he described how on October 17, 2006, around 4 p.m., he spent the afternoon picking up pieces of shrapnel and metal with his cousin Hamdid `Ali Jawad, 18, to sell for 1,000 or 1,500 Lebanese pounds (the equivalent of 66 cents or $1) per kilo. Hamdid found something unusual on the ground, marked by a painted red stick that he used to poke at the item. `Ali stood two to three meters away from Hamdid when the cluster exploded, killing Hamdid and injuring `Ali.[189] The ambulance was slow in coming; `Ali's family speculates that if it had arrived earlier, they might have been able to save Hamdid. `Ali remained bedridden and did not know when he would be able to return to his job as a blacksmith's apprentice.

Case Studies

The following three case studies are highlighted because they represent a special circumstance (Tebnine) or egregious examples of the types of civilian harm discussed above (Yohmor and the Zawtars).

Tebnine

On Sunday, August 13, 2006, Israeli forces struck Tebnine Hospital with cluster munitions. Approximately 375 civilians and military noncombatants, including medical staff, patients, and people who had sought refuge, were in the hospital during the attack. Because "this whole area was infested with cluster bombs," the civilians were trapped in the hospital until a path was cleared to allow them to escape.[190] The hospital is a very large, multistory, multi-wing complex that has been

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[188] Human Rights Watch interview with Hussein `Ali Kiki, construction worker, `Ein Ba`al, September 22, 2006. When asked whether Hezbollah had been firing rockets from the fields, he said, "The field I was in at the time I got injured did not have launching pads. However, fields next to it did. At the beginning, the Israelis were firing most of the clusters on places where there were rocket launchers. But after that, they started throwing them everywhere." Ibid.

[189] Human Rights Watch interview with `Ali Muhammad Jawad, al-Hallousiyyeh, October 21, 2006.

[190] Human Rights Watch interview with Dr. Ahmed Hussein Dbouk, Tebnine Hospital, Tebnine, October 24, 2006.

An Israeli cluster munition caused damage to the Tebnine Hospital in an attack on August 13, 2006. Hundreds of Israeli-manufactured M85 submunitions were removed from the roof, parking lot, and streets in front of the hospital. The damage was still visible on August 18, 2006. © 2006 Marc Garlasco/Human Rights Watch

in operation for many years, including during the Israeli occupation of south Lebanon. Human Rights Watch observed Red Cross flags flying on the hospital.

Tebnine Hospital is affiliated with the Ministry of Health and is administered by the Lebanese Army. Because the hospital was being renovated at the time of the conflict, it was only partially functioning, focusing primarily on emergency cases. During the conflicts in 1993 and 1996, the hospital had provided refuge to civilians and had never been hit. According to Musa, a 33-year-old nurse at the hospital, "From the beginning [of the 2006 war], people started coming to the hospital to seek refuge—initially from Tebnine and then from all over Bint Jbeil."[191] During the first 10 days of the war, 10,000 civilians passed through the hospital, with about 2,000 people inside at any given time. Dr. Ahmed Hussein Dbouk told Human Rights Watch that the hospital had been providing shelter because people felt safe there.[192]

Yousif Fawwaz, *mukhtar* of Tebnine, said, "When Israel decided to pull out, they littered the whole area with cluster bombs."[193] At around 5 p.m. on August 13, 2006, some 15 hours before the ceasefire, the IDF commenced a cluster attack around the hospital. The Lebanese Army colonel, the administrator of the hospital, said that he remained in a safe room in the hospital with about 300 others for about two hours during the attack.[194] Afterward, duds covered the streets surrounding the hospital, the roof of the hospital, and the receiving areas for ambulances. Those who were in the hospital were trapped until the following day when a path to the hospital was cleared with a bulldozer tractor. Immediately after the path was cleared, NGO deminers and the Lebanese Army removed the cluster munitions next to the path.[195]

Human Rights Watch researchers visited Tebnine Hospital twice following the attack and saw pockmarked walls, broken windows, destroyed medical equipment, and damaged sidewalks and pavement surrounding the hospital. One submunition had blown up in a hospital room, destroying much of the room and the ceiling in the

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[191] Human Rights Watch interview with Musa (last name withheld), nurse, Tebnine Hospital, Tebnine, August 20, 2006.

[192] Human Rights Watch interview with Dr. Ahmed Hussein Dbouk, Tebnine Hospital, Tebnine, October 24, 2006.

[193] Human Rights Watch interview with Yousif Fawwaz, *mukhtar*, Tebnine, October 24, 2006.

[194] Human Rights Watch interview with colonel (name withheld), Lebanese Army, Tebnine, August 20, 2006.

[195] Human Rights Watch interview with Dr. Ahmed Hussein Dbouk, Tebnine Hospital, Tebnine, October 24, 2006.

room below. Human Rights Watch researchers also found an unexploded M85 submunition on the roof of the hospital a week after the attack.

According to the Lebanese Army colonel, "MAG [Mines Advisory Group] removed approximately 50 clusters from within the campus of the hospital."[196] Although they had removed the submunitions on the premises, many still surrounded the hospital more than two months after the attack. When Human Rights Watch researchers again visited the hospital on October 24, 2006, deminers had taped off the grassy area directly next to the hospital because they had not yet cleared it of submunitions.

The problem in Tebnine was especially acute because so many of the submunitions had failed to explode on contact. Dalya Farran of MACC SL said, "There seems to be a huge failure rate [in the country]. In some cases, 50 percent. In Tebnine, we are seeing a failure rate close to 70 percent."[197] This high number of duds will continue to haunt the residents in and surrounding Tebnine until deminers complete clearance.

Although no one was injured during the cluster attack on the hospital, the attack seriously degraded the hospital's capabilities, placing those seeking medical attention and medical workers, particularly ambulance drivers, at extreme risk. Some civilians who were in desperate need of medical attention had to zigzag through submunitions to make it to the hospital. Furthermore, according to Dr. Dbouk, who was in the hospital during the attack, many people suffered from panic attacks and one person died of a heart attack, possibly induced by the shelling.[198]

This attack on a hospital is of particular concern as hospitals, including military hospitals, are protected places under international humanitarian law and may not be the object of an attack unless they are being used for military purposes.[199] Human Rights Watch's researchers did not find any information suggesting that Hezbollah

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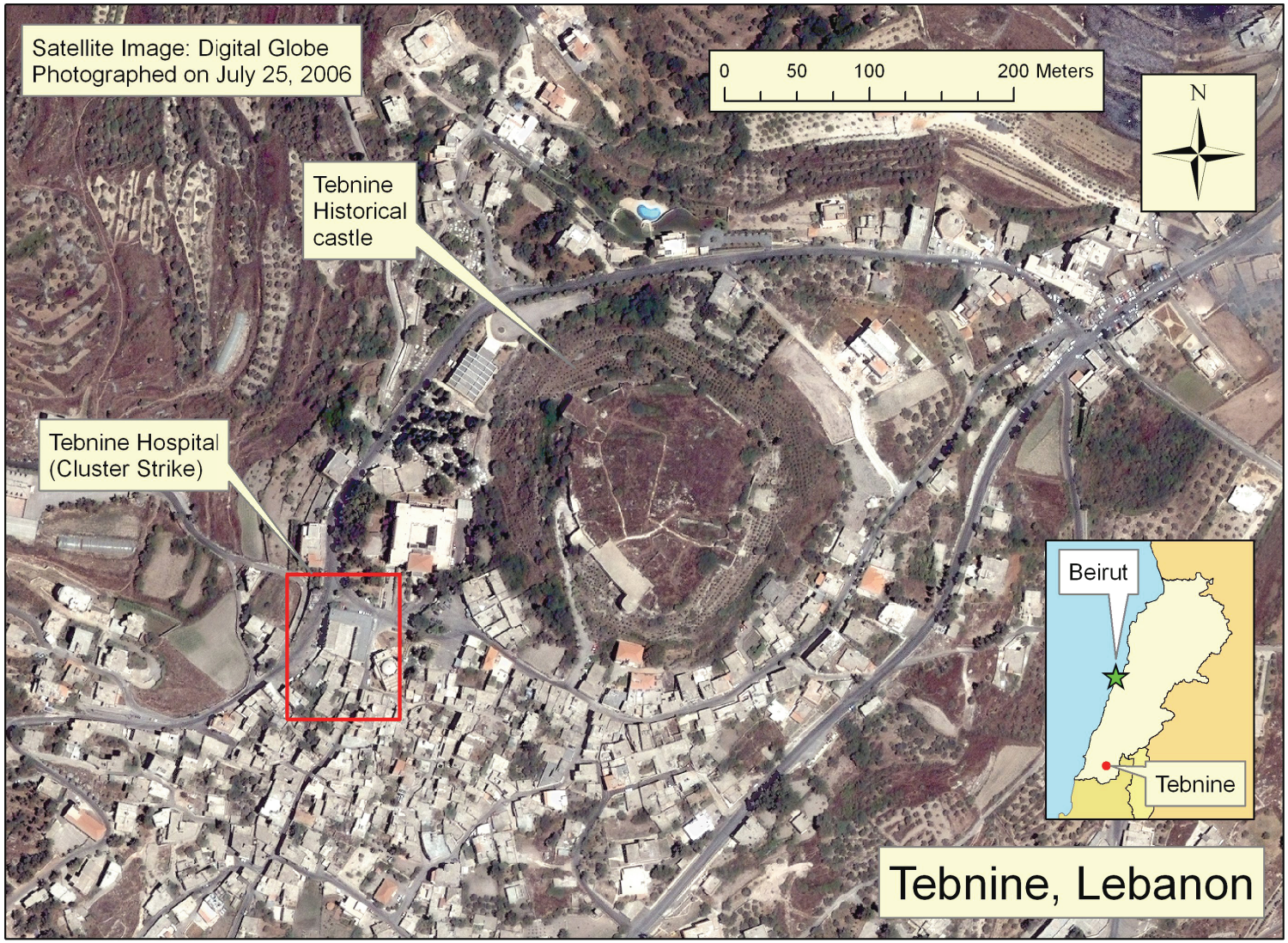
[196] Human Rights Watch interview with colonel (name withheld), Lebanese Army, Tebnine, August 20, 2006.

[197] Human Rights Watch interview with Dalya Farran, media and post clearance officer, MACC SL, Tyre, October 21, 2006.

[198] Human Rights Watch interview with Dr. Ahmed Hussein Dbouk, Tebnine Hospital, Tebnine, October 24, 2006.

[199] See Fourth Geneva Convention, art. 18; Protocol I, art. 12. This protection ceases if a medical establishment is used to commit "acts harmful to the enemy." Fourth Geneva Convention, art. 19; Protocol I, art. 13.



Map Source Data: Human Rights Watch; Digital Globe. Location data based on HRW field research. GPS coordinates were not available.

was present at the time of attack or was using the hospital for military purposes.[200] One nurse added, "Here in the hospital we did not hear anything [i.e. any fire] coming out of Tebnine."[201]

A main road runs close to the hospital—a road that Hezbollah fighters may have been using to transit north-south. However, there is reason to question the legality of using an area-effect weapon on any target that is even in close proximity to a hospital. If Israel was targeting Hezbollah combatants using the road, the IDF must justify why it chose to use cluster munitions to target fighters while they were close to a protected place and not at some other point on the route.

If it can be shown the Israel indiscriminately or deliberately attacked the hospital without military justification and with criminal intent, it would amount to a war crime. It is imperative that Israel conduct a thorough investigation of this incident, make the results public, identify those responsible for ordering and carrying out the attack, and hold them responsible for any violations or war crimes should the evidence substantiate such conclusions. The UN should include investigation of the cluster bombing of Tebnine within the mandate of the International Commission of Inquiry into reports of violation of international humanitarian law in Lebanon and Israel that Human Rights Watch is calling on the Secretary-General of the United Nations to establish.

Yohmor

The IDF heavily bombarded Yohmor, a large village just north of the Litani River, with cluster munitions in the two days prior to the ceasefire. When Human Rights Watch researchers first arrived in the town on August 17, 2006, the Lebanese Army and UN demining groups were destroying cluster duds throughout the town. After two months of clearance work, when Human Rights Watch returned on October 26, 2006, unexploded submunitions still lay scattered in Yohmor's gardens and fields. Submunitions could be found throughout the village of 7,500 civilians. "People here can't move," Kasim M. `Aleik, the head of Yohmor municipality, told Human Rights

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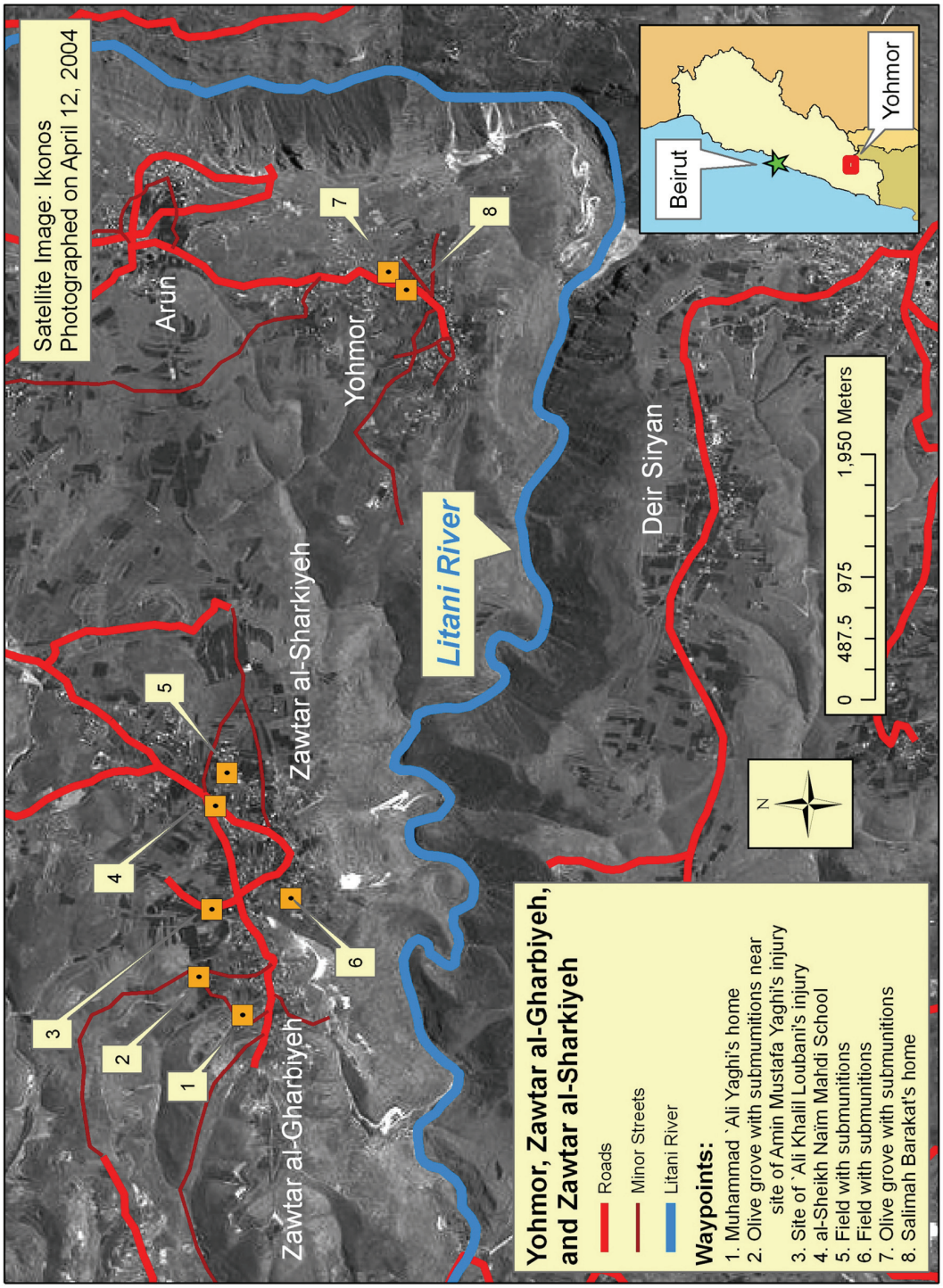
[200] Human Rights Watch interview with Musa (last name withheld), nurse, Tebnine Hospital, Tebnine, August 20, 2006; Human Rights Watch interview with Yousif Fawwaz, *mukhtar*, Tebnine, October 24, 2006.

[201] Human Rights Watch interview with Musa (last name withheld), nurse, Tebnine Hospital, Tebnine, August 20, 2006.



Map Source Data: Human Rights Watch and GeoEye.

Watch in October.[202] "You can see [submunitions] everywhere. Deep inside the town. Everywhere, down to the river."[203]

During the war, the IDF occupied al-Taibe, a town just across the Litani from Yohmor. Frequent firefights between the IDF and Hezbollah, on the north side of the Litani, ensued. Civilians reported that there were cluster munition attacks at night on the last two days of the war.[204] Fortunately, most of the village's 400 families had left Yohmor by the final strikes on the town, with only 20 families remaining until the end of the war.[205]

The day after the ceasefire took effect, Mines Advisory Group sent personnel to the village to warn the carloads of villagers flocking back to Yohmor of the dangers of unexploded submunitions.[206] A MAG representative later wrote:

> When our team first visited the area on 15th August, a day after the ceasefire, we were shocked by the level of contamination. Yohmor was particularly affected and we began clearance straight away. Bomblets littered the ground from one end of the village to the other. They were on the roofs of all the houses, in gardens and spread across roads and paths. Some were even found inside houses—they had fallen through windows or holes in the roof blasted by artillery and aircraft.[207]

Many families returning to their homes found their houses too dangerous to live in; some, however, decided to return to their homes despite the risks, trying to be as careful as possible. Human Rights Watch interviewed Hajje Fatima Jawad Mroue, 64, shortly after she returned to Yohmor. Submunition strikes had pockmarked her home, leaving a hole in her roof. Unexploded M42 submunitions littered her gardens and

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[202] Human Rights Watch interview with Kasim M. `Aleik, head of Yohmor municipality, Yohmor, October 26, 2006.

[203] Ibid.

[204] Human Rights Watch interview with Salimah Barakat, farmer, Yohmor, October 26, 2006.

[205] Human Rights Watch interview with Kasim M. `Aleik, head of Yohmor municipality, Yohmor, October 26, 2006.

[206] Human Rights Watch interview with Frederic Gras, technical field manager, Mines Advisory Group, October 26, 2006.

[207] Sean Sutton, Mines Advisory Group, "Lebanon Special Report: Yohmor Village—Imprisoned by Bombs," http://www.reliefweb.int/rw/rwb.nsf/db900SID/YAOI-6TT9QW?OpenDocument (accessed September 20, 2006).

the grove of fruit trees. Though she would be unable to pick ripe fruit, she was happy to be home.[208]

As of October 2006, cluster duds had injured at least five Yohmor civilians and killed one. Shortly after the ceasefire, Salimah Barakat emerged from her home to clear the rocks and rubble blocking her pathway.[209] She accidentally exploded a dud while cleaning and spent several days in the hospital for shrapnel wounds. A submunition explosion killed Yousif Ibrahim Khalil, 30, while he attempted to help clear submunitions in the road the day after the war.[210] "He was cleaning around it to get it out of the ground and it exploded," his friend Kasim M. `Aleik remembered.[211] Another civilian was harmed in Yohmor when a civilian was doing self-clearance with a bulldozer.[212] Hussein `Ali Ahmed was injured in late September, also while cleaning his home, and is now partially paralyzed and unable to talk.[213] Two weeks later, on October 10, Hussein `Ali `Aleik exploded a submunition while walking around his home in Yohmor.[214]

Yohmor, like most of south Lebanon, relies mostly on agriculture for income. Approximately 60 percent of the village works in agriculture, with 150 families farming in tobacco alone. Out of economic necessity, some villagers returned to work in their fields, despite the prevalence of submunitions throughout rural Yohmor. In October 2006, Human Rights Watch researchers witnessed a farmer picking olives from a grove scattered with several dozen red-painted sticks demarcating still-uncleared submunitions.

As of late October 2006, MAG deminers—responsible for the clearance efforts in the area—had removed most unexploded submunitions from the houses, access roads,

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[208] Human Rights Watch interview with Hajje Fatima Jawad Mroue, Yohmor, August 17, 2006.

[209] Human Rights Watch interview with Salimah Barakat, farmer, Yohmor, October 26, 2006.

[210] Human Rights Watch interview with Kasim M. `Aleik, head of Yohmor municipality, Yohmor, October 26, 2006.

[211] Ibid.

[212] Human Rights Watch interview with Frederic Gras, technical field manager, Mines Advisory Group, October 26, 2006.

[213] Human Rights Watch interview with Kasim M. `Aleik, head of Yohmor municipality, Yohmor, October 26, 2006.

[214] Ibid.

roofs, and pathways to homes.[215] The deminers had progressed to clearing the gardens just outside the homes, but the fields remain the third, and last, priority in the area; MAG field manager Frederic Gras emphasized that his group needed to focus on where people lived.[216] Two MAG teams scoured Yohmor with metal detectors, while three teams canvassed the area to locate the submunitions visually. Gras estimated that clearing Yohmor would be, at minimum, a year's work for the MAG teams. There were "submunitions absolutely everywhere" at the end of the war, and MAG estimates that there was a 30 percent dud rate in the area.[217]

Lebanese military personnel said that they found remnants of 15 M26 MLRS rockets, some of which were still full of submunitions (each rocket contains 644 M77 submunitions). Human Rights Watch researchers saw more than 100 unexploded M77 and M42 submunitions, the latter from 155mm artillery projectiles, along the town's roads, in gardens, on roofs, and in homes. UN deminers showed researchers unexploded BLU-63 submunitions from Vietnam War-era CBU-58B cluster bombs. Researchers also saw CBU-58B canisters that were load-stamped 1973.

Zawtar al-Gharbiyeh and Zawtar al-Sharkiyeh

On August 15, 2006, the day after the ceasefire, Muhammad Darwish and his friend `Ali Khalil Turkiye were picking fruit from a tree behind a friend's home in Zawtar al-Gharbiyeh. When Turkiye grabbed a piece of fruit, a submunition fell from a branch, landing on him. Darwish, who was two to three meters away, recalled, "There was a very big explosion. I can't tell you what happened, but I saw that `Ali was killed."[218] Darwish was injured and still has shrapnel in his body today. Darwish and Turkiye were the first of many casualties in the Zawtars.

Zawtar al-Gharbiyeh (Western Zawtar) and Zawtar al-Sharkiyeh (Eastern Zawtar), located just north of the Litani River, used to be one village, but have split into two. Israel heavily hit the two Zawtars, particularly with cluster munitions in the last week

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[215] Human Rights Watch interview with Frederic Gras, technical field manager, Mines Advisory Group, Yohmor, October 26, 2006.

[216] Ibid.

[217] Ibid.

[218] Human Rights Watch interview with Muhammad Darwish, Zawtar al-Gharbiyeh, October 23, 2006.

of the fighting. Although no one is known to have been injured during the attacks, buildings including a primary school were severely damaged. According to MACC SL, from the ceasefire until January 15, 2008, cluster duds had injured 10 civilians and killed one in the Zawtars.[219]

Roughly 90 to 95 percent of the towns' residents left during the war.[220] Some, however, like 56-year-old Muhammad `Ali Yaghi, stayed during the entire conflict and witnessed the barrage of cluster munitions. He said Israel began dropping cluster munitions in the fields outside the village on August 8 and inside the village during the last four days. "All of the town was destroyed the last four days. I was with my brother when they fell, about August 8 in the fields. They started in the surrounding areas, then here in town."[221] Because Yaghi's home was littered with cluster munitions, he was forced to seek refuge at his brother's house down the road for the remainder of the war.

When Human Rights Watch researchers visited Yaghi's home, they counted 18 submunition holes in the ceilings of his house, including holes above his daughter's bed. Because of the immediate danger posed to his family by duds, Yaghi collected submunitions from around his home by himself. He told Human Rights Watch, "There were 22 bombs around the house in the paprika garden. I cleared them. I took them to some place, ducked behind a wall, and threw them. The explosion was about 20 meters in diameter."[222] Yaghi's method of "clearance" was not only extremely dangerous to himself, but also to those in the area where he disposed of the munitions. Tossed duds that may have failed to explode will pose a future threat in the area.

Yaghi's home was one of many buildings damaged by cluster munitions. Particularly troubling was the severe damage done to al-Sheikh Naïm Mahdi primary school in Zawtar al-Sharkiyeh. Human Rights Watch researchers observed shrapnel damage all

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[219] MACC SL Casualty List. The Landmines Resource Center, as of January 2, 2008, reported 20 injuries and one death from the Zawtars.

[220] Human Rights Watch interview with `Ali `Aqil Shaytani, Zawtar al-Sharkiyeh, October 23, 2006; Human Rights Watch interview with Ahmed `Ali Mahdi Suleiman, *mukhtar*, Zawtar al-Sharkiyeh, October 23, 2006.

[221] Human Rights Watch interview with Muhammad `Ali Yaghi, Zawtar al-Gharbiyeh, October 23, 2006.

[222] Ibid.

Al-Sheikh Naïm Mahdi primary school in Zawtar al-Sharkiyeh exhibits the typical pockmarked walls of a building struck by cluster munitions. On October 23, 2006, the municipal leader said that deminers had removed 2,000 to 3,000 submunitions from the property. © 2006 Bonnie Docherty/Human Rights Watch

over the face of the building and small pits in the pavement surrounding the school caused by submunitions. Ahmed `Ali Mahdi Suleiman, the municipal leader of Zawtar al-Sharkiyeh, said the Lebanese Army and MAG cleared the school following the ceasefire, removing 2,000 to 3,000 submunitions.[223] According to the local people interviewed by Human Rights Watch, Hezbollah had not used the school at any time during the war, and there had been no Hezbollah forces anywhere in the town.

The hazards of cluster munitions continued to plague the residents of the Zawtars, with injuries still taking place months after the conflict ended. One of the first casualties was 23-year-old Amin Mustafa Yaghi, who was injured by a cluster munition only a week after the ceasefire. He and his brother were walking down the

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[223] Human Rights Watch interview with Ahmed `Ali Mahdi Suleiman, *mukhtar*, Zawtar al-Sharkiyeh, October 23, 2006.

road to visit his cousin when his brother saw something in the road that looked like a stone. "My brother kicked it to see what it was," Yaghi recalls. "Then it exploded. It hurt my hand, arm, neck, and side—the same for my brother. For one week after the explosion I couldn't hear."[224] When Human Rights Watch researchers interviewed Yaghi two months after the accident, he still had shrapnel in his neck, side, and leg. His brother also had pieces of the submunition embedded in his neck so close to a nerve that they could not be safely removed.

A submunition also injured 18-year-old mechanic Muhammad Abdullah Mahdi on October 4, 2006. Mahdi was moving a car motor behind the garage when a submunition inside the motor exploded. Mahdi's boss rushed him to the hospital in Nabatiyah. Mahdi told Human Rights Watch, "I spent four days in the hospital. I hemorrhaged and had five units of blood transferred. I still have foreign bodies [inside me]. I will be like this for four months."[225] Mahdi's right leg is injured, and he lost half of his left hand. A family member lamented that Mahdi has suffered both from loss of work and from psychological trauma because of the accident.[226]

A few days after Mahdi was injured, a submunition injured 64-year-old `Ali Khalil Loubani while he was picking up rubble from destroyed homes. Unable to drive his taxi during the conflict and unable to work in the tobacco fields since they were littered with clusters, he took a job filling holes in the road for $20 per day. Loubani said, "On October 7, at 8 a.m., I was working. I brought some ruins from damaged houses and went to fill holes in the road on the border between the two Zawtars. The ruins where I was working contained cluster bombs. I didn't see it before it exploded…. I didn't know anything about clusters."[227] Loubani lost part of his fingers from the explosion. Although flesh had been transplanted from his arm to his fingers to restore them, when Human Rights Watch interviewed him, Loubani remained skeptical about being able to return to work as a driver.

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[224] Human Rights Watch interview with Amin Mustafa Yaghi, Zawtar al-Gharbiyeh, October 23, 2006.

[225] Human Rights Watch interview with Muhammad Abdullah Mahdi, car mechanic, Zawtar al-Sharkiyeh, October 23, 2006.

[226] Human Rights Watch interview with family member of Muhammad Abdullah Mahdi (name withheld), Zawtar al-Sharkiyeh, October 23, 2006.

[227] Human Rights Watch interview with `Ali Khalil Loubani, Zawtar al-Sharkiyeh, October 23, 2006.

Casualties were still amassing in Zawtar when Human Rights Watch visited the town two months after the ceasefire. On October 13, 4-year-old `Ali Muhammad Yaghi was playing in front of his house when a submunition in his neighbor's garden exploded, injuring him. "Someone exploded a submunition here," `Ali's father, Muhammad, recalled. "I saw my son injured in the driveway…. We don't know how it went off."[228]

In addition to the civilian casualties, cluster munitions took an economic toll in Eastern and Western Zawtar. Both communities rely heavily on agriculture, particularly olives and tobacco. Ninety percent of the families in Zawtar al-Sharkiyeh depend directly on agriculture, and the remaining 10 percent benefit from it indirectly.[229] The abundance of submunitions in the fields made farming extremely dangerous. One resident stated, "You can't go to any of the olive groves and tobacco fields. There are bombs in the trees and on the ground."[230] Farmers were faced with the decision of risking their lives to harvest their crops or avoiding their fields out of safety and thus being unable to feed their families.

Many residents feared in the fall of 2006 that the worst was yet to come in the fields. One woman stated, "When it rains, the bombs go into the ground. It's very dangerous…. Deaths will get worse next summer when [farmers] return to the fields to farm again. The bombs will be less visible."[231]

Though most of the submunitions inside the town had been cleared when Human Rights Watch visited, the fields on the outskirts were still heavily inundated with duds. Human Rights Watch researchers saw more than a dozen marked and unmarked submunitions, including BLU-63s and M42s, in two fields on the outskirts of the villages. They also saw several parts of submunitions and five CBU-58B casings collected by civilians. The casings were dated 1973 with a one-year warranty,

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[228] Human Rights Watch interview with Muhammad Yaghi, Zawtar al-Gharbiyeh, October 23, 2006.

[229] "Lebanon: Cluster Bombs Threaten Farmers' Lives, Hamper Olive Harvest," Reuters, November 15, 2006, http://www.alertnet.org/thenews/newsdesk/IRIN/50b5549dfd66b212ca120a7a9e353f31.htm (accessed September 3, 2007).

[230] Human Rights Watch interview with `Ali Aqil Shaytani, Zawtar al-Sharkiyeh, October 23, 2006.

[231] Human Rights Watch interview with Salwa Yaghi, Zawtar al-Gharbiyeh, October 23, 2006.

Four-year-old `Ali Muhammad Yaghi was playing in front of his Zawtar al-Gharbiyeh house when a submunition in his neighbor's garden exploded. As he showed Human Rights Watch on October 23, 2006, he suffered a serious arm injury.
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a troubling indicator of one reason why dud rates had been so high during the conflict.

The Socioeconomic Effects of Cluster Munition Contamination

The estimated hundreds of thousands and possibly up to one million submunition duds have greatly disrupted south Lebanon's heavily agrarian economy. According to UNDP, submunitions have contaminated an estimated 20 square kilometers of agricultural land, which makes up more than half of the land contaminated.[232] The UN Food and Agricultural Organization reported that submunitions contaminated at least 26 percent of south Lebanon's agricultural land, a figure MACC SL described as "very conservative."[233] They blocked access to homes, gardens, fields, and orchards. Chris Clark, the program manager for MACC SL, told Human Rights Watch that "it's not too much of an exaggeration to say everything is affected."[234] An estimated 70 percent of household incomes in south Lebanon come from agriculture. Unfortunately, the submunitions remaining after the cluster strikes on south Lebanon left farmers unable to harvest or plant crops.[235] "They need help," said Habbouba Aoun, coordinator of the Landmines Resource Center. "They cannot access anymore their source of survival."[236]

South Lebanon is heavily dependent on the olive and citrus crops harvested annually and the tobacco crops harvested twice a year. However, in the fall of 2006, unexploded duds contaminated many fields beyond use, and many groves were abandoned. Farmers could not irrigate their fields until they were cleared of duds, as the watering of the fields would cause the duds to sink into the ground and make them more difficult to detect. Many communities consequently lost their 2006 harvest of olives, citrus, and tobacco. "The cluster bombs will definitely affect next year's crops," Allan Poston of the UNDP said in October 2006. "At this point, the extent of the effect is not known yet. It will depend on how fast demining can take

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[232] UNDP, "CBU Contamination by Land Use," current as of November 29, 2006.

[233] Email communication from Julia Goehsing, program officer, MACC SL, to Human Rights Watch, July 20, 2007.

[234] Human Rights Watch interview with Chris Clark, program manager, MACC SL, Tyre, October 23, 2006.

[235] UNOCHA, "Lebanon: Cluster Bomb Fact Sheet," September 19, 2006.

[236] Human Rights Watch interview with Habbouba Aoun, coordinator, Landmines Resource Center, Beirut, October 19, 2006.

place."[237] Assessing the monetary economic impact is difficult, given the numerous factors that go into this calculation. Farmers, however, will certainly feel the effects of the war for a long time.

As already described, some farmers decided that the hardship of losing the 2006 crop outweighed the danger of working amidst unexploded submunitions. The head of municipality for Yohmor, where 60 percent of the population works in agriculture, was among those who chose to work in his olive grove despite the risk of stumbling across unexploded clusters in his field. "I'm scared, but I want to work it. I lost money," he said.[238] For the farmers who avoided their fields because of cluster munitions, however, the price of safety was the 2006 harvest.

The leftover submunitions were particularly problematic for olive farmers, who usually harvest the annual crop in the fall months. In November 2006, UNDP estimated that duds contaminated around 4.7 square kilometers of olive groves.[239] The olive crop typically alternates between a good crop one year and a bad crop the next; the 2006 harvest was expected to be the good crop. "We can't work. We lost the season," said `Ali Muhammad Mansour, the *mukhtar* of `Aitaroun, where 90 percent of the population works in agriculture.[240] "We want to be able to work the new season. People are scared to work." The *mukhtar* of Majdel Selm told Human Rights Watch that 50 percent of his village relies on agriculture, but given the numerous cluster duds found in the fields, "We cannot work in the agriculture fields because we are afraid."[241] He estimated that it will be a year before the community can return to the olive groves.

Tobacco farmers also faced devastation, unable to either harvest their crop in 2006 or plant for 2007. Tobacco is collected twice a year—once over the summer, and once six months later. In 2006 submunitions prevented farmers from salvaging

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[237] Human Rights Watch interview with Allan Poston, chief technical advisor, National Demining Office, UNDP, Beirut, November 29, 2006.

[238] Human Rights Watch interview with Kasim M. `Aleik, head of Yohmor muncipality, Yohmor, October 26, 2006.

[239] UNDP, "CBU Contamination by Land Use," current as of November 29, 2006.

[240] Human Rights Watch interview with `Ali Muhammad Mansour, *mukhtar*, `Aitaroun, October 27, 2006.

[241] Human Rights Watch interview with Muhammad `Alaa Aldon, *mukhtar*, Majdel Selm, October 26, 2006.

tobacco left after the war, which disrupted the scheduled harvest. Human Rights Watch spoke with a tobacco farmer who estimated that he would lose around four million Lebanese pounds, or $2,666, because he could not harvest his crop.[242] `Atif Wahba of `Ainata lost the summer crop when he fled the south during the war; when he returned, his field was saturated with clusters so he could not plant for the spring 2007 harvest. Instead, he worked as a day laborer, earning $10 or $20 per day, while his fields went untended.[243]

Unexploded submunitions continued to interfere with agriculture throughout 2007, even as clearance work reached more areas. While clearance has made significant progress, more remains to be done. Deminers have tried to prioritize agricultural areas based on the timing for cultivating crops and information from the municipalities and the ministerial level.[244] Dalya Farran of MACC SL explained:

> We built up a [clearance] schedule dividing the different harvest seasons throughout the year…. This means we target the CBU strikes in agricultural lands based on harvest season but we don't finish…everything within the limited time frame. Then we move teams to another area based on another harvest season.[245]

Because of the scale of the problem, however, deminers could not immediately address all agricultural land. In 2006 Ahmed Kadre, an olive farmer in Kfar Shufa, told Human Rights Watch that none of the demining organizations had reached his village by October, though the bombing left the olive groves just outside the village unusable.[246] Salih Ramez Karashet, a farmer from al-Quleila, near Tyre, had been asking the government to clear the estimated 200 submunitions from his land for weeks. "We started putting stones around the clusters to mark their location—

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[242] Human Rights Watch interview with `Atif Wahba, farmer, `Ainata, October 27, 2006.

[243] Ibid.

[244] Human Rights Watch interview with Allan Poston, chief technical advisor, National Demining Office, UNDP, Beirut, November 29, 2006; email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 16, 2008.

[245] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 16, 2008.

[246] Human Rights Watch interview with Ahmed Kadre, farmer, Kfar Shufa, October 23, 2006.

especially because we needed to irrigate the olive grove and we feared that the irrigation would bury them or move them."[247] Until 2007, organizations demining in the region had to make the fields a secondary priority, behind homes and roads, in clearance operations.[248]

[247] Human Rights Watch interview with Salih Ramez Karashet, farmer, Hammoud Hospital, Saida, September 22, 2006.

[248] Human Rights Watch interview with Frederic Gras, technical field manager, Mines Advisory Group, Yohmor, October 26, 2006. Human Rights Watch interview with officer (name withheld), Mine Victims Assistance and Mine Risk Education section, National Demining Office, Beirut, October 19, 2006.

Clearance and Risk Awareness

Because of the widespread presence of cluster submunitions in south Lebanon and the detrimental humanitarian consequences of duds, rapid clearance is essential. Although clearance groups have moved at a quick pace, clearing the estimated hundreds of thousands and possibly up to one million unexploded submunitions is a time- and labor-intensive endeavor. "There is a lot of work. One company, one army, cannot do it," a demining official said.[249] NGOs, governmental organizations, private demining companies, UNIFIL, and the Lebanese Army are collaborating to clear unexploded submunitions as quickly as possible so that civilians may return to their normal lives. These groups have also worked together to create public awareness (risk education) campaigns about submunitions to try to minimize the ongoing civilian casualties.

Clearance History in Lebanon

Because of the large quantity of landmines and unexploded ordnance from previous conflicts, Lebanon already had an extensive demining program in place before the 2006 war. From the beginning of the civil war in 1975 until Israel's withdrawal in 2000, Israel extensively used antipersonnel mines, antivehicle mines, cluster munitions, and other weapons in Lebanon, leaving behind abundant explosive remnants of war. A landmine impact survey completed in 2003 estimated that mines and other explosive remnants of war affected 137 square kilometers of land in 22 of 24 districts, with high contamination in the immediate area of the UN-delineated Blue Line along the border with Israel.[250]

To address the need for clearance, the Lebanese government established the National Demining Office, a part of the Lebanese Armed Forces, in the late 1990s. The UN established the Mine Action Coordination Center, overseen by the UN Mine Action Service, in 2002. While the people of Lebanon have benefited greatly from having an established mine clearance program operating for several years, the 2006

[249] Human Rights Watch interview with Johan den Haan, BACTEC, Tyre, October 25, 2006.

[250] See International Campaign to Ban Landmines, *Landmine Monitor Report 2006* (Ottawa: Mines Action Canada, 2006), pp. 988-989.

conflict interrupted existing clearance efforts. In addition to the vast amount of new explosive remnants of war, the conflict displaced existing minefields, which will have to be re-surveyed and re-marked before clearance. "We were about to phase out…. Unfortunately now we are starting everything anew," said Habbouba Aoun, coordinator of the Landmines Resource Center.[251]

Clearance in South Lebanon

Clearance began immediately after the ceasefire, with the Lebanese Army taking on a large role in clearing visible submunitions. MACC SL and its contractors also quickly responded to the problem. After just two weeks of operations, MACC SL reported that its contractors had located and destroyed 2,171 submunition duds. This total did not include submunitions cleared by the Lebanese Army, UNIFIL, Hezbollah, or ordinary Lebanese civilians.[252] As of January 15, 2008, MACC SL contractors, the Lebanese armed forces, and UNIFIL had cleared and destroyed about 140,000 submunition duds.[253]

Despite the overwhelming contamination in the country, international support leaves some hope that clearance will be completed in a timely manner.[254] From August to October 2006, MACC SL focused on "clearance of essential infrastructure like houses, schools, and roads." Since then, it has turned its attention to "agriculture and grazing lands, as well as communities where applicable."[255]

As of mid-December 2007, MACC SL reported that about 26.6 square kilometers of contaminated area had been cleared. It did not give an estimation for finishing the task, but reported that:

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[251] Human Rights Watch interview with Habbouba Aoun, coordinator, Landmine Resource Center, Beirut, October 20, 2006.

[252] It consisted of 820 M77 MLRS submunitions, 715 M42 artillery submunitions, 631 M85 artillery submunitions, and five BLU-63 aerial bomblets. As of September 13, the total had increased to 5,045 submunitions, including 2,121 M77 MLRS submunitions, 2,066 M42 artillery submunitions, 691 M85 artillery submunitions, and 167 BLU-63 aerial bomblets. In addition, Lebanese Armed Forces had cleared 8,626 submunitions and UNIFIL had cleared 3,269, for a combined total of 16,940.

[253] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 16, 2008.

[254] Human Rights Watch interview with Allan Poston, chief technical advisory, National Demining Office, UNDP, Beirut, October 20, 2006.

[255] Email communication from Julia Goehsing, program officer, MACC SL, to Human Rights Watch, May 14, 2007.

> 25% of identified contaminated land has been fully cleared down to a depth of 20cm and additional 43% has been cleared of all surface threat and is subject to further evaluation as to whether it will also require clearing down to 20cm.[256]

MACC SL expects to have 52 clearance teams working by the end of 2008.[257]

UN Mine Action Coordination Center South Lebanon

MACC SL coordinates unexploded ordnance clearance in south Lebanon in cooperation with the National Demining Office, now called the Lebanon Mine Action Center. It does not perform the clearance tasks itself. Instead, MACC SL has contracted clearance work to NGOs, commercial firms, and governmental groups. MACC SL also liaises and coordinates clearance efforts with the Lebanese Army and UNIFIL.

MACC SL has demarcated eight demining areas and divided them among the clearance teams. As of January 18, 2008, MACC SL-affiliated teams had cleared 46,082 M42/M46s, 57,2721 M77s, 28,136 BLU-63s, 6,892 M85s, and 1,257 MZD-2s.[258]

Demining Organizations

Mines Advisory Group was the only NGO engaged in clearance in Lebanon when the conflict began in July 2006, and it renewed operations after the ceasefire. "On day one, August 15, we were the only NGO on the ground," said Andy Gleeson, program manager for MAG.[259] As of December 2007, MAG had 22 teams in

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[256] MACC SL, "November–December 2007 Report of the Mine Action Co-ordination Centre, South Lebanon," December 17, 2007, http://www.maccsl.org/reports/Monthly%20Reports/Monthly%202007/Monthly%20Report%20Nov%20-%20Dec%2007.pdf (accessed January 15, 2008), pp. 1, 6.

[257] Ibid.

[258] Email communication from Dalya Farran, media and post clearance officer, MACC SL, to Human Rights Watch, January 18, 2008.

[259] Human Rights Watch interview with Andy Gleeson, program manager and technical operations manager, Mines Advisory Group, Kfar Joz, October 25, 2006.

An engine from a US-made M26 Multiple Launch Rocket System (MLRS) rocket landed in Tebnine and is shown here on August 16, 2006. Israel fired hundreds of these rockets, which carry 644 DPICM submunitions each, into Lebanon during the war.
© 2006 Marc Garlasco/Human Rights Watch

operation.[260] Norwegian People's Aid began work in Lebanon shortly after the conflict ended and works on the basis of a Memorandum of Understanding with the National Demining Office. The NGOs DanChurch Aid, Handicap International, and Swiss Foundation for Mine Action have also joined the clearance team. BACTEC and Armor Group are British-based commercial companies clearing cluster munitions, mines, and other unexploded ordnance in Lebanon. Governmental groups working with MACC SL include the New Zealand Defence Forces and the Swedish Rescue Service

[260] MACC SL, "November-December 2007 Report of the Mine Action Coordination Center South Lebanon," December 17, 2007, http://www.maccsl.org/reports/Monthly%20Reports/Monthly%202007/Monthly%20Report%20Nov%20-%20Dec%2007.pdf (accessed January 31, 2008).

Agency.[261] Together these groups destroyed 37,055 submunitions by June 20, 2007.[262] More recent breakdowns by clearance group were not available.

UNIFIL

UNIFIL's clearance operations in the past focused on "tactical demining" to clear areas where UNIFIL operates. As UNIFIL Civil Affairs Officer Ryszard Morczynksi said, however, "the recent war changed this."[263] The unprecedented contamination in the country forced UNIFIL to participate in humanitarian clearance, focusing on areas where civilians are directly impacted by duds. As of June 20, 2007, UNIFIL had disposed of 23,590 duds.[264]

UNIFIL has more than 20 clearance teams, which include Belgian, Chinese, French, Ghanan, Indian, Indonesian, Italian, South Korean, Spanish, and Turkish battalions. The number of team members per battalion ranges from five to 15.[265]

Lebanese Army

The Lebanese Army has primarily deployed emergency response teams to remove and destroy unexploded submunitions in and around towns and villages, focusing on removal of visible submunitions in heavily populated areas. "The problem is so huge that we aren't able to clean everything like people in the South would like," said a National Demining Office official. "It's beyond our capabilities."[266] MACC SL teams return to areas cleared by the Lebanese Army to do full clearance.[267]

Immediately following the ceasefire, the Lebanese Army undertook the most widespread clearance activities, clearing people's homes, main streets, and visible

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[261] Ibid.

[262] Email communication from Julia Goehsing, program officer, MACC SL, to Human Rights Watch, July 20, 2007.

[263] Human Rights Watch interview with Ryszard Morczynski, civil affairs officer, UNIFIL, al-Naqoura, October 27, 2006.

[264] Email communication from Julia Goehsing, program officer, MACC SL, to Human Rights Watch, July 20, 2007.

[265] MACC SL, "November-December 2007 Report of the Mine Action Coordination Center South Lebanon."

[266] Human Rights Watch interview with officer (name withheld), Mine Victims Assistance and Mine Risk Education section, National Demining Office, Beirut, October 20, 2006.

[267] Human Rights Watch interview with Dalya Farran, media and post clearance officer, MACC SL, Tyre, October 21, 2006.

duds around villages.[268] With the increase in other demining teams, however, the Army began phasing out major operations in late October 2006.[269] Nevertheless, the Army will continue to remove submunitions still being found in populated areas. The *mukhtar* of Zawtar al-Sharkiyeh said that when you find duds, "you call them [the Army], and they come and get the bombs."[270] In late October 2006, when Human Rights Watch researchers arrived to Halta a few hours after a child was killed by a dud, the Lebanese Army was already there responding to the community's call for clearance. The researchers observed the destruction of approximately 15 submunitions during the hour they were in Halta. As of June 20, 2007, the Lebanese armed forces had cleared 60,030 submunitions.[271]

Hezbollah

In the days after the ceasefire, there were reports of Hezbollah doing clearance of submunition duds and other explosive remnants of war in certain areas. This appears to have been limited to emergency operations in civilian areas. On August 22, 2006, a UN demining official told a reporter, "Hezbollah have picked up a large number of these [submunitions] and put them into boxes and got them away from the children. It's not the approved method, but the risk is such that if something is not done, people will die."[272] MACC SL told Human Rights Watch in early September 2006 that Hezbollah had stopped doing clearance. Nevertheless, municipal officials told Human Rights Watch in October 2006 that Hezbollah members still cleared submunitions when requested, much in the same way that the Lebanese Army responded to clearance calls.[273]

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[268] Ibid.

[269] Human Rights Watch interview with Chris Clark, program manager, MACC SL, Tyre, October 21, 2006; Human Rights Watch interview with Dalya Farran, media and post clearance officer, MACC SL, Tyre October 21, 2006.

[270] Human Rights Watch interview with Ahmed `Ali Mahdi Suleiman, *mukhtar*, Zawtar al-Sharkiyeh, October 23, 2006.

[271] Email communication from Julia Goehsing, program officer, MACC SL, to Human Rights Watch, July 20, 2007.

[272] Lyon, "Israel Cluster-Bombed 170 Sites in Lebanon—UN," Reuters (quoting Tekimiti Gilbert, operations chief for MACC SL).

[273] Human Rights Watch interview with Ahmed Qhanfer, municipal leader, `Ainata, October 27, 2006.

Community Clearance

Out of perceived economic necessity, a desire to protect children and others, or lack of awareness, many ordinary Lebanese civilians have been clearing and/or collecting unexploded submunitions despite warnings from the Lebanese government, the UN, and NGOs engaged in risk education projects. Human Rights Watch researchers spoke to community members who either personally performed clearance or knew people who had done so in Halta, Sawane, Tebnine, Yohmor, Zawtar al-Gharbiyeh, and Zawtar al-Sharkiyeh.[274] In Deir Qanoun, near Tyre, BACTEC deminers found about 1,000 submunitions that villagers had picked up and packed into wooden boxes.[275] Clearance by ordinary individuals ranged from collecting a few submunitions to hundreds. One man killed doing self-clearance in Yohmor allegedly collected 400 clusters on his own.[276]

Civilians have employed various methods to clear duds, including poking them with sticks, throwing rocks at them, burning them, running over them with bulldozers, and burying them. A 65-year-old man in Sawane proudly told Human Rights Watch about collecting duds by hand and boxing them to give to the Lebanese Army.[277] Muhammad `Ali Yaghi of Zawtar al-Gharbiyeh also collected submunitions by hand but disposed of them by tossing them into an open field.[278] Farmers sometimes burned their fields to destroy submunitions, a dangerous activity. The submunitions may blow up unexpectedly during and after the fire. The fire also burns the ribbons on the top of some submunitions, making it difficult to see them on the ground.[279]

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[274] Human Rights Watch interview with Muhammad `Ali Yaghi, Zawtar al-Gharbiyeh, October 23, 2006; Human Rights Watch interview with Kasim M. `Aleik, head of Yohmor municipality, Yohmor, October 26, 2006; Human Rights Watch interview with Ahmed Mouzamer, vice head of Sawane municipality, Sawane, October 26, 2006; Human Rights Watch interview with Yousif Fawwaz, *mukhtar*, Tebnine, October 24, 2006; Human Rights Watch interview with Ghattas Lel Gharib, head of Rashaya al Foukhar municipality, Rashaya al Foukhar, October 22, 2006.

[275] Serene Assir, "A Million Killers in Waiting," *Al Ahram*, http://weekly.ahram.org.eg/2006/815/re8.htm (accessed October 9, 2006).

[276] Human Rights Watch interview with Kassin `Aqil, Sawane, October 26, 2006.

[277] Human Rights Watch interview with Ahmed Mouzamer, vice head of Sawane municipality, Sawane October 26, 2006.

[278] Human Rights Watch interview with Muhammad `Ali Yaghi, Zawtar al-Gharbiyeh, October 23, 2006.

[279] Human Rights Watch interview with Andy Gleeson, program manager and technical operations manager, Mines Advisory Group, October 25, 2006.

Various reasons exist as to why community clearance has been so pervasive. In some ways, the sheer volume of duds has necessitated self-clearance. MACC SL's Chris Clark pointed out, "There's too much out there to deal with. Locals have to take matters into their own hands."[280] This was particularly true directly after the ceasefire when people returned to homes and communities inundated by submunitions, and the Army and NGOs were unable to perform clearance.

Economic necessity has also been a major factor in self-clearance. Many people have returned to their fields to remove clusters so that they could harvest their crops. It is the poor that are most in need of income from crops and thus most likely to clear duds on their own. As Habbouba Aoun noted, "Those being killed are the disadvantaged people."[281]

Shadi Sa`id `Aoun, the 26-year-old farmer from Tair Debbe, who suffered injuries when he decided to clear his field himself, told Human Rights Watch:

> The priority is the houses, but I could not wait for the Army to come and remove the ones from the field. It would ruin me. The orchard is my only source of income. That's why I had to start clearing them myself. My brother and father are still working on collecting the clusters. We know it is dangerous. But we need to clear the field before the rain comes because if the rain comes, it will cover the clusters. That's also why we can't irrigate before removing them.[282]

Poverty has also compelled some individuals to remove submunitions as a source of income. Human Rights Watch researchers heard reports of people being paid anywhere between $1 and $4 per dud by locals who needed their property cleared.[283] A UNIFIL civil affairs officer had heard that Palestinian refugees, a marginalized and economically vulnerable population in Lebanon, have also cleared submunitions,

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[280] Human Rights Watch interview with Chris Clark, program manager, MACC SL, Tyre, October 23, 2006.

[281] Human Rights Watch interview with Habbouba Aoun, coordinator, Landmines Resource Center, Beirut, October 20, 2006.

[282] Human Rights Watch interview with Shadi Sa`id `Aoun, farmer, Hammoud Hospital, Saida, September 22, 2006.

[283] Human Rights Watch interview with Habbouba Aoun, coordinator, Landmines Resource Center, Beirut, October 20, 2006; Human Rights Watch interview with Ahmed Ismael Kadre, farmer, Kfar Shufa, October 22, 2006; Anthony Shadid, "In Lebanon, a War's Lethal Harvest; Threat of Unexploded Bombs Paralyzes the South," *Washington Post*, September 26, 2006.

receiving pay for the boxful.[284] Farmers desperate to try and save the last of the harvest have often turned to these self-clearers.

Newspaper articles glorifying individuals who have done self-clearance have only exacerbated the problem.[285] The trumpeting of these demining efforts is particularly damaging considering the ongoing education efforts trying to dissuade children from engaging in the precise behavior that community clearers demonstrate.

Community clearance has generated many challenges for clearance groups. According to den Haan of BACTEC, "Self-clearance makes our job difficult. We don't know anything about footprint, direction, and strike patterns when they are removed."[286] Furthermore, civilian clearance presents danger to deminers, especially when deminers are given boxes of live duds collected by civilians. "The methods [used by civilians] of disposing of them will no doubt cause problems in the future," said an official with the Mine Victims Assistance and Mine Risk Awareness section of the National Demining Office.[287] Moving unexploded submunitions to another area merely shifts the location of the danger.

Demining groups indicated in the fall of 2006 that civilians were clearing at a lower rate then than they were immediately after the war. "People are realizing self-clearance is stupid and that we provide a better response," said Chris Clark.[288] Nevertheless, even in summer 2007, MACC SL reported that community clearance was still a problem, endangering civilians and deminers and complicating clearance efforts.[289] However, by January 2008 MACC SL was able to report that community clearance was rare.[290]

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[284] Human Rights Watch interview with Ryszard Morczynksi, civil affairs officer, UNIFIL, al-Naqoura, October 27, 2006.

[285] Human Rights Watch interview with Habbouba Aoun, coordinator, Landmine Resource Center, Beirut, October 20, 2006.

[286] Human Rights Watch interview with Johan den Haan, BACTEC, Tyre, October 25, 2006.

[287] Human Rights Watch interview with officer (name withheld), Mine Victims Assistance and Mine Risk Education section, National Demining Office, Beirut, October 20, 2006.

[288] Human Rights Watch interview with Chris Clark, program manager, MACC SL, Tyre, October 23, 2006.

[289] Email communication from Julia Goehsing, program officer, MACC SL, to Human Rights Watch, July 20, 2007.

[290] According to MACC SL, "Due to Rapid Response plan that was implemented directly after the cease-fire, followed by systematic clearance based on humanitarian needs of the local community, it is not a 'problem' anymore. Of course there could be some activities going on that we are not aware of but that would be very rare and rather an exception." Email communication from Dalya Farran, media and post-clearance officer, MACC SL, to Human Rights Watch, January 15, 2008.

Lack of Israeli Assistance

Perhaps the biggest challenge to clearance groups has been Israel's refusal to provide information about its cluster munition strikes. According to a MACC SL official, "The main obstacle for the clearance operations is that we lack good reference information from the Israeli government on the locations they hit with clusters and the quantities."[291] According to the Israeli Ministry of Foreign Affairs, "Immediately after the cease-fire the IDF gave UNIFIL maps indicating the likely locations of unexploded ordnance, to aid the international attempt to clear these areas and avoid injury to the population."[292] An IDF lawyer told Human Rights Watch, "The IDF gave the best information it could subject to operational and military restrictions," and said she knew of no complaints from MACC SL.[293] Nonetheless, MACC SL has publicly declared the maps provided by Israel to be "absolutely useless" in clearance operations and has repeatedly requested more specific information, such as precise strike coordinates and numbers and types of weapons used.[294] An MACC SL official explained:

> As each Israeli unit withdraws, it gives maps to the UN with circles on it where they indicate whether there may be a concentration of UXO [unexploded ordinance]. That's it. There is no distinction between cluster and other bombs. Basically, these are maps that local commanders draw for briefing their own troops. They are not helpful. What we want is strike data with exact date of strike, what was fired and where—not maps.[295]

That information would allow deminers to pinpoint their clearance efforts to specific strike locations, ensure that all locations are dealt with, and know what kind of submunitions to expect. MACC SL said in June 2007 that "only

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[291] Government of Lebanon, "Higher Relief Commission Daily Situation Report No. 78," October 19, 2006 (quoting Dalya Farran, media and post clearance officer, MACC SL).

[292] Israel Ministry of Foreign Affairs, "Behind the Headlines: Legal and Operational Aspects of the Use of Cluster Bombs," September 5, 2006.

[293] Human Rights Watch interview with Maj. Dorit Tuval, head of strategic section, International Law Department, IDF, Tel Aviv, July 2, 2007.

[294] "UN Calls Israel's Use of Cluster Bombs in Lebanon 'Outrageous,'" *Ha'aretz*, September 19, 2006.

[295] Human Rights Watch interview with Dalya Farran, media and post clearance officer, MACC SL, Tyre, August 19, 2006.

upon receipt of detailed strike data by the IDF will we be able to ensure that we have identified *all* cluster munition strike locations."[296]

An IDF reserve officer told a reporter, "We have this information in our computers. I fail to understand why we do not transfer it to them [the UN] and put an end to all this. We are talking about one huge email. Period."[297] An Israeli MLRS platoon commander told Human Rights Watch that before attacks, the MLRS unit received 16-digit target coordinates, and these firing coordinates were recorded in the MLRS launchers' computer system as well as a handwritten log maintained by each crew. He said that after the end of hostilities, IDF military intelligence collected all of the firing data as the reserve MLRS unit was demobilized.[298]

As a party to the Convention on Conventional Weapons, Israel helped negotiate Protocol V on Explosive Remnants of War, which entered into force on November 12, 2006. Israel has not yet ratified the protocol but has expressed support for it. Article 3 of the protocol states that users responsible for unexploded ordnance outside their territory must provide assistance to facilitate clearance.[299] To fulfill its humanitarian obligations, Israel should meet the requirements of the protocol.

Risk Education Programs

The high level of unexploded cluster duds in populated areas has made risk education programs critical. NGOs, the UN Children's Fund (UNICEF), the Lebanese Army, and community members have collaborated to raise awareness about the dangers of submunitions. These groups have employed a range of tactics. Directly after the ceasefire, the Lebanese Army distributed 100,000 flyers created by UNICEF identifying cluster submunitions and bomblets to community members at

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[296] Email communication from Julia Goehsing, program officer, MACC SL, to Human Rights Watch, July 20, 2007.

[297] Rapoport, "A Barrage of Accusations," *Ha'aretz*.

[298] Human Rights Watch interviews with IDF reservists (names withheld), Tel Aviv and Jerusalem, Israel, October 2006.

[299] "In cases where a user of explosive ordnance which has become explosive remnants of war does not exercise control of the territory, the user shall, after the cessation of active hostilities, provide where feasible, *inter-alia,* technical, financial, material or human resources assistance, bilaterally or through a mutually agreed third party, including *inter-alia,* through the United Nations system or other relevant organizations, to facilitate the marking and clearance, removal or destruction of such explosive remnants of war." 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 (CCW), Protocol on Explosive Remnants of War (Protocol V), U.N. Doc. CCW/MSP/2003/2 (Nov. 27, 2003), entered into force November 12, 2006, art. 3.

checkpoints. Similarly, UNIFIL has distributed UNICEF water bottles with pictures of cluster munitions and submunitions.[300] When Human Rights Watch researchers asked witnesses to describe the weapons they had seen, they often pointed to the pictures on the water bottles. Human Rights Watch researchers saw UNICEF posters in several areas in south Lebanon warning civilians of the dangers of cluster submunitions. One such poster stated, "Your peace is our goal," and displayed pictures identifying the various types of submunitions.

Risk education programs have particularly targeted children. Schools have implemented programs to help children recognize submunitions, while various organizations have distributed videos, CDs, brochures, songs, and storybooks in communities to educate children about the danger of duds.[301] The book "Mazen and Leila in Discovery Camp" tells the story of two children who find cluster submunitions while playing in a field. Games have also been popular methods of educating children.

The Lebanese government designated November 4, 2006, May 26, 2007, and November 5, 2007 as National Days against Cluster Bombs, holding events in downtown Beirut to raise awareness about cluster submunitions. Various groups, including UNICEF, the Lebanese Army, Handicap International, and Norwegian People's Aid, participated in the events, where there were photo exhibits revealing the effects of submunitions, puppet shows teaching children about the perils of duds, and a re-creation of a contaminated zone with displays of different unexploded ordnance.[302]

The effectiveness of such risk awareness programs has been mixed. Some community leaders told Human Rights Watch researchers of the success of the

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[300] Human Rights Watch interview with officer (name withheld) Mine Victims Assistance and Mine Risk Education section, National Demining Office, Beirut, October 20, 2006.

[301] Human Rights Watch interview with Ahmed `Ali Mahdi Suleiman, *mukhtar*, Zawtar al-Sharkiyeh, October 23, 2006.

[302] "Global Day of Action to Ban Cluster Bombs," Cluster Munition Coalition press release, November 5, 2007, http://www.stopclustermunitions.org/news.asp?id=98 (accessed January 15, 2008); "Dozens of Lebanese Protest Custer Bombs with Sit-in in Beirut," *International Herald Tribune*, November 5, 2007, http://www.iht.com/articles/ap/2007/11/05/africa/ME-GEN-Lebanon-Mines-Protest.php (accessed January 15, 2008); Cluster Munition Coalition, "July Campaign Bulletin," http://www.stopclustermunitions.org/news.asp?id=78 (accessed December 29, 2007); "Saturday, November 4, 2006: A National Day Against Cluster Munitions," *Caritas Liban*, November 2, 2006, http://caritaslebanon.blogspot.com/2006/11/saturday-november-4th-2006-national.html (accessed December 29, 2007).

programs.[303] Nevertheless, as apparent by the large number of casualties, many people were still uneducated about the dangers of cluster duds even in late October 2006. UNIFIL Civil Affairs Officer Ryszard Morczynski stated, "The level of awareness is increasing, but it is insufficient. So many people in the villages have no clue."[304]

[303] Human Rights Watch interview with Ahmed `Ali Mahdi Suleiman, *mukhtar*, Zawtar al-Sharkiyeh, October 23, 2006.

[304] Human Rights Watch interview with Ryszard Morczynski, civil affairs officer, UNIFIL, al-Naqoura, October 27, 2006.

Israel's Statements on the Use of Cluster Munitions and the Findings of Investigations

Israel's few public remarks regarding its use of cluster munitions in Lebanon have stressed that it was in conformity with international humanitarian law. An internal "operational" inquiry launched in November 2006 found that, while remaining in conformity with IHL, the use of cluster munitions had violated internal regulations. A follow up investigation, released in December 2007, reached a similar conclusion; it, too, looked into instances of "deviation[s] from orders," but determined the use of cluster munitions was "still in accordance with international law."[305]

However, the findings of non-national investigations raised serious questions about Israel's use of cluster munitions. Two investigations by the UN have concluded that the use of cluster munitions represented a violation of IHL. An inquiry by the US determined the use may have violated secret agreements relating to the transfer of the weapons.

Israel's Public Statements and Investigations

During the war, IDF and Israeli government officials gave the media widely diverging accounts about cluster munitions. Some Israeli officials denied that the IDF was using cluster munitions.[306] Others acknowledged use but claimed it was away from civilian areas. Maj. Gen. Benny Gantz, who was in charge of Israel's ground forces, told the *New York Times* in July 2006 that Israel does use cluster munitions, but noted, "We try to minimize their use. We only use them in designated areas that have been closed even by Hezbollah itself."[307] An IDF spokesperson, asked about Israel's use of cluster munitions in Lebanon, told Human Rights Watch, "We use all

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[305] Israel Ministry of Foreign Affairs, "Opinion of the Military Advocate General Regarding Use of Cluster Munitions in Second Lebanon War."

[306] For example, Israel's ambassador to Russia denied Israeli use of cluster munitions, dismissing reports as "Hezbollah propaganda." "Israeli Ambassador to Moscow Dismisses Use of Cluster Munitions in Lebanon as 'Hezbollah Propaganda,'" MosNews.Com, July 26, 2006.

[307] Craig Smith and Helene Cooper, "Cease-fire Talks Stall as Fighting Rages on," *New York Times*, July 26, 2006.

munitions within the confines of international humanitarian law and cannot give more details that would jeopardize our operations."[308]

On September 5, 2006, the Israel Ministry of Foreign Affairs put out a paper titled, "Behind the Headlines: Legal and Operational Aspects of the Use of Cluster Bombs." It begins by noting, "Both international law and accepted practice do not prohibit the use of the family of weapons popularly known as 'cluster bombs.' Consequently, the main issue in a discussion of Israel's use of such weaponry should be the method of their use, rather than their legality."[309] It states:

> [C]onsiderations of compliance with international norms were paramount features of the Israel Defense Forces' (IDF) operations in Lebanon, in which strenuous efforts were made to ensure that these were carried out in complete accordance with international law, both with regard to method and weaponry. IDF operations are directed only against legitimate military targets (the terrorists themselves, the places from which they launch attacks against Israel, facilities serving the terrorists, and objectives that directly contribute to the enemy's war effort). The IDF does not deliberately attack civilians and takes steps to minimize any incidental collateral harm by warning them in advance of an action, even at the expense of losing the element of surprise.[310]

In November 2006 the Ministry of Foreign Affairs issued another statement reiterating, "It is important to clarify that the use of cluster munitions is not prohibited by international law…. The weapon is used by a number of states and, as in the case of all arms, the use of cluster munitions must conform to the rules of warfare."[311]

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[308] "Lebanon: Israeli Cluster Munitions Threaten Civilians," Human Rights Watch news release.

[309] Israel Ministry of Foreign Affairs, "Behind the Headlines: Legal and Operational Aspects of the Use of Cluster Bombs," September 5, 2006.

[310] Ibid.

[311] Israel Ministry of Foreign Affairs, "IDF to Probe Use of Cluster Munitions in Lebanon War."

This statement followed the findings of an initial "operational inquiry" by the IDF, which reported that IDF units had not always used cluster munitions in accordance with the IDF's regulations and then Chief of Staff Lt. Gen. Dan Halutz's orders.[312] At the time these regulations were reported to be that the use of cluster munitions was permitted in only open and unpopulated areas (at least during the Lebanon conflict).[313] The Army acknowledged that instead of using cluster munitions against only particular targets, the IDF had used rockets to deliver the submunitions over larger areas.[314]

Despite alleging some fault, the inquiry excused the IDF's actions. The Ministry of Foreign Affairs November 2006 statement on the inquiry's findings said:

> It should also be noted that the findings of the operational inquiry show that, prior to the use of cluster munitions, the IDF repeatedly warned the civilian population to leave targeted areas. The findings also show that cluster munitions were directed only at legitimate military targets, which had been identified as sites from which Katyusha rockets were being launched against Israeli population centers.[315]

Lieutenant General Halutz said he was "disappointed but not surprised" to learn of breaches of his orders and told the Israeli Army radio that it was necessary to further investigate how military orders for the use of cluster munitions had been "given and implemented."[316] He appointed Maj. Gen. Gershon HaCohen to oversee a broad inquiry. Officers in the IDF's artillery and rocket units expressed surprise at the investigations, however, with soldiers alleging that units that fired cluster munitions

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[312] Hasson and Rapoport, "IDF Admits to Targeting Civilian Areas with Cluster Bombs," *Ha'aretz*.

[313] Ibid.; Yaakov Katz, "Safer Israeli Cluster Bombs Not Used," *Jerusalem Post*, November 21, 2006; Yaakov Katz, "N. Command Ordered Cluster Bombing," *Jerusalem Post*, November 28, 2006.

[314] Tim Butcher, "Israel Admits Breaching Own Rules on Cluster Munitions," *The Daily Telegraph,* November 21, 2006.

[315] Israel Ministry of Foreign Affairs, "IDF to Probe Use of Cluster Munitions in Lebanon War."

[316] Tim Butcher, "Israel Admits Breaching Own Rules on Cluster Munitions," *The Daily Telegraph,* November 21, 2006; Greg Myre, "Israeli General Orders Lebanon Inquiry," *New York Times,* November 20, 2006.

received approval from representatives of the Army's land forces command and that all use of cluster munitions was in accordance with the orders they had received.[317]

The findings of the second inquiry were made public in a statement released on December 24, 2007, by the military advocate general, Brig. Gen. Avihai Mendelblit. It reported that "rocket attacks on Israel were carried out from areas of dense vegetation, in which the Hizbullah set up fortified infrastructure." Most "cluster munitions were fired at open and uninhabited areas, areas from which Hizbullah forces operated and in which no civilians were present." When the IDF used cluster munitions in "residential areas/neighborhoods," it did so "as an immediate defensive response to rocket attacks by Hizbullah from launching sites located within villages." Implying the IDF chose to use cluster munitions for their area effect, the military advocate general said, "the IDF had to make use of weaponry which allowed for an immediate response to rocket fire while providing maximum coverage within the targeted area." The military advocate general reported that the IDF's use of cluster munitions was in accordance with IHL, "even where there was a deviation from orders" (not to fire at built up areas). "Accordingly," he had "decided not to take legal measures in response to the deviations."[318]

Neither IDF inquiry was independent, nor have their detailed reports or the evidence supporting their conclusions been made public. For example, while indicating that there were deviations from orders not to target built up areas, IDF statements on inquiry findings do not provide case-by-case information justifying why deviations occurred. Instead, the IDF claims summarily that "IDF forces used the resources in their possession in an effort to curtail the relentless rocket fire at Israeli civilians." Their statements do not explain the high saturation of towns and villages across south Lebanon. They do not give any reasons why dud rates were so high. The statements do not acknowledge the foreseeable future effects on civilians of high dud rates.[319] Accordingly, the impartiality and rigor are impossible to assess. Neither internal inquiry fulfills Israel's duty to mount credible, independent, and impartial

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[317] Rapoport, "A Barrage of Accusations," *Ha'aretz*; Hanan Greenberg, "Gunners: We Fired Cluster Bombs According to Orders," Ynet.com, November 21, 2006.

[318] Israel Ministry of Foreign Affairs, "Opinion of the Military Advocate General Regarding Use of Cluster Munitions in Second Lebanon War."

[319] Ibid. See also Israel Ministry of Foreign Affairs, "IDF to Probe Use of Cluster Munitions in Lebanon War."

investigations into Israel's apparently extensive violations of IHL, investigations that should include an examination of whether individual commanders bear responsibility for war crimes.

In its various communications with Israeli officials, Human Rights Watch requested general information on Israel's objectives and rationale for using cluster munitions and also asked for specific information about numbers and types of cluster munitions used, strike locations, and the military justifications for those strikes. In its January 8, 2007, letter to the Defense Minister regarding a variety of different types of air and ground attacks, Human Rights Watch asked for detailed information on targeting and weapons selection, vetting review procedures, precautions taken by the IDF to prevent civilian casualties, and any post-strike battle damage assessment procedures carried out by the IDF.

In May 2007, Israel replied to Human Rights Watch saying that its use of cluster munitions in south Lebanon was in accordance with "the principles of armed conflict" and was a response to Hezbollah's deployment and camouflaging of missile launchers "in built-up areas and areas with dense vegetation." The decision to use cluster munitions "was only made after other options had been examined and found to be less effective in ensuring maximal coverage of the missile launching areas." The IDF claimed that all cluster munition fire was directed at legitimate military targets and that for humanitarian reasons "most was directed at open areas, keeping a safe distance from built up areas." Where fire was directed at military targets "in the vicinity of built up areas, it was always toward particular locations from which missiles were being launched against Israel, and after significant measures were taken to warn civilians to leave the area."[320]

In July 2007, Human Rights Watch met with lawyers from the IDF's International Law Section, who reiterated the above positions. Maj. Dorit Tuval said that the use of cluster munitions was legal and that the IDF did "everything necessary to apply IHL," particularly the principles of distinction and proportionality.[321] She said, "The vast

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[320] Israel's Response to Accusations of Targeting Civilian Sites in Lebanon During the "Second Lebanon War."

[321] Human Rights Watch interview with Maj. Dorit Tuval, head of strategic section, International Law Department, IDF, Tel Aviv, Israel, July 2, 2007.

majority of the population left the area and were not in place in inhabited areas when cluster munitions were used. The vast majority [of cluster munitions]…were used toward vegetated areas where Hezbollah hid and shot munitions."[322] As explained above, Tuval said that the IDF only launched attacks on built-up areas where rockets were shot from, and "paid the price" for not using cluster munitions more.[323] Tuval's colleague Lt. Col. David Benjamin said the IDF had no alternative weapon to use because cluster munitions are effective against mobile targets. "You can't hit a rocket on the head…. We cannot know the exact location of the target. When we could, we used much more accurate munitions. Once we don't know where the target is exactly located, what else can we do?"[324] He dismissed the dud problem as "solvable" if the civilians are kept out of the area and clearance is done efficiently.[325] "We're grieving every loss, but after one and a half years, the area will be cleared. The population is dealing with it," Tuval said.[326]

UN Investigations

After the conflict, international concern prompted a number of investigations. A group of four UN Special Rapporteurs traveled to Israel and Lebanon and released a report in October 2006 to the UN Human Rights Council, which criticized Israel's use as "inconsistent with principles of distinction and proportionality."[327] The Special Rapporteurs reported that although Israel said it acted in accordance with IHL, "actual practice fell short" in various respects, including the "reckless, perhaps even deliberately reckless, use of cluster munitions."[328] The panel noted that Israel claimed cluster munitions were the most effective weapon against Hezbollah launch sites, but that the "IDF interlocutors of the mission did not provide any information

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[322] Ibid.

[323] Ibid.

[324] Human Rights Watch interview with Lt. Col. David Benjamin, director, Civil and International Branch, International Law Department, IDF, Tel Aviv, Israel, July 2, 2007.

[325] Ibid.

[326] Human Rights Watch interview with Maj. Dorit Tuval, head of strategic section, International Law Department, IDF, Tel Aviv, Israel, July 2, 2007.

[327] UN Human Rights Council, "Implementation of General Assembly Resolution 60/251 of 15 March 2006, Entitled 'Human Rights Council': Mission to Lebanon and Israel," UN Doc. A/HRC/2/7, October 2, 2006, p. 13.

[328] Ibid., p. 10.

that would confirm that these weapons were in practice used in a manner consistent with this military rationale."[329]

The Special Rapporteurs noted that some Israeli officials denied the allegation that the majority of cluster munitions were fired in the last 72 hours, while others said there was a gradual crescendo in use of cluster munitions in the last 10 days.[330] The panel concluded, "If proven, the widely reported claim that the great majority of these bombs were dropped in the final 72 hours of the campaign, when a ceasefire was imminent, would indicate an intention to inhibit and prevent the return of civilians and a reckless disregard for the predictable civilian casualties that have occurred."[331]

The Special Rapporteurs concluded that "the use of cluster munitions was inconsistent with principles of distinction and proportionality.... In effect, then, the decision was taken to blanket an area occupied by large numbers of civilians with small and volatile explosives. The impact of these bomblets would obviously be indiscriminate and the incidental effects on civilians would almost certainly be disproportionate."[332]

The report also concluded that the international community should "take urgent action to add cluster munitions to the list of weapons banned under international law."[333]

After hearing from the Special Rapporteurs, the UN Human Rights Council charged a separate, special UN Commission of Inquiry (COI) with investigating possible violations of human rights and humanitarian law by Israel in Lebanon.[334] The COI released a report in November 2006 describing the attacks as indiscriminate and disproportionate, finding that Israel's use of cluster munitions "was excessive and

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[329] Ibid., p. 13.

[330] Ibid., p. 14.

[331] Ibid., p. 25.

[332] Ibid., p. 13.

[333] Ibid., pp. 24-25.

[334] In 2006, Human Rights Watch called for the establishment of an independent and impartial Commission of Inquiry to investigate violations committed by all sides in the Israel-Hezbollah conflict. "Israel: Government Committee Should Probe Lebanon Laws of War Violations," Human Rights Watch news release, September 22, 2006, http://hrw.org/english/docs/2006/09/22/isrlpa14250.htm. However, the Human Rights Council limited the mandate of the Commission of Inquiry to investigating violations committed by Israeli forces, and not violations committed by Hezbollah.

not justified by any reason of military necessity."[335] It stated, "There is also ample evidence that cluster bombs were used in an indiscriminate manner and that many towns and villages were littered with the bomblets as well as large tracts of agricultural land."[336] It continued, "When all is considered, the Commission finds that these weapons were used deliberately to turn large areas of fertile agricultural land into 'no go' areas for the civilian population."[337] However, the report does not explicitly cite the evidence leading to its conclusion of "deliberate" harm. It, too, called for "urgent action to include cluster munitions in the list of weapons banned under international law."[338]

US Investigation

Shortly after the end of the conflict, it was reported that the US State Department's Office of Defense Trade Controls was investigating Israeli use of cluster munitions in Lebanon to determine whether Israel violated classified agreements with the United States. These agreements, dating back to the 1970s, govern when and how Israel can use US-supplied cluster munitions.[339] In January 2007, the State Department concluded that Israel "may have" been in violation and submitted a report to Congress.[340]

Israel's use of cluster munitions, like other weapons, is subject to the 1952 Mutual Defense Assistance Agreement with the United States.[341] After the United States first exported cluster munitions to Israel in 1976, it entered into an additional agreement

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[335] United Nations General Assembly, "Implementation of General Assembly Resolution 60/251 of 15 March 2006 Entitled 'Human Rights Council,' Report of the Commission of Inquiry on Lebanon pursuant to Human Rights Council resolution S-2/1," A/HRC/3/2, November 23, 2006, p. 60 [hereinafter "Report of the Commission of Inquiry," November 23, 2006].

[336] "Report of the Commission of Inquiry," November 23, 2006, p. 59.

[337] Ibid., p. 60.

[338] Ibid., p. 77.

[339] Cloud, "Inquiry Opened into Israeli Use of US Bombs," *New York Times.*

[340] David S. Cloud and Greg Myre, "Israel May Have Violated Arms Pact, U.S. Says," *New York Times*, January 28, 2007, http://www.nytimes.com/2007/01/28/world/middleeast/28cluster.html?ex=1327640400&en=d2ba5ee2a96d6eed&ei=5088&partner=rssnyt&emc=rss (accessed September 3, 2007).

[341] A 2005 Congressional Research Service report notes this section of the 1952 agreement: "The Government of Israel assures the United States Government that such equipment, materials, or services as may be acquired from the United States…are required for and will be used solely to maintain its internal security, its legitimate self-defense, or to permit it to participate in the defense of the area of which it is a part, or in United Nations collective security arrangements and measures, and that it will not undertake any act of aggression against another state." Richard F. Grimmett, "US Defense Articles and Services Supplied to Foreign Recipients: Restrictions on Their Use," CRS Report for Congress, Congressional Research Service, March 14, 2005.

specific to the weapons. When concerns arose about the civilian casualties caused by Israel's use of cluster munitions in Lebanon in 1978, the United States reaffirmed the understanding in April 1978. While the agreements are secret, various sources over the years have reported that the agreements require that the munitions be used only against organized Arab armies, under conditions similar to the Arab-Israeli wars of 1967 and 1973, only against clearly defined military targets, and not in areas where civilians are known to be present or in areas normally inhabited by civilians.[342]

In July 1982, following Israeli cluster attacks on civilian targets in Lebanon, the Reagan administration placed a moratorium on exports of cluster munitions to Israel. The United States found that by using US-supplied cluster munitions against civilian targets in Lebanon, Israel violated the 1976/1978 understandings and may have violated its 1952 Mutual Defense Assistance Agreement with the United States. The United States quietly lifted the moratorium in November 1988.[343]

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[342] See, for example, Cloud, "Inquiry Opened into Israeli Use of US Bombs," *New York Times*; Landmine Action, "Cluster Munitions in Lebanon," pp. 7-12. One source said the agreements allowed use "only for defensive purposes, against fortified military targets, and only if attacked by two or more 'Arab states.'" Another source said "cluster bombs could only be used against the regular armed forces of 'one or more Arab countries'" who were engaged in a war with Israel like the 1967 and 1973 conflicts. Yet another said use was prohibited except against "regular forces of a sovereign nation" and in "special wartime condition," with the latter phrase meaning conditions equal to or exceeding the level of conflict in 1967 and 1973. See Landmine Action, "Cluster Munitions in Lebanon," p. 9.

[343] Cloud, "Inquiry Opened into Israeli Use of US Bombs," *New York Times*; Landmine Action, "Cluster Munitions in Lebanon," pp. 7-12.

Israel's Use of Cluster Munitions and International Humanitarian Law

In south Lebanon in 2006, Israel employed a means of warfare that was likely to cause significant harm to civilians—unreliable and inaccurate submunitions used widely and heavily in populated areas. Despite ample past experience of the deadly effects of cluster duds on the civilian population of south Lebanon, awareness of the impending end of the war, and the knowledge that there would be a legacy of unexploded duds creating de facto minefields, the IDF did not refrain from launching these attacks or choose alternative means that would be less harmful to civilians.

As described in this report, Human Rights Watch found submunitions in houses, schools, businesses, and municipal centers—all areas frequented by civilians. In many cases, cluster strikes occurred in areas where we found no evidence of Hezbollah rocket launchers, fighters, or other military objectives. The post-ceasefire casualties have to our knowledge all been civilians or deminers, and civilian access to agricultural areas and property has been severely affected. The aftereffects of Israel's cluster strikes were foreseeable by the IDF and should have been taken into account when assessing the likely civilian impact of planned attacks—the estimated hundreds of thousands and possibly up to one million submunition duds on the ground in south Lebanon do not differentiate between soldiers and civilians when they unexpectedly explode. These factors all tend to establish that Israel's use of submunitions violated the IHL requirement of distinction between civilians and military targets.

Neither Human Rights Watch's research nor the limited information offered by the IDF provides affirmative evidence that Israel's cluster attacks had potential military advantage greater than the significant and ongoing harm that they caused. The paucity of evidence of specific military objectives, the known dangers of cluster munitions, the timing of large-scale attacks days before an anticipated ceasefire, and the massive scope of the attacks themselves lead to the conclusion that the attacks were of an indiscriminate and disproportionate character, in violation of international humanitarian law. If they were launched in knowledge or reckless

disregard of that character, they give rise to a duty on Israel's part to investigate criminal responsibility on the part of those who authorized the attacks.

Indiscriminate Attacks

In many of the cases that Human Rights Watch examined, the few civilians present at the time of the attacks could not identify a specific military target such as the presence of Hezbollah fighters, rocket launchers, or munitions in the villages attacked, nor did we find material evidence of such military targets. Furthermore, the staggering number of cluster munitions that rained on south Lebanon over three days before a negotiated ceasefire went into effect, as well as statements by Israeli soldiers attesting to the indiscriminate nature of the attacks, raises serious questions about whether they were aimed at specific targets or strategic locations, or were instead an effort to blanket whole areas with explosives and duds.

In response to Human Rights Watch's request that it identify the military objectives in specific attacks, including the cluster strike on Blida, the IDF declined to specify, but did send a response identifying "damage to key routes" as well as "maximal coverage of the missile-launching areas" as general objectives of its cluster munition attacks.[344] IDF lawyer Maj. Dorit Tuval later said, "The vast majority [of cluster munitions] were not used toward populated areas or near inhabited areas."[345] Those that were used in built-up areas were directed "toward places where rockets were shot from toward Israel."[346]

Although transport routes and missile (technically rocket) launching areas can be legitimate military objectives, the sheer scope and intensity of the assaults casts doubt on the adequacy of this general explanation and whether, in fact, there were discrete military objectives for all cluster munition attacks. Israeli officials, despite

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[344] Israel's Response to Accusations of Targeting Civilian Sites in Lebanon During the "Second Lebanon War." The December 2007 investigation also identified "maximum coverage" of launch sites as a reason to use clusters. Israel Ministry of Foreign Affairs, "Opinion of the Military Advocate General Regarding Use of Cluster Munitions in Second Lebanon War."

[345] Human Rights Watch interview with Maj. Dorit Tuval, head of strategic section, International Law Department, IDF, Tel Aviv, Israel, July 2, 2007.

[346] Ibid.

repeated requests, have declined to disclose with greater specificity the particular objectives that they targeted.

In this regard, the scholar Yoram Dinstein writes: "a specific land area can be regarded per se as a military objective."[347] However, he also qualifies this, explaining: "Admittedly, the incidence of such locations cannot be too widespread; there must be a distinctive feature turning a piece of land into a military objective (e.g., an important mountain pass; a trail in the jungle or in a swamp area; a bridgehead; or a spit of land controlling the entrance to a harbour)."[348] This view accords with the authoritative Pictet commentary on the additional protocols to the Geneva Conventions, which confirms that area denial may be a legitimate military objective, but warns: "Of course, such a situation could only concern limited areas and not vast stretches of territory. It applies primarily to narrow passages, bridgeheads or strategic points such as hills or mountain passes."[349] Israel's use of cluster munitions over large areas of south Lebanon would not pass muster under this standard.

The laws of international armed conflict also specifically prohibit "an attack by bombardment by any methods or means which treats as a single military objective a number of clearly separated and distinct military objectives located in a city, town, village or other area containing a similar concentration of civilians or civilian objects."[350] Israel's systematic "flooding" of certain villages and populated areas with cluster munitions suggests there may have been a violation of this aspect of the principle of discrimination as well.

Even if Israel fired on legitimate military targets, something that many commentators, including the two UN inquiries, have challenged, its use of cluster munitions in population centers was highly likely to violate international humanitarian law, given that cluster munitions are imprecise area weapons and their duds cannot distinguish between military objectives and civilians. The huge number of submunitions

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[347] Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict* (Cambridge: Cambridge University Press, 2004), p. 92.

[348] Ibid.

[349] ICRC, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: Martinus Nijhoff Publishers, 1987), p. 621.

[350] Protocol I, art. 51(5)(a).

employed, the way that they were used, and the antiquated types that were fired foreseeably resulted in an extraordinary number of duds littering fields and dozens of towns and villages, waiting for the return of civilians.

While immediate civilian casualties from the explosions were limited, the long-term effects in terms of injuries, deaths, and other loss have been considerable. In interpreting the prohibition on attacks "which employ a method or means of combat which cannot be directed at a specific military objective,"[351] a respected scholarly commentary notes that "blind" weapons such as landmines can violate this rule with regard to their effect over time in the absence of precautions such as self-destruct mechanisms.[352] By extension, this would also apply to clusters that leave significant numbers of landmine-like duds.

The hallmark of an indiscriminate attack is that "injury to the civilians is merely a matter of 'no concern to the attacker.'"[353] As Dinstein notes, from the standpoint of international humanitarian law, "there is no genuine difference between a premeditated attack against civilians (or civilian objects) and a reckless disregard of the principle of distinction: they are equally forbidden."[354] The launching of indiscriminate attacks knowingly is a war crime under international law.[355] Israel is under a duty to investigate transparently the decisions to launch massive cluster munition attacks both as breaches of Israel's obligations under international law and with regard to the potential criminal responsibility of individuals whatever their position or rank. As discussed above, it has to date failed to do so in an independent and credible manner.

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[351] This is one of the descriptions of an unlawfully indiscriminate attack under customary international law, as reflected in Protocol I, art. 51(4)(b).

[352] Michael Bothe, Karl Josef Partsch, and Waldemar A. Solf, *New Rules for Victims of Armed Conflicts: Commentary on the Two 1977 Protocols Additional to the Geneva Conventions of 1949* (The Hague: Martinus Nijhoff Publishers, 1982), p. 305.

[353] Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict*, p. 117 (citing H.M. Hanke, "The 1923 Hague Rules of Air Warfare," *International Review of the Red Cross*, vol. 33 (1993), p. 26).

[354] Ibid.

[355] Protocol I, art. 85; Rome Statute of the International Criminal Court (Rome Statute), U.N. Doc. A/CONF.183/9, July 17, 1998, entered into force July 1, 2002, art. 8(b)(iv).

Disproportionate Attacks

In justifying its decision to mount the armed conflict in Lebanon, Israel has said that the proper way to measure the proportionality of its actions is "not only in respect to the initial Hizbullah cross-border attack, or even the 4,000 missiles fired at Israel's northern towns and villages, but also against the threat of the tens of thousands of missiles which Hizbullah had amassed and continued to receive from Iran and Syria."[356] It is important to recognize that this argument is relevant only to Israel's rationale for war (or *jus ad bellum*) and does not in any measure justify the massive cluster attacks in the last 72 hours of the war. Those must be weighed by the principle of proportionality in the conduct of war (or *jus in bello*), under international humanitarian law.

International humanitarian law defines proportionality in terms of "attacks," not the overall military response to the threat posed by an enemy.[357] "Attacks" mean "acts of violence against the adversary, whether in offence or defence."[358] The military advantage of any given attack must be understood within the context of the broader strategy of a war. Even legal scholars who judge military advantage in light of the attack as a whole rather than its specific aspects acknowledge that "'an attack as a whole' is a finite event, not to be confused with the entire war."[359] Where a given attack produces disproportionately high civilian harm to low military advantage, it cannot be justified simply because a party deems the purpose of the overall military campaign to have value.

In the passage cited above, Israel has also justified the proportionality of its decision to go to war by citing the threat to its population from the entire Hezbollah arsenal. But again, this argument has little to do with measuring the proportionality of cluster attacks, which must be judged not in terms of the overall decision to use force but in terms of the concrete and direct military advantage anticipated. Cluster munitions

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[356] Israel's Response to Accusations of Targeting Civilian Sites in Lebanon During the "Second Lebanon War."

[357] The issue of proportionality also arises in the analysis of legal justification of war, which is not the subject of our analysis in this paper.

[358] Protocol I, art. 49(1). See ICRC, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949*, p. 603 ("In other words, the term 'attack' means 'combat action.'").

[359] Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict*, p. 87.

are antipersonnel, area denial weapons and unsuited to disabling the Hezbollah rocket stockpiles. In these terms, the military value of cluster attacks is low. Moreover, despite IDF statements to the contrary,[360] we found scant evidence that would demonstrate a concrete and direct military advantage with relation to any other possible military objectives, such as attacking fighters, rocket launchers, or strategic locales.

When considering the foreseeable civilian damage that could ensue, the anticipated and soon-approaching end to the armed conflict weighs heavily against Israel's last-minute massive saturation of civilian areas with old cluster stockpiles. Although Israel claims that its use of cluster munitions in fact resulted in "a disruption of missile attacks against Israeli population centers,"[361] the civilian damage has been significant, including almost 200 civilian casualties, the currently known direct contamination of 38.7 square kilometers of land, and disruption to the lives of thousands of other civilians living across the 1,400 square kilometer area affected by cluster strikes north and south of the Litani river. The fact that duds would turn civilian areas into de facto minefields, given the extremely large number of submunitions employed and their known failure rates, was foreseeable—testimony from soldiers (and the reported IDF prohibition of firing cluster munitions into areas it would subsequently enter) indicate that the IDF knew this. The dud rate was made worse by Israel's use of old weapons and the low trajectory and short-range firing by which it delivered some submunitions.

Indeed, Israel was well aware of the continuing harm to Lebanese civilians from the unexploded duds that remained since its prior use of munitions in South Lebanon in 1978 and 1982. Unexploded cluster submunitions from the weapons used more than two decades ago—though far less extensive than in 2006—continued to affect Lebanon up to the beginning of the current conflict.

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[360] Israel Ministry of Foreign Affairs, "Opinion of the Military Advocate General Regarding Use of Cluster Munitions in Second Lebanon War."

[361] Israel's Response to Accusations of Targeting Civilian Sites in Lebanon During the "Second Lebanon War."

Unwarranted Reliance on Warnings

In calculating expected civilian harm, Israel needed to consider the presence of civilians. In November 2006 Israel stated, "It should also be noted that the findings of the operational inquiry show that, prior to the use of cluster munitions, the IDF repeatedly warned the civilian population to leave targeted areas."[362] The IDF lawyers who met with Human Rights Watch in July 2007 also said that "there was a great effort to ensure the population was not there during the war,"[363] and the military advocate general's December 2007 statement referred to "numerous and constant warnings given by the IDF to the civilian population."[364] Israel issued general warnings to civilians in south Lebanon to leave through Arabic flyers and radio broadcasts.

Having given warnings, Israel was not entitled to assume Lebanese civilians had universally heeded them and no civilians remained, or that all civilian infrastructure was thereby a potential military target. Giving warnings does not allow the parties to a conflict to then disregard the continuing presence of some civilians—all potential harm to civilians remaining must still be weighed against the concrete and direct military advantage anticipated from an attack, and the attack cancelled if the damage to civilians is disproportionate. Otherwise, Hezbollah would have been justified in "warning" civilians to flee northern Israel and then firing away without regard to civilian casualties—clearly an illegal method of warfare.

It is true that, by the end of the war when the vast majority of cluster munitions were used, most civilians had abandoned the targeted towns and villages, or remained inside shelters at the time of bombardment. As a result, relatively few civilians were killed or injured as cluster attacks were taking place. However, in many areas, the roads were too dangerous for civilians to flee, and transport prices were prohibitive. Many civilians remained because they were too poor or sick to leave, or wanted to

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[362] Israel Ministry of Foreign Affairs, "IDF to Probe Use of Cluster Munitions in Lebanon War."

[363] Human Rights Watch interview with Maj. Dorit Tuval, head of strategic section, International Law Department, IDF, Tel Aviv, Israel, July 2, 2007.

[364] Israel Ministry of Foreign Affairs, "Opinion of the Military Advocate General Regarding Use of Cluster Munitions in Second Lebanon War."

remain to take care of elderly or sick relatives or their property, livestock, or fields.[365] One Zawtar al-Sharkiyeh resident stated, "My land and dignity prevented me from leaving."[366] Others remained in service of their civilian duties as doctors, nurses, and ambulance drivers. "No town was 100 percent empty," said Habbouba Aoun, coordinator of the Landmines Resource Center.[367]

Israel undoubtedly knew that some civilians were unable or unwilling to go because they were poor, elderly, afraid of being killed on the roads, or were unable to secure transport, and were thus vulnerable to cluster munitions. This was the case in the 1993 conflict between Israel and Hezbollah in south Lebanon, and indeed during the course of the 2006 conflict the media was filled with stories on Lebanese civilians dying in Israeli strikes or being trapped in place. In some instances, Israel seemed to know exactly how many people remained in a village.[368]

Attack on a Protected Place

Finally, the Tebnine hospital attack violates the special protection hospitals and medical facilities receive under IHL. Human Rights Watch has found no evidence that Hezbollah was using the hospital for military purposes at the time of the attack or that the hospital was in close proximity to a valid military objective. Unless such evidence is forthcoming, there is a strong presumption that Israel attacked the site either knowingly or in reckless disregard of the hospital's presence. Should this be the case, Israel has the responsibility of investigating the incident as a war crime.[369]

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[365] Human Rights Watch, *Lebanon–Fatal Strikes: Israel's Indiscriminate Attacks Against Civilians in Lebanon*, vol. 18, no. 3(E), August 2006, http://hrw.org/reports/2006/lebanon0806/, p. 42.

[366] Human Rights Watch interview with `Ali `Aqil Shaytani, Zawtar al-Sharkiyeh, October 23, 2006.

[367] Human Rights Watch interview with Habbouba Aoun, coordinator, Landmines Resource Center, Beirut, October 20, 2006.

[368] For instance, on July 24, Lt. Gen. Dan Halutz, the IDF chief of staff, estimated that 500 residents remained in Bint Jbeil despite IDF warnings to leave. Hanan Greenberg, "Halutz: In the Next Speech Nasrallah Will Consider his Words Very Well," Ynet News, July 24, 2006, http://www.ynet.co.il/articles/0,7340,L-3280528,00.html (accessed November 6, 2006).

[369] Protocol I, art. 85(2); Rome Statute, art. 8(b)(ix).

Global Efforts to Address Cluster Munitions

International awareness of the need to deal with cluster munitions is growing rapidly, following years of advocacy by Human Rights Watch, the Cluster Munition Coalition (which Human Rights Watch co-chairs), other NGOs, the ICRC, and states. Most notable has been the launching in Oslo, Norway, in February 2007 of a process aimed at a new international treaty prohibiting cluster munitions that cause unacceptable harm to civilians. In Oslo, 46 countries agreed to conclude such a treaty by 2008 and laid out a roadmap of meetings to develop and negotiate the treaty. Now 94 countries have endorsed the process.

Israel's use of cluster munitions in Lebanon has helped push the already growing movement forward. Norway's foreign minister said in October 2006: "The case of Lebanon clearly demonstrates that there is a real need to strengthen humanitarian law in this area. In the Government's view, the human suffering caused by the use of cluster munitions is unacceptable. This is why Norway will take the lead—together with other like-minded countries and international humanitarian actors—to put in place an international prohibition against cluster munitions."[370]

The momentum against cluster munitions increased greatly during the Third Review Conference of the Convention on Conventional Weapons held in Geneva from November 7 to 17, 2006. On the first day of the review conference, UN Secretary-General Kofi Annan issued a statement calling for a "freeze" on the use of cluster munitions in populated areas and the destruction of "inaccurate and unreliable" cluster munitions.[371] The ICRC called on states not only "to immediately end the use of inaccurate and unreliable cluster munitions," but also to destroy their stocks of such weapons. The ICRC also indicated its intention to hold an expert meeting in

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[370] Norwegian Ministry of Foreign Affairs, "Reply to Olav Akselsen's (Labour Party) Question Regarding the War in Libanon (sic) and the Use of Cluster Munitions, Written Question No. 61 (2006-2007)," October 24, 2006 (translation from Norwegian), http://www.odin.dep.no/ud/english/news/speeches/minister_a/032171-090682/dok-bu.html, (accessed September 3, 2007).

[371] UN Secretary-General, "Message to the Third Review Conference of the CCW," Geneva, November 7, 2006.

early 2007 aimed at identifying the elements a treaty on cluster munitions would need; the meeting was subsequently held in Montreux in April.[372]

By the end of the Review Conference, nearly 30 states had expressed support for a proposal to begin negotiations in the CCW on a "legally-binding instrument that addresses the humanitarian concerns posed by cluster munitions."[373] However, the proposal was rejected by a number of other states, including China, Russia, the United Kingdom, and the United States, in favor of a weak mandate to continue discussions on explosive remnants of war, with a focus on cluster munitions. The anti-cluster munition states issued a declaration on the final day of the Review Conference calling for an agreement that would prohibit the use of cluster munitions "within concentrations of civilians," prohibit the use of cluster munitions that "pose serious humanitarian hazards because they are for example unreliable and/or inaccurate," and require destruction of stockpiles of such cluster munitions.[374] Norway then announced it would start an independent process outside the CCW to negotiate a treaty banning cluster munitions that cause unacceptable humanitarian harm.

On February 23, 2007, in Oslo, 46 countries agreed to conclude a treaty banning cluster munitions that cause unacceptable harm to civilians by 2008.[375] It will "prohibit the use, production, transfer and stockpiling of cluster munitions that cause unacceptable harm to civilian" and include provisions on clearance, victim

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[372] ICRC, "Statement of Dr. Philip Spoerri to the Third Review Conference of the CCW," Geneva, November 7, 2006. The meeting was held in Montreux, Switzerland, from April 18-20, 2007, with 32 governments, as well as Human Rights Watch, a small number of other NGOs, and UN agencies, participating.

[373] "Proposal for a Mandate to Negotiate a Legally-Binding Instrument that Addresses the Humanitarian Concerns Posed by Cluster Munitions," presented by Austria, Holy See, Ireland, Mexico, New Zealand, and Sweden, CCW/CONF.III/WP.1, October 6, 2006. The proposal was also formally supported by Argentina, Bosnia-Herzegovina, Chile, Costa Rica, Czech Republic, Denmark, Germany, Guatemala, Hungary, Italy, Liechtenstein, Lithuania, Luxembourg, Malta, Peru, Portugal, Serbia, Slovakia, Slovenia, and Switzerland.

[374] "Declaration on Cluster Munitions," presented by Austria, Belgium, Bosnia-Herzegovina, Costa Rica, Croatia, Czech Republic, Denmark, Germany, Holy See, Hungary, Ireland, Liechtenstein, Lithuania, Luxembourg, Malta, Mexico, New Zealand, Norway, Peru, Portugal, Serbia, Slovakia, Slovenia, Sweden, and Switzerland, CCW/CONF.III/WP.18, November 17, 2006.

[375] Ibid. The 94 current supporters are: Afghanistan, Albania, Algeria, Angola, Argentina, Australia, Austria, Bangladesh, Belgium, Bolivia, Bosnia-Herzegovina, Bulgaria, Burundi, Cambodia, Canada, Chad, Chile, DR Congo, Costa Rica, Croatia, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Estonia, Finland, France, Germany, Ghana, Greece, Guatemala, Guinea, Guinea Bissau, Holy See, Honduras, Hungary, Iceland, Indonesia, Ireland, Italy, Japan, Jordan, Kenya, Lao PDR, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia (FRY), Malawi, Mali, Malta, Mauritania, Mexico, Montenegro, Mozambique, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Panama, Paraguay, Peru, Poland, Portugal, Senegal, Serbia, Seychelles, Sierra Leone, Slovakia, Slovenia, South Africa, Spain, St. Vincent & the Grenadines, Sudan, Sweden, Switzerland, Tajikistan, Tanzania, Thailand, Turkey, Uganda, United Kingdom, Uruguay, Venezuela, Yemen, and Zambia.

assistance, risk education, and stockpile destruction.[376] At follow-on meetings in Lima, Peru, from May 23 to 25, 2007, and Vienna, Austria, from December 5 to 7, an additional 48 states joined the process. States discussed a draft treaty text and reached broad agreement on the framework for and essential elements of the treaty. They are still debating about what the definition of cluster munition should encompass.[377] Human Rights Watch and the Cluster Munition Coalition have stressed that the starting point should be that all cluster munitions cause unacceptable harm to civilians, and that the burden of proof must be on governments to demonstrate that any particular weapon should be exempted from the prohibition. Israel has not participated in this process, but Lebanon has been extremely active and supportive.

Meetings to develop further and negotiate the treaty have been set for Wellington, New Zealand (February 18-22, 2008), and Dublin, Ireland (May 19-30, 2008), with a signing ceremony planned for Oslo later in the year. "We have given ourselves a strict timeline to conclude our work by 2008. This is ambitious but necessary to respond to the urgency of this humanitarian problem," said Norway's Foreign Minister Jonas Ghar Støre.[378]

In the meantime, in November 2007, states parties to CCW rejected a European Union proposal to negotiate a new protocol banning cluster munitions that cause unacceptable harm to civilians, and instead only agreed to a weak, vague mandate to "negotiate a proposal to address urgently the humanitarian impact of cluster munitions, while striking a balance between military and humanitarian considerations." The mandate does not specify that negotiations should lead to a new legally binding instrument or include any kind of prohibition. It also does not have a timeline. Given the CCW's refusal to deal with this issue over the past five years, its consensus approach in which the lowest common denominator prevails, and the stated opposition to any prohibition by countries such as China, Russia, and

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[376] Oslo Conference on Cluster Munitions, "Declaration."

[377] A draft definition developed by Human Rights Watch and the Cluster Munition Coalition is available at: www.stopclustermunitions.org.

[378] "Cluster Munitions to Be Banned by 2008," Norwegian Ministry of Foreign Affairs press release.

the United States, there is little to no chance that a meaningful result on cluster munitions will emerge from this body.[379]

Many states have been taking steps at the national level as well. Belgium became the first country to ban cluster munitions in February 2006,[380] and Austria did so during the Oslo Process meeting in December 2007. Norway announced a moratorium on the weapon in June 2006 and Hungary in May 2007. In August 2006, Germany announced that it would not procure any new cluster munitions, would cease using the two types of cluster munitions in its arsenal with dud rates higher than 1 percent, and would examine whether its existing cluster munitions could be replaced entirely by an alternative weapon. The German Parliament passed a resolution effecting these changes on September 28, 2006.

Parliamentary initiatives to prohibit or restrict cluster munitions are also underway elsewhere. In October 2004, the European Parliament adopted a resolution calling for an immediate moratorium on the use, production, and transfer of cluster munitions until an international agreement has been negotiated on their regulation or prohibition. Several weeks later, on October 12, the Parliament of Luxembourg adopted a motion calling on the government to join international initiatives to ban cluster munitions and to elaborate a law banning cluster munitions. Other parliamentary initiatives to restrict or prohibit cluster munitions are underway in France, Italy, Netherlands, Sweden, Switzerland, the United Kingdom, and the United States.

Numerous countries have in recent years decided to remove from service and/or destroy cluster munitions with high failure rates, and some have called for a prohibition on use in populated areas. Argentina, Denmark, Germany, Norway, Switzerland, and the United States, among others, have announced they will not procure cluster munitions in the future with a failure rate greater than 1 percent; Poland and South Africa have said they will establish minimum reliability rates. Countries have also decided to remove from service and/or destroy cluster

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[379] "CCW: Only Oslo Process Can Deliver a Cluster Bomb Ban," Human Rights Watch news release, November 13, 2007, http://hrw.org/english/docs/2007/11/13/global17320.htm; Steve Goose (Human Rights Watch), "The Oslo Process: Ending Cluster-Bombs," commentary, *openDemocracy*, November 19, 2007, http://www.opendemorcracy.net/article/globalisation/insttitutions_government/cluster_bomb_disarmament.

[380] The law passed by the Belgian Parliament in February entered into force on June 9, 2006.

munitions with high failure rates, including Australia (Rockeye), Belgium (BL-755), Canada (Rockeye), Denmark (Rockeye), France (BLG-66), Germany (BL-755, DM-602, DM-612), Netherlands (BL-755, M26 MLRS, M483A1), Norway (Rockeye), Portugal (BL-755), Switzerland (BL-755), and United Kingdom (M483 DPICM). As described in this report, however, the failure rates of even the most sophisticated cluster munitions in south Lebanon leads Human Rights Watch to the conclusion that achieving a standard of less than 1 percent failure is not currently feasible.

Conclusion

Israel's use of cluster munitions in south Lebanon in 2006 was characterized by extensive and intensive attacks across civilian areas and swaths of territory, leaving an extremely high number of duds that are creating foreseeable deaths and injuries to civilians. These factors lead us to conclude Israel's attacks were indiscriminate and disproportionate, and thus illegal under international humanitarian law. The IDF also appears to have launched an attack, either recklessly or deliberately, on Tebnine Hospital, a protected place under international law. Israel has a duty to credibly investigate these violations of IHL as potential war crimes.

This use of cluster munitions highlights the grave humanitarian consequences of these inaccurate and unreliable weapons. In Lebanon, the victims of exploding duds have overwhelmingly been civilians, and submunitions have devastated the country's agriculture, destroying the livelihood of many families. Hidden duds will continue to haunt villagers and cause deaths and injuries until total clearance is achieved. For Lebanese civilians, the war did not end when the ceasefire was signed.

The tragedy that has taken place in Lebanon should serve as a catalyst to both national measures and a new international treaty on cluster munitions. States should immediately observe a moratorium on the use, production, and transfer of cluster munitions. Then, to protect civilians around the world, states should join the new effort to develop a legally binding instrument that bans cluster munitions that have an unacceptable humanitarian effect.

Appendix: Israel's Response to a Letter of Inquiry from Human Rights Watch

The document, sent by the Israel Ministry of Foreign Affairs to Human Rights Watch on May 8, 2007, is a verbatim excerpt from a ministry document posted on its website on April 1, 2007, entitled "Preserving Humanitarian Principles While Combating Terrorism: Israel's Struggle with Hizbullah in the Lebanon War," available as of August 14, 2007, at http://www.mfa.gov.il/MFA/Terrorism-+Obstacle+to+Peace/Terrorism+from+Lebanon-+Hizbullah/Preserving+Humanitarian+Principles+While+Combating+Terrorism+-+April+2007.htm. The document is not a direct response to the information requested by Human Rights Watch. To date, we have not received any further information from the Israeli authorities responding directly to our request for information.

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Israel's Response to Accusations of Targeting Civilian Sites in Lebanon During the "Second Lebanon War"[381]

Although aware of the serious threat posed by the Hizbullah build-up and entrenchment in south Lebanon in the years prior to its attack against Israel on the 12th of July, 2006, which initiated the recent conflict, Israel sought to exercise restraint and to use diplomatic means to check the Hizbullah activities directed against it. Israel called repeatedly, in the UN and elsewhere, for Hizbullah attacks to be halted and for the government of Lebanon to assume its responsibilities and duty to establish control over south Lebanon.

Even following the Hizbullah attack of July 12, Israel sought to avoid an escalation of the conflict. The Israeli government gave Syria and Hizbullah a 72 hour ultimatum to stop Hizbullah's activity along the Lebanon-Israel border and to release the two

[381] Document contained in email communication from Gil Haskel, Israel Ministry of Foreign Affairs, to Human Rights Watch, May 8, 2007, in response to Human Rights Watch letter to Defense Minister Amir Peretz sent January 8, 2007.

kidnapped IDF soldiers, and so avert the conflict. The ultimatum went unanswered and the missile attacks on Israel intensified.

Guiding principles underlying IDF conduct

In responding to the threat posed by Hizbullah's terrorist attacks, and notwithstanding the fact that Hizbullah made no effort to comply with the principles of humanitarian law, the IDF regarded itself as bound to comply with the established principles of the law of armed conflict.

Indeed, IDF orders, doctrine and education make clear that soldiers are obligated to act in accordance with international law and custom, including the Geneva Conventions. For example, the Chief of Staff's Order No. 33.0133 obligates every IDF soldier to conduct him/herself in accordance with the Geneva Conventions. See also a recent IDF educational publication on the Law of Armed Conflict entitled, "The Law of War on the Battlefield" which also makes clear the obligation of IDF forces to abide by the laws and rules of international law.

In seeking to implement these principles of international humanitarian law, a number of key questions arise in relation to any operation under consideration, including: 1) Is the target itself a legitimate military objective? and 2) Even if the target is, in itself, legitimate, is there likely to be disproportionate injury and damage to the civilian population and civilian property?

Legitimate military objectives

The generally accepted definition of "military objective" is that set out in Article 52(2) Additional Protocol I of the Geneva Conventions, which provides:

> Insofar as objects are concerned, military objectives are limited to those objects which, by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.

Regarding military targets, the IDF's "Law of War on the Battlefield" provides, "A military target subject to attack is a target that by its nature, location, purpose or use effectively contributes to the military campaign of the other side, and its neutralization will offer a clear military advantage to the attacking side." It goes on to explain that there are certain objects that are normally immune from attack such as medical facilities and staff, religious sites and cultural assets, the basic needs of the civilian population (such as food products, agricultural areas and sanitation facilities, etc.), locations that would pose an environmental risk if they were attacked, and civil defense personnel.

It should be stressed that if a location is a legitimate military objective, it does not cease to be so because civilians are in the vicinity. Furthermore, Article 28 of the IVth Geneva Convention provides:

> The presence of a protected person may not be used to render certain points or areas immune from military operations.

Clearly, the deliberate placing of military targets in the heart of civilian areas is a serious violation of humanitarian law, and those who choose to locate such targets in these areas must bear responsibility for the injury to civilians which this decision engenders. As international law expert Professor Yoram Dinstein notes:

> Should civilian casualties ensue from an attempt to shield combatants or a military objective, the ultimate responsibility lies with the belligerent placing innocent civilians at risk.

However, it is the IDF's position that the callous disregard of those who hide behind civilians does not absolve the state seeking to respond to such attacks of the responsibility to avoid or at least minimize injury to civilians and their property in the course of its operations. In particular this raises the complex issue of proportionality.

Proportionality

A further legal requirement is that the potential harm to civilians and civilian objects expected in any attack must be proportionate to the military advantage anticipated.

Major General A.P.V. Rogers, a former Director of British Army Legal Services, explains the rationale behind this principle:

> Although they are not military objectives, civilians and civilian objects are subject to the general dangers of War in the sense that attacks on military personnel and military objectives may cause incidental damage. It may not be possible to limit the radius of effect entirely to the objective to be attacked… Members of the armed forces are not liable for such incidental damage, provided it is proportionate to the military gain expected of the attack.

While the principle is clear, in practice weighing the expected military advantage against possible collateral damage can be an extremely complex, especially in the heat of an armed conflict. In their report to the Prosecutor of the International Criminal Tribunal for the former Yugoslavia, the Committee established to review NATO bombings in Yugoslavia highlighted the particular difficulties which arise when military objectives are located in densely populated areas:

> The answers to these questions are not simple. It may be necessary to resolve them on a case by case basis, and the answers may differ depending on the background and values of the decision maker. It is unlikely that a human rights lawyer and an experienced combat commander would assign the same relative values to military advantage and to injury to noncombatants…. It is suggested that the determination of relative values must be that of the "reasonable military commander."

The test of proportionality to be applied in a case of armed conflict (*jus in bellum* (sic)) is broader that that applied under the principles of self-defense outside the

context of actual warfare (*jus ad bellum*). But it should be noted that the policies applied in practice by the IDF conformed even with this stricter test of proportionality. In relation to the self-defense standard, it should be recalled that international law provides that the proportionality of a response to an attack is to be measured, not in regard to the specific attack suffered by a state, but in regard to what is necessary to remove the overall threat. As Rosalyn Higgins, currently President of the International Court of Justice, has written, proportionality:

> cannot be in relation to any specific prior injury - it has to be in relation to the overall legitimate objective of ending the aggression.

Accordingly, the right of self-defense includes not only acts implemented to prevent the immediate threat, but also to prevent subsequent attacks". In Israel's case this means that its response had to be measured not only in respect to the initial Hizbullah cross-border attack, or even the 4,000 missiles fired at Israel's northern towns and villages, but also against the threat of the tens of thousands of missiles which Hizbullah had amassed and continued to receive from Iran and Syria.

From theory to practice - Israel's operations in Lebanon

Israel has adopted the principles of international humanitarian law outlined above and the IDF has entrenched them in its orders, doctrine and education. With regard to the selection of targets, for example, the IDF's "Law of War on the Battlefield" not only emphasizes that a distinction must be made between military objectives and civilian objects but also that "in cases where there is doubt as to whether a civilian object has turned into a military objective… it must be assumed that it is not a military objective unless proven otherwise."

Similarly, in relation to the question of proportionality, the IDF position is clear:

> Even when it is not possible to isolate the civilians from an assault and there is no other recourse but to attack, the commander is required to refrain from an attack that is expected to inflict harm on the civilian population, which is disproportionate to the expected military gain.

In practice, this requires that the IDF and the commander in the field assess both the expected military gain, and the potential of collateral injury to Lebanese civilians. With regard to the expected military gain, it should be noted that the relevant advantage is not that of that specific attack but of the military operation as a whole. As the German Military Manual points out:

> The term "military advantage" refers to the advantage which can be expected of an attack as a whole and not only of isolated or specific parts of the attack.

The possibility of collateral injury to civilians must be weighed in light of these considerations. Hizbullah's deliberate placing of missile launchers and stockpiles of weapons in the heart of civilian centers, frequently inside and beneath populated apartment blocks, meant that this risk was tragically high.

The presence of civilians in the area, however, does not stop a military objective from being a legitimate target. This is the law, as noted above, and reflected in state practice. Thus, for example, the Australian Defense Force Manual states:

> The presence of non-combatants in or around a military objective does not change its nature as a military objective. Non-combatants in the vicinity of a military objective must share the danger to which the military objective is exposed.

Notwithstanding the above, it should be noted that even when civilians were in the vicinity of military objectives, Israel made significant efforts to avoid, and in any event to minimize, civilian casualties. Every operation was considered on an individual basis to ensure that it met the requirements of international law, including the test of proportionality. Frequently, this meant the rejection of proposed military operations when the likelihood of collateral damage to civilians and their property was considered too high. On other occasions, it meant that operations were conducted in such a way as to reduce the likelihood of incidental damage, in terms of the timing or operational aspects of the attack. Finally, whenever possible without jeopardizing the operation, Israel issued advance notice to the local residents

through various media, including dropping leaflets, radio broadcasts and contacts with local leaders, to distance themselves from areas in which Hizbullah was operating and from places in which its weaponry was being stored.

Operations against infrastructure used to support terrorist activity

The guiding principle adopted by the IDF was to target only infrastructure that was making a significant contribution to the operational capabilities of the Hizbullah terrorists. This meant that, for the most part, Israeli attacks were limited to the transportation infrastructure. Most of the other infrastructure (medical, cultural, railroad, tunnels, ports, banking, manufacturing, farming, tourism, sewage, financial, electricity, drainage, water and the like) was left almost completely untouched.

All IDF operations in Lebanon were directed against legitimate military objectives, and specifically in relation to infrastructure, included the following:

Bridges and roads - The activity of terrorist groups in Lebanon was dependent on major transportation arteries through which weaponry and ammunition, as well as missile launchers and terrorist reinforcements, were transported. Damage to key routes was intended to prevent or obstruct the planning and perpetrating of attacks by the terrorists. It was also intended to prevent the kidnapped Israeli soldiers from being smuggled out of the country.

Under international law there is widespread recognition that lines of transportation which can serve military purposes are a legitimate military target. In its Commentary on the Additional Protocols to the Geneva Conventions, the ICRC includes in its list of military objectives considered to be of "generally recognized military importance":

> "Lines and means of communications (railway lines, roads, bridges, tunnels and canals) which are of fundamental military importance."

A useful practical test for gauging the military importance of lines of transportation is proposed in the US Air Force Pamphlet, which asks "whether they make an effective contribution to an adversary's military action so that their capture, destruction or

neutralization offers a definite military advantage in the circumstances ruling at the time."

Notwithstanding the operational justifications for targeting major roads in Lebanon, the IDF took pains to ensure that sufficient routes remained open to enable civilians to leave combat zones and to permit access for humanitarian supplies. Efforts were also made to ensure that damage to civilian vehicles was minimized.

Runways at Beirut International Airport - In the view of the IDF, rendering the runways unusable constituted one of the most important and appropriate methods of preventing reinforcements and supplies of weaponry and military materiel reaching the terrorist organizations. It was also a response to reports that the Hizbullah terrorists intended to fly the kidnapped Israelis out of Lebanon.

Airports are widely recognized to be legitimate military targets. The Canadian Law of Armed Conflict Manual, for example, notes that "ports and airfields are generally accepted as being military objectives" while the ICRC list of generally recognized military objectives includes: "airfields, rocket launching ramps and naval base installations."

It should also be noted that, in its operation at Beirut Airport, the IDF was careful not to damage the central facilities of the airport, including the radar and control towers, allowing the airport to continue to control international flights over its airspace.

Al Manar TV station - Operating as the Hizbullah television station, Al Manar was used to relay messages to terrorists and to incite acts of terrorism. The ICRC list of accepted military objectives includes "the installations of broadcasting and television stations." Similarly, the Committee established to review NATO bombings in Yugoslavia noted in relation to NATO attacks on radio and television stations in Belgrade: "If the media is used to incite crimes then it is a legitimate target… Insofar as the attack actually was aimed at disrupting the communications network it was legally acceptable."

Fuel reserves - Terrorist activity is dependent, inter alia, on a regular supply of fuel without which the terrorists cannot operate. For this reason a number of fuel depots which primarily served the terrorist operations were targeted. From intelligence Israel has obtained, it appears that this step had a significant effect on reducing the capability of the terrorist organizations.

The legitimacy of directing attacks on fuel and power installations has been widely noted. The Canadian Law of Armed Conflict Manual, for example, lists "petroleum storage areas" as "generally accepted as being military objectives", while the ICRC list of military objectives also includes "Installations providing energy mainly for national defense, e.g. coal, other fuels, or atomic energy, and plants producing gas or electricity mainly for military consumption."

One of the claims that have been made against Israel concerns the oil spill that occurred off the shores of Lebanon during the war. Without making any comment regarding the factual validity of such claims, it should be emphasized that Israel ensured that sea and air access was allowed to any assistance offered with regard to the oil spill, even in the midst of a naval and aerial blockade which had to be imposed for operational and security reasons."

Beyond such specific instances of infrastructure serving the Hizbullah terrorist organization, Israel took care to try to avoid damage to civilian structures and services. The effects were noted by Washington Post journalist William M. Arkin who visited Lebanon during the conflict. Regarding the destruction in Beirut he wrote:

> Only a very short drive from the neighborhood of southern Beirut though, you are back to bustling boulevards; a few neighborhoods over and there are luxury stores and five star hotels. Beyond the Hizbullah neighborhoods, the city is normal. Electricity flows just as it did before the fighting. The Lebanese sophisticates are glued to their cell phones. Even an international airport that was bombed is reopened. An accurate reading of what happened and what south Beirut means might produce a different picture. Israel has the means to impart greater destruction, but that does not mean intrinsically that

it is more brutal. If Hizbullah had bigger rockets or more accurate ones, it would have done not only the same, but undoubtedly more.

Types of weaponry used

In the course of the conflict in Lebanon Israel used a range of weapons and ammunition in its efforts to confront the terrorist threat. All the weapons, and the manner in which they were used by the IDF, were in conformity with international humanitarian law. Among the types of weaponry used were Cluster Munitions (CBUs). Such weapons are not prohibited by international law—neither under customary international law, nor under the Conventional Weapons Convention, to which Israel is party. They are possessed by several dozen states and have been used by many of them.

Clearly, as in the case of all arms, the use of cluster munitions must be in accordance with the principles of the law of armed conflict. In the course of the conflict, CBUs were used as part of Israel's response to the unique threat posed by Hizbullah. In particular, the nature of the campaign, the massive scope of missile attacks—including CBU attacks—against Israeli population centers, and the fact that missile launchers were deliberately and expertly camouflaged in built-up areas and areas with dense vegetation, were all factors in the decision to use this type of weapon. The decision to use CBUs to neutralize the missile attacks was only made after other options had been examined and found to be less effective in ensuring maximal coverage of the missile-launching areas. In practice, the operational effectiveness of CBUs was clearly shown, resulting in a disruption of missile attacks against Israeli population centers.

Despite the urgent need to prevent the continuous firing of missiles into Israel by Hizbullah, Israel recognized the need to take measures to avoid, and in any event to minimize, civilian casualties. Among the measures taken by Israel was the printing of millions of fliers, written in Arabic, which were dispersed over populated areas, explaining that due to Hizbullah activity, residents should evacuate these areas in order to avoid being hurt. These messages were also broadcast through PA systems and through radio broadcasts on the Al-Mashrek station, broadcasting out of Israel

in Arabic. Additionally, Israeli officials contacted the mayors and local leaders of a number of villages in order to ensure the evacuation of residents.

All CBU fire was directed at legitimate military objectives and for humanitarian reasons most of the CBU fire was directed at open areas, keeping a safe distance from built-up areas. In those cases where CBU fire was directed at military objectives which were in the vicinity of built-up areas, it was always toward particular locations from which missiles were being launched against Israel, and after significant measures were taken to warn civilians to leave the area. Moreover, following the cessation of active hostilities, Israel handed over to UNIFIL maps of the areas suspected of containing unexploded ordnance, including from CBUs, in order to facilitate the ordnance clearing process.

Humanitarian issues

In the course of the conflict, numerous acute humanitarian issues arose. Despite the ongoing conflict, Israel sought to find practical and effective ways to address these issues and to alleviate suffering.

These efforts included steps taken to facilitate access of humanitarian assistance to civilians within Lebanon. An operations room was set up in northern Tel Aviv to coordinate international efforts to provide aid to Lebanon. This facility was headed by senior IDF staff and manned by representatives of the Israeli Foreign Ministry, the United Nations and the International Committee of the Red Cross.

At the same time Israel established a “humanitarian corridor” to enable shipments of aid to reach Lebanon despite the ongoing hostilities. A sea-route to Lebanon was established through the port in Beirut, and a land route was designated from Beirut northward along the coast to the Syrian-Lebanese border. Throughout the hostilities, Israel coordinated humanitarian issues with the international community, even expanding the corridor to include other points of entry, and establishing a special ‘humanitarian headquarters’ to direct the coordination efforts. In addition, Israel made arrangements to permit the landing of aircraft at Beirut International Airport to unload humanitarian goods for residents of southern Lebanon.

Another issue of humanitarian concern was the evacuation of foreign nationals from Lebanon. From the very first day of the war, the IDF helped coordinate the evacuation of at least 70,000 foreign nationals from Lebanon. To the best of our knowledge, this effort was accomplished without any loss of life. A total of 213 passenger ships, 123 land convoys and 196 helicopters were allowed to dock in or travel through Lebanon to evacuate the expatriates and tourists. The convoys were able to travel on approved routes, which were coordinated with IDF forces.

Israeli hospitals also offered free medical care to any Lebanese person who was wounded in the war. In the words of Professor Zev Rothstein, Director-General of the Sheba Medical Center at Tel Hashomer:

> We are not to blame for this war. We don't ask who is to blame. We have an open Jewish heart. Our aim is to save lives and reduce misery. We don't hate like the terrorists….We have housing for Lebanese families and food at no cost….We will take all who need us, including adults….all the costs are paid by donors…if a child were brought here, we would not ask whether his father is a terrorist.

This offer was broadcast via a hospital representative in Cyprus due to the fact that many Lebanese fled there, and was also broadcast on Arabic radio stations in the region.

Conclusion

Israel's military operations in Lebanon took place in the context of a clear asymmetry with regard to the implementation of principles of international humanitarian law: Hizbullah, in clear violation of these principles, deliberately targeted Israeli civilians, while attempting to use the cover of civilians and civilian structures in order to stockpile its weapons, hide its fighters and fire missiles into Israel. Israel, on the other hand, held itself bound to apply the principles of humanitarian law, even while facing an opponent who deliberately flouted them.

In doing so, Israel took pains to ensure that its operations were directed against legitimate military targets and that in conducting its operations incidental damage to civilians was kept to a minimum, both by ruling out attacks which would cause disproportionate damage and by giving advance notice wherever possible. A survey of international practice suggests that the steps taken by Israel to address humanitarian considerations corresponded to, and often were more stringent than, those taken by many western democracies confronting similar or lesser threats.

The suffering of civilians was a tragic reality on both sides of the conflict. Israel made strenuous efforts to reduce this toll, both by protecting Israeli civilians and by seeking to minimize civilian suffering on the Lebanese side. Following the conflict, Israel has also undertaken numerous investigations and analyses with a view to learning lessons from the conflict and to enabling improvements to be made in the future. Israel's efforts in this regard should not, however, diminish the ultimate responsibility of those who callously and deliberately used the Lebanese civilian population as a shield, for the suffering that inevitably resulted from their actions.

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