

# The Time Is Now: A Historical Argument for a Cluster Munitions Convention

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## I. INTRODUCTION

While traveling through Italy in June 1859, Swiss businessman Henri Dunant happened upon the aftermath of the Battle of Solferino. He found “despair unspeakable and misery of every kind.”<sup>1</sup> Mangled bodies, dead and alive, littered the field, and the cries of the wounded filled the air. “The poor wounded men . . . were ghastly pale and exhausted,” he wrote, describing the scene:

Some, who had been the most badly hurt, had a stupefied look as though they could not grasp what was said to them . . . Others were anxious and excited by nervous strain and shaken by spasmodic trembling. Some, who had gaping wounds already beginning to show infection, were almost crazed with suffering.<sup>2</sup>

Dunant’s recollections, *A Memory of Solferino* (1862), became a catalyst for the first modern instrument of international humanitarian law (“IHL”), the 1864 Geneva Convention.<sup>3</sup> This treaty provided protection for the wounded on the battlefield, and it also showed that nations had the legal power to ameliorate suffering in war. The first Geneva Convention in turn spawned a branch of IHL that seeks to minimize war’s effects by controlling the weapons used.

Since the late nineteenth century, the international community has regulated or banned weapons it found caused undue harm to soldiers or civilians. Some of these treaties are out of date. For example, an 1899 Hague Declaration prohibiting bombs dropped from balloons seems archaic in the

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1. HENRI DUNANT, *A MEMORY OF SOLFERINO* 44 (International Committee of the Red Cross, 1986) (1862).

2. *Id.*

3. *Id.* at 9–10; Convention for the Amelioration of the Condition of the Wounded in Armies in the Field, Aug. 22, 1864, 18 Martens Nouveau Recueil (ser. 1) 607, 129 Consol. T.S. 361.

era of modern air war.<sup>4</sup> Others govern weapons so new that they have never been used. Protocol IV of the Convention on Conventional Weapons (“CCW”) preemptively banned blinding lasers in 1995.<sup>5</sup> The history of weapons treaties shows that, while weapons evolve, there is always a need for this type of legal instrument.

Today the most urgent regulation discussions focus on cluster munitions. Recent conflicts have highlighted the humanitarian harm these weapons cause. In Iraq in 2003, the United States and United Kingdom used at least twelve thousand clusters containing about two million submunitions; each with the power to kill or maim civilians in one of two ways.<sup>6</sup> Widespread use in Iraqi cities and towns killed bystanders as well as combatants during strikes.<sup>7</sup> Lingering explosive duds injured and killed civilians, especially children, through the summer and beyond.<sup>8</sup> In total, cluster munitions caused hundreds of civilian casualties.<sup>9</sup> During its one-month war with Hezbollah in the summer of 2006, Israel launched, by some estimates, four million submunitions into southern Lebanon.<sup>10</sup> By the end of January 2007, duds alone had killed or injured more than 200 civilians.<sup>11</sup> The United Nations (“U.N.”) says it will take until December 2007 to clear the duds that still littered backyards and olive groves in the fall of 2006.<sup>12</sup>

From Vietnam to Lebanon, existing international humanitarian law has failed to prevent the harm of cluster munitions. Portions of the 1977 Protocol I to the 1949 Geneva Conventions provide overarching rules for the protection of civilians and represent customary law binding on all states.<sup>13</sup> CCW Protocol V on Explosive Remnants of War, which entered into force

4. Hague Declaration (IV, 1) to Prohibit for the Term of Five Years, the Launching of Projectiles and Explosives from Balloons, and Other Methods of Similar Nature, July 29, 1899, 26 Martens Nouveau Recueil (ser. 2) 994, 187 Consol. T.S. 456 [hereinafter 1899 Hague Balloon Declaration].

5. CCW Protocol IV on Blinding Laser Weapons, Oct. 13, 1995, 35 I.L.M. 1218 [hereinafter CCW Protocol IV].

6. HUMAN RIGHTS WATCH, OFF TARGET: THE CONDUCT OF THE WAR AND CIVILIAN CASUALTIES IN IRAQ 6 (2003) [hereinafter OFF TARGET].

7. *Id.*

8. *Id.* at 7.

9. *Id.* at 6–7.

10. U.N. Mine Action Coordination Center, Southern Lebanon [UNMACC SL], South Lebanon Cluster Bomb Info Sheet (information current as of Nov. 4, 2006), 1–2, <http://www.macsl.org/reports/Leb%20UXO%20Fact%20Sheet%204%20November,%202006.pdf> [hereinafter South Lebanon Cluster Bomb Info Sheet] (giving the total number of known ground-launched submunitions, assuming 20 percent of artillery shells contained submunitions, as 3,975,200).

11. Landmine Resource Center for Lebanon, Cluster Munition Casualty List (Feb. 1, 2007) (on file with author) [hereinafter Cluster Munition Casualty List].

12. Interview with Chris Clark, Program Manager, UNMACC SL, in Tyre, Lebanon (Oct. 21, 2006). For more information on the use of cluster munitions in southern Lebanon, see LANDMINE ACTION, FORESEEABLE HARM: THE USE AND IMPACT OF CLUSTER MUNITIONS IN LEBANON: 2006 (2006) [hereinafter FORESEEABLE HARM]; HUMAN RIGHTS WATCH, ISRAEL’S USE OF CLUSTER MUNITIONS IN LEBANON IN JULY AND AUGUST 2006 (forthcoming).

13. Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I), June 8, 1977, 1125 U.N.T.S. 3 [hereinafter Geneva Protocol I].

in November 2006, mandates post-conflict remedial measures, such as clearance and risk awareness.<sup>14</sup> A legal instrument specifically designed for cluster munitions, however, would strengthen and clarify IHL, thereby making it easier to follow and enforce. Through historical analysis of past weapons treaties, this Article argues that the time for negotiating such a cluster munitions convention is ripe. It also uses these conventions as precedent for defining essential legal provisions that would be acceptable to advocates and achievable by states.

Part II examines the history of weapons treaties and identifies three preconditions for international negotiation: documented humanitarian harm, widespread public concern, and declining military utility. Part III gives a brief description of cluster munitions and the humanitarian harm they cause during and after military strikes. Part IV shows that the three preconditions for negotiation on cluster munitions have been met and that a legally binding instrument could succeed. Part V identifies eight elements essential for the regulation of cluster munitions using past weapons conventions as models. Part VI concludes that the international community must begin to negotiate a legally binding instrument while the opportunity for success exists.

## II. HISTORICAL PRECONDITIONS FOR WEAPONS TREATIES

The international community has a 150-year-long history of regulating and banning weapons that cause excessive humanitarian harm to combatants or civilians.<sup>15</sup> The first modern instrument regulating or banning weapons of war was the 1868 St. Petersburg Declaration.<sup>16</sup> It established the principle of military necessity, which says that states cannot use arms that needlessly harm their opponents.<sup>17</sup> Specifically, it prohibited small, explosive projectiles because they caused unnecessary suffering to their victims. The movement to govern weapons gained momentum with the 1899 and 1907 Hague Declarations and Conventions, which outlawed or limited the use of several problematic munitions, including balloon-dropped

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14. CCW Protocol V on Explosive Remnants of War, Nov. 27, 2003, U.N. Doc. CCW/MSP/2003/2 (entered into force Nov. 12, 2006) [hereinafter CCW Protocol V]. Protocol V had thirty-one ratifications as of March 2007.

15. For a complete list of treaties, dates, and states parties, see Appendix I of this article. Professor Detlev Vagts distinguishes between "quantitative" arms controls that "permit a given category of weapons . . . but restrict the number that each of the participating powers may hold" and "qualitative" controls that prohibit "the use of specified items." Detlev F. Vagts, *The Hague Conventions and Arms Control*, 94 AM. J. INT'L L. 31, 31 (2000). This paper will deal only with the latter. As a result it will not address nuclear warhead conventions, which generally fall under the former.

16. Declaration Renouncing the Use, in Time of War, of Certain Explosive Projectiles, Nov. 29/Dec. 11, 1868, 18 Martens Nouveau Recueil (ser. 1) 474, 138 Consol. T.S. 297 [hereinafter St. Petersburg Declaration].

17. Jacques Meurant, *Inter Arma Caritas: Evolution and Nature of International Humanitarian Law*, 24 J. PEACE RES. 237, 241 (1987).

bombs, dum dum bullets,<sup>18</sup> projectiles with asphyxiating gases, and sea mines.<sup>19</sup> After World War I, the international community banned all use of all types of gases in the Geneva Protocol of 1925.<sup>20</sup> This treaty was later strengthened by the 1972 Biological Weapons Convention, which prohibited possession as well as use,<sup>21</sup> and the 1993 Chemical Weapons Convention, which added an enforcement mechanism to this model.<sup>22</sup> World War II led to the creation of the cornerstones of international humanitarian law, the four Geneva Conventions of 1949, rather than specific weapons treaties. Following the Vietnam War, however, the international community created the Convention on Conventional Weapons,<sup>23</sup> which included 1980 protocols on (i) non-detectable fragments,<sup>24</sup> (ii) mines, booby-traps, and other devices,<sup>25</sup> and (iii) incendiary weapons.<sup>26</sup> A fourth CCW protocol in 1995 preemptively banned blinding lasers.<sup>27</sup> In 1997, 121 countries signed the Mine Ban Treaty, which bans the use, possession, and transfer of anti-per-

18. Dum dum bullets flatten or expand on impact, creating a larger wound.

19. 1899 Hague Balloon Declaration, *supra* note 4; Hague Declaration (IV, 2) Concerning the Prohibition of the Use of Projectiles Diffusing Asphyxiating Gases, July 29, 1899, 26 Martens Nouveau Recueil (ser. 2) 998, 187 Consol. T.S. 453 [hereinafter Hague Gas Declaration]; Hague Declaration (IV, 3) Concerning the Prohibition of the Use of Expanding Bullets, July 29, 1899, 26 Martens Nouveau Recueil (ser. 2) 1002, 187 Consol. T.S. 459 [hereinafter Hague Dum Dum Bullets Declaration]; Hague Declaration (XIV) Prohibiting the Discharge of Projectiles and Explosives from Balloons, Oct. 18, 1907, 3 Martens Nouveau Recueil (ser. 3) 745, 205 Consol. T.S. 403 [hereinafter 1907 Hague Balloon Declaration]; Hague Convention (VIII) Relative to the Laying of Automatic Submarine Contact Mines, Oct. 18, 1907, 3 Martens Nouveau Recueil (ser. 3) 580, 205 Consol. T.S. 331 [hereinafter Hague Sea Mines Convention].

20. Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 94 L.N.T.S. 65 [hereinafter 1925 Geneva Protocol]. The 1925 Geneva Protocol strengthened the Hague Gas Declaration because it expanded the subject of the prohibition beyond *projectiles* with gases. It also went a step further than the Submarine and Gas Convention of 1922 because it included bacteriological weapons and did not merge the issue of gas with that of submarine use. Treaty Relating to the Use of Submarines and Noxious Gases in Warfare, Feb. 6, 1922, 25 L.N.T.S. 202 [hereinafter Submarine and Gas Convention].

21. Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Apr. 10, 1972, 1015 U.N.T.S. 163 [hereinafter Biological Weapons Convention].

22. Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Jan. 13, 1993, 1015 U.N.T.S. 163 [hereinafter Chemical Weapons Convention].

23. 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, Oct. 10, 1980, 1342 U.N.T.S. 137, 19 I.L.M. 1524 [hereinafter CCW].

24. CCW Protocol on Non-Detectable Fragments (Protocol I), Oct. 10, 1980, 1342 U.N.T.S. 168, 19 I.L.M. 1529 [hereinafter CCW Protocol I].

25. CCW Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices (Protocol II), Oct. 10, 1980, 1342 U.N.T.S. 168, 19 I.L.M. 1529 [hereinafter CCW Protocol II]. This protocol was amended in 1996. Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices as Amended on 3 May 1996 (Protocol II to the 1980 Convention as amended on 3 May 1996), 1125 U.N.T.S. 609, 19 I.L.M. 1206 [hereinafter CCW Amended Protocol II].

26. CCW Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III), Oct. 10, 1980, 1342 U.N.T.S. 171, 19 I.L.M. 1534 [hereinafter CCW Protocol III].

27. CCW Protocol IV, *supra* note 5.

sonnel landmines.<sup>28</sup> Most recently, states parties to the CCW adopted Protocol V on Explosive Remnants of War, an instrument particularly relevant to cluster munitions.<sup>29</sup>

This Part will look at the historical circumstances underlying the creation of these treaties. The effects of weapons in armed conflicts and the responses of citizens and soldiers provide insight into the preconditions necessary for establishing new IHL. Weapons conventions are motivated by one or more of the following elements: documented humanitarian harm, widespread public concern, and/or a decline in military utility. When these preconditions are met, the international community comes together to regulate or ban a problematic weapon.

#### A. Documented Humanitarian Harm

From the earliest days of weapons conventions, humanitarian concerns have driven negotiations. At a 1907 Hague Conference on arms, the harm sea mines had caused to civilians during the Russo-Japanese War of 1905 moved delegates to negotiate a new treaty. The Chinese delegation reported:

[I]n spite of every precaution being taken, a very considerable number of coasting trade boats, fishing boats, junks and sampans have sunk as a consequence of collisions with these automatic submarine contact mines and these vessels have been utterly lost with their cargoes without the details of the disasters reaching the western world. It is calculated that from five to six hundred of our countrymen in the pursuit of their peaceful occupations have met a cruel death through these dangerous engines.<sup>30</sup>

The resulting treaty, the 1907 Hague Convention Relative to the Laying of Automatic Submarine Contact Mines, established protections for civilians from these weapons. It required notices to ship owners, mechanisms to limit a mine's life, and post-conflict mine clearance.<sup>31</sup>

More recently, the international community created the Mine Ban Treaty, which seeks to end the harm to civilians caused by anti-personnel landmines.<sup>32</sup> The danger from these weapons was documented in even greater detail than that of sea mines. In 1993, two nongovernmental organizations ("NGOs") published the comprehensive, 510-page *Landmines: A*

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28. Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, Sept. 18, 1997, 36 I.L.M. 1507 [hereinafter Mine Ban Treaty].

29. CCW Protocol V, *supra* note 14.

30. Vagts, *supra* note 15, at 36.

31. Hague Sea Mines Convention, *supra* note 19, arts. 4, 3, 5.

32. Mine Ban Treaty, *supra* note 28.

*Deadly Legacy*, which described in depth the humanitarian crisis caused by these weapons.<sup>33</sup> In the preface, U.S. Senator Patrick Leahy writes:

Hundreds of thousands—perhaps millions—of people, many of them children, have lost their lives, their legs and arms, or their eyesight from stepping on landmines. These insidious weapons . . . are strewn indiscriminately in fields, along jungle paths, and on main travel routes. From Cambodia to Nicaragua, tens of millions of landmines have rendered whole areas uninhabitable long after the conflicts end and the causes of war are forgotten.<sup>34</sup>

Leahy concludes that “[g]overnments, non-governmental organizations, and people everywhere must work together to put an end to this senseless slaughter of the innocent.”<sup>35</sup> Such public reports of civilian harm helped to motivate negotiations and led ultimately to the entry into force of an instrument banning this indiscriminate weapon.

Mines are not the only area where documented humanitarian harm has given rise to legal instruments restricting use. World War I saw the widespread use of chemical weapons in the form of phosgene, chlorine, and mustard gases. During the conflict, states on both sides released approximately 124,200 tons of gas, causing 1.3 million casualties, including 91,000 deaths.<sup>36</sup> Horrified by both the scope of the harm and the great suffering gas caused, states banned the use of such weapons in the Geneva Protocol of 1925.<sup>37</sup> As a result, no European country used gas in World War II.<sup>38</sup> The treaty did not ban possession or stockpiling of chemical weapons, however, thereby leaving the door open to rogue states to use gas not only against soldiers but also against civilians. In March 1988, Iraqi forces used nerve agents to kill hundreds of Kurdish refugees in the village of Halabja.<sup>39</sup> The attack, which illustrated the danger of chemical weapons to civilians, “provided the single most compelling impetus to the CWC [Chemical Weapons Convention] negotiations.”<sup>40</sup> Five years later, states signed the Chemical Weapons Convention, which entered into force in 1997 and now has 182 parties.<sup>41</sup> This example shows that information regarding the quantity and character of humanitarian harm can not only lead to new treaties but can also increase regulation over time.

33. THE ARMS PROJECT OF HUMAN RIGHTS WATCH & PHYSICIANS FOR HUMAN RIGHTS, *LANDMINES: A DEADLY LEGACY* (1993) [hereinafter *LANDMINES: A DEADLY LEGACY*].

34. *Id.* at xi.

35. *Id.* at xii.

36. FREDERICK J. VOGEL, *THE CHEMICAL WEAPONS CONVENTION: STRATEGIC IMPLICATIONS FOR THE UNITED STATES* 1 (1997), available at <http://www.au.af.mil/au/awc/awcgate/ssi/chemwpp1.htm>.

37. 1925 Geneva Protocol, *supra* note 20.

38. George Bunn, *Gas and Germ Warfare: International Legal History and Present Status*, 65 *PROC. NAT'L ACAD. SCI. U.S.A.* 253, 255–56 (1970).

39. VOGEL, *supra* note 36, at 2.

40. *Id.*

41. Chemical Weapons Convention, *supra* note 22.

### B. Widespread Public Concern

While documented humanitarian harm is an essential precondition to a weapons treaty, widespread public concern helps transform opposition to a particular class of munitions into a legally binding instrument. At the end of the nineteenth century, “changes in public sensitivity to suffering” helped drive negotiations of the Hague Conventions.<sup>42</sup> According to legal scholar Detlev Vagts:

[The nineteenth century] was a time that saw major reductions in resort to capital punishment . . . . Campaigns against corporal punishment, the slave trade, slavery, child labor, and other types of cruelties gained ground. During this time, too, the public’s eyes were opened to the inherent cruelty of war and to its aggravation by the neglect typically suffered by its victims.<sup>43</sup>

Almost one hundred years later, the Halabja attack against the Kurds generated a similar public outcry. Graphic news photographs of the scene not only documented the attack but also “caused universal revulsion and generated a worldwide demand for elimination of chemical warfare.”<sup>44</sup> This outrage gave urgency to the creation of the Chemical Weapons Convention, which includes bans on use and possession and extensive reporting requirements.<sup>45</sup>

The 1990s landmine campaign also illustrates the ability of public sentiment to drive treaty negotiations. The International Campaign to Ban Landmines (“ICBL”) led the initiative with one thousand member organizations from more than fifty countries.<sup>46</sup> Unsatisfied with the 1996 CCW protocol on landmines, due to its limited scope and many exceptions, the ICBL pushed like-minded states to meet outside of the convention’s forum and draft an alternative treaty. Delegates from dozens of states met with the ICBL, the International Committee of the Red Cross, and other organizations to begin what is now called the “Ottawa Process.”<sup>47</sup> In 1997, states signed the Mine Ban Treaty and the ICBL received the Nobel Peace Prize for its work.

### C. Declining Military Utility

On a more practical level, states’ willingness to regulate weapons increases as military utility decreases. In the 1960s, states began to recognize

42. Vagts, *supra* note 15, at 32.

43. *Id.*

44. VOGEL, *supra* note 36, at 2.

45. Chemical Weapons Convention, *supra* note 22, arts. 1, 3.

46. Shawn Roberts, *No Exceptions, No Reservations, No Loopholes: The Campaign for the 1997 Convention on the Prohibition of the Development, Production, Stockpiling, Transfer, and Use of Anti-Personnel Mines and on Their Destruction*, 9 *COLO. J. INT’L ENVTL. L. & POL’Y* 371, 376 (1998).

47. *Id.* at 380.

the limitations of biological weapons. As Scott Keefer recently pointed out, "The slow, uncontrollable nature of some biological weapons limits potential battlefield use, creating an uncertainty regarding possible infection and the length of time required to debilitate an army."<sup>48</sup> By 1969, the U.S. military had decided to end the development and prohibit the use of biological weapons because of their limited utility and the threat of their use by other nations.<sup>49</sup> This decision by a leading military power helped establish international norms against such weapons.<sup>50</sup> The 1972 Biological Weapons Convention, signed by 171 states, codified these norms.<sup>51</sup>

Questions about military utility created an opening for the landmines campaign as well. While some members of the armed forces saw landmines as useful for area denial, protection of military bases, and demoralization of enemy troops, their indispensability was far from clear by the 1990s. Former Marine Corps Commandant General Alfred Gray, Jr., for example, questioned their utility:

I know of no situation in the Korean War, nor in the five years I served in Southeast Asia, nor in Panama, nor in Desert Shield-Desert Storm where our use of mine warfare truly channelized the enemy and brought them into a destructive pattern . . . . In the broader sense, I'm not aware of any operational advantage from broad deployment of mines.<sup>52</sup>

In 1993, the Congressional Research Service wrote, "Anti-personnel landmines are a minor system in U.S. [military] doctrine, primarily used to protect the more important anti-tank minefields."<sup>53</sup> Although the United States has yet to join the Mine Ban Treaty, such arguments against the utility of landmines helped motivate other states, including many U.S. allies, to negotiate, sign, and ratify the convention.

Danger to one's own troops raises additional concerns about the military utility of weapons. At the time of the turn-of-the-century Hague Conventions, officers generally "did not like weapons that threatened to get out of control."<sup>54</sup> The uncontrollable nature of gases and floating sea mines contributed to the move for their regulation. During World War I, states had direct experience with the problem of managing gas. Germans unintentionally killed their own troops when wind changes blew chlorine gas back in

48. Scott Keefer, *International Control of Biological Weapons*, 6 ILSA J. INT'L & COMP. L. 107, 110 (1999).

49. *Id.* at 115.

50. *Id.* at 122.

51. Biological Weapons Convention, *supra* note 21.

52. General Alfred Gray, Jr., Speech to the American Defense Preparedness Association's Mines, Countermine, and Demolitions Symposium (Sept. 9, 1993), *quoted in* LANDMINES: A DEADLY LEGACY, *supra* note 33, at 339.

53. Memorandum from the Congressional Research Service to Senator Patrick J. Leahy (Jan. 13, 1993), *quoted in* LANDMINES: A DEADLY LEGACY, *supra* note 33, at 339.

54. Vagts, *supra* note 15, at 32.

their faces during the Battle of Ypres in 1915.<sup>55</sup> Such deaths increased the horror at this deadly weapon. Today landmines pose similar risks to friendly forces. General Gray remarked, "We kill more Americans with our mines than we do anybody else. We never killed many enem[ies] with mines. . . . What the hell is the use of sowing all [these airborne scatterable mines] if you're going to move through [them] next week or next month?"<sup>56</sup> In such cases, weapons treaties seem doubly appropriate because humanitarian and military concerns coincide.

#### D. Conclusion

An examination of the history behind weapons treaties reveals three common preconditions for regulation. Documented humanitarian harm precedes all such treaties because without it they would not be necessary. Widespread public concern pushes negotiations forward and compels states to respond. A decline in military utility makes it easier for states to give up a weapon in the interests of humanity.

### III. CLUSTER MUNITIONS AND THEIR HUMANITARIAN PROBLEMS

Recent weapons-treaty discussions have focused on cluster munitions. Cluster munitions are large weapons that contain dozens or hundreds of smaller explosive submunitions.<sup>57</sup> They can be dropped from the air or launched from the ground. Their submunitions are referred to as "bomblets" or "grenades," respectively. Armed forces have historically valued these weapons because of their area effect, or ability to impact large swaths of territory. When cluster canisters open, their contents spread over a wide area, or "footprint," which makes them useful for attacking broad sites, such as airfields, and moving targets, such as tanks or troops. Most modern submunitions also can be used against personnel and armor and as incendiary devices, making them flexible weapons.

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55. Megan Eshbaugh, *The Chemical Weapons Convention: With Every Step Forward, We Take Two Steps Back*, 18 ARIZ. J. INT'L & COMP. L. 209, 212 (2001).

56. LANDMINES: A DEADLY LEGACY, *supra* note 33, at 339.

57. Information for this section comes from HUMAN RIGHTS WATCH, *FATALLY FLAWED: CLUSTER BOMBS AND THEIR USE BY THE UNITED STATES IN AFGHANISTAN 6-10* (2002) [hereinafter *FATALLY FLAWED*]; *OFF TARGET*, *supra* note 6, at 55-58, 83. For more information on the humanitarian problems of cluster munitions, see, e.g., RAE McGRATH, *CLUSTER BOMBS: THE MILITARY EFFECTIVENESS AND IMPACT ON CIVILIANS OF CLUSTER MUNITIONS* (2000); INTERNATIONAL COMMITTEE OF THE RED CROSS, *EXPLOSIVE REMNANTS OF WAR: CLUSTER BOMBS AND LANDMINES IN KOSOVO* (2000) [hereinafter *EXPLOSIVE REMNANTS OF WAR*]; FORESEEABLE HARM, *supra* note 12. The press has also reported extensively on the harm of cluster munitions during each conflict in which they have been used over the past ten years. These articles are too numerous to cite, but see, e.g., Anna Badkhen, *Unexploded Bombs Ticking for Children*, SAN. FRAN. CHRON., Dec. 3, 2001, at A1; Paul Wiseman, *Cluster Bombs Kill in Iraq, Even after Shooting Ends*, USA TODAY, Dec. 13, 2003, available at [http://www.usatoday.com/news/world/iraq/2003-12-10-cluster-bomb-cover\\_x.htm](http://www.usatoday.com/news/world/iraq/2003-12-10-cluster-bomb-cover_x.htm); Hassan M. Fattah, *With 'Minefields' at Home, War Isn't Over for Lebanese*, N.Y. TIMES, Aug. 19, 2006, at A7.

Three types of submunitions have received extensive use in twenty-first-century conflicts. First, the air-dropped CBU-87 contains 202 BLU-97 submunitions. These yellow, soda can-sized bomblets have a triple anti-armor, anti-personnel, and incendiary effect when detonated. A triangular parachute at the top, released after the CBU-87 casing opens in mid-air, is designed to arm and stabilize the submunitions so they land perpendicular to the ground. The CBU-87's newer variation, the CBU-103, contains the same kind and quantity of BLU-97s, but has a guidance system called the Wind Corrected Munitions Dispenser at the rear. This device compensates for wind currents, increasing accuracy and decreasing the footprint's radius from 1500 feet to 600 feet. BLU-97 submunitions were used extensively in the air campaigns in the Gulf War,<sup>58</sup> Yugoslavia/Kosovo,<sup>59</sup> Afghanistan,<sup>60</sup> and Iraq.<sup>61</sup>

The CBU-58/B contains 650 of a second type of submunition, the BLU-63, which the Israeli Air Force dropped in southern Lebanon in 2006.<sup>62</sup> These brown-green, baseball-sized bomblets are primarily anti-personnel weapons. They have small fins that arm the bomblets when they are released. Because these cluster munitions date to the 1970s, they employ outdated technology that is past its shelf life, resulting in very high dud rates.<sup>63</sup>

In ground conflicts, artillery shells and Multiple Launch Rocket System ("MLRS") rockets deliver between 49 and 644 of a third, smaller submunition called the Dual Purpose Improved Conventional Munition ("DPICM"). The DPICM resembles a grey bell with a ribbon at one end serving the same function as the BLU's parachute. It is designed to take out tanks and troops. In the 2003 Iraq war, U.S. forces used the DPICM widely, and British forces introduced a modernized version with a self-destruct device.<sup>64</sup> Israel also used several versions of DPICMs in Lebanon.<sup>65</sup>

A 2006 report determined that civilians comprise 98 percent of all cluster munition casualties.<sup>66</sup> These weapons cause harm in two ways. First, their area effect puts civilians at risk during strikes. When cluster munitions are used in populated areas, they blanket neighborhoods with submunitions. The problem is exacerbated by the fact that most casings and submunitions cannot be controlled; both are unguided and inaccurate. If combatants and non-combatants commingle, as is common in contempo-

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58. HUMAN RIGHTS WATCH, CIVILIAN DEATHS IN THE NATO AIR CAMPAIGN 8 (2000) [hereinafter CIVILIAN DEATHS IN THE NATO AIR CAMPAIGN].

59. *Id.* at 27–28; EXPLOSIVE REMNANTS OF WAR, *supra* note 57, at 6–7.

60. FATAALLY FLAWED, *supra* note 57, at 54.

61. OFF TARGET, *supra* note 6, at 57.

62. FORESEEABLE HARM, *supra* note 12, at 10.

63. *Id.*

64. OFF TARGET, *supra* note 6, at 83, 85.

65. FORESEEABLE HARM, *supra* note 12, at 8–9.

66. HANDICAP INTERNATIONAL, FATAL FOOTPRINT: THE GLOBAL HUMAN IMPACT OF CLUSTER MUNITIONS 42 (2006).

rary urban warfare, avoiding civilian casualties with submunitions is virtually impossible. Many civilians die and still others receive horrific injuries from the razor sharp shrapnel that spreads in every direction. A BLU-97, for example, is designed to produce 300 jagged pieces of metal that can fly as far as 150 meters away. The anti-armor capability of the shaped charge causes some submunitions to pierce building roofs, wounding those inside and setting fire to interior spaces.

Second, cluster munitions cause humanitarian harm because many of their submunitions do not explode on impact as designed. Instead these explosive duds become de facto landmines that can detonate long after the battle. Dud rates, the percentage of submunitions that do not explode on impact, can reach 30 percent.<sup>67</sup> In cities and towns, unexploded submunitions lie in streets and yards and on rooftops until an unwitting civilian disturbs them. In rural areas, they litter fields or penetrate soil, endangering farmers with plows and interfering with agriculture and animal husbandry. Submunitions, which are often brightly colored or have convenient handles, particularly attract children who think the unusual objects are toys. When they pick them up, the explosion rips off their hands or legs, or kills them outright.

The threat cluster munitions pose to civilians is worldwide. At least twelve countries have used them in at least twenty-three states since the Vietnam War.<sup>68</sup> Thirty-four countries produce more than 210 different types of cluster munitions.<sup>69</sup> The list of countries involved with or affected by these weapons spans six continents.<sup>70</sup>

#### IV. PRECONDITIONS FOR THE REGULATION OF CLUSTER MUNITIONS

The dangers described above show that cluster munitions must be regulated. Today, the preconditions for negotiating such a legally binding instrument have been met. Cluster munitions are clearly harmful to civilians, the public is increasingly opposed to their use, and armed forces are beginning to question their utility. The international community and NGO campaigners must seize the opportunity for success presented by this confluence of conditions.

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67. For example, UNMACC SL officials and NGO deminers have frequently cited this figure for Israel's submunitions in Lebanon. See, e.g., South Lebanon Cluster Bomb Info Sheet, *supra* note 10; U.N. Office for the Coordination of Humanitarian Affairs, Lebanon: Cluster Bomb Fact Sheet (Sept. 19, 2006).

68. Human Rights Watch, Cluster Munition Information Chart (2006), available at <http://hrw.org/arms/pdfs/munitionChart.pdf> [hereinafter Cluster Munition Information Chart]; Human Rights Watch, At a Glance: Global Overview of Cluster Munition Policy and Practice (2007), available at <http://hrw.org/campaigns/clusters/index.htm>.

69. Cluster Munition Information Chart, *supra* note 68.

70. *Id.*

### A. Documented Humanitarian Harm

Cluster munitions have threatened civilians since they were first used during the Vietnam War. Laos, which was blanketed with these weapons during that time, still suffers from the effects of duds. In a nine-year bombing campaign, the United States dropped eighty million submunitions on Laos,<sup>71</sup> some with dud rates of up to 30 percent.<sup>72</sup> During the first twenty-three years after the bombing, cluster munitions are estimated to have caused 44 percent of the casualties in Laos from explosive remnants of war.<sup>73</sup> While many of the victims were killed, a 1997 survey estimated that about two-thirds of those injured lost arms or hands; other injuries included loss of feet or legs, paralysis, blindness, deafness, and serious burns.<sup>74</sup> According to the Lao National Unexploded Ordnance Program, cluster duds continue to kill or injure Laotians, causing at least thirty-five civilian casualties in 2003.<sup>75</sup>

Four recent wars in which armed forces used cluster munitions further demonstrate their humanitarian harm. In Yugoslavia, NATO-dropped cluster bombs killed between 90 and 150 civilians.<sup>76</sup> Casualties from U.S. air-dropped clusters in Afghanistan numbered well over one hundred.<sup>77</sup> In Iraq, U.S. and U.K. air forces generally avoided dropping cluster bombs on populated areas, but ground forces made widespread use of outdated versions of these area effect weapons in cities and towns across the country, causing hundreds of civilian casualties.<sup>78</sup> In 2006, Israel blanketed southern Lebanon with cluster munitions. One strike killed or wounded more than a dozen civilians,<sup>79</sup> and as of late January, submunition duds had killed 25 civilians and wounded 186.<sup>80</sup> More casualties are likely.

Part V of this Article provides further discussion and analysis of cluster munitions' documented humanitarian harm.

### B. Widespread Public Concern

Over the past few years, a groundswell of public opposition to cluster munitions has emerged. In response to the use of clusters in Afghanistan and Iraq, a group of more than 150 concerned NGOs formed the Cluster

71. MINES ACTION CANADA, ACTIONGROUP LANDMINE.DE & LANDMINE ACTION, *EXPLOSIVE REMNANTS OF WAR AND MINES OTHER THAN ANTI-PERSONNEL MINES: GLOBAL SURVEY 2003–2004* 104 (2005).

72. *Id.* at 104 n.1136.

73. *Id.* at 105.

74. *Id.*

75. *Id.* at 104–05.

76. *CIVILIAN DEATHS IN THE NATO AIR CAMPAIGN*, *supra* note 58, at 8.

77. *FATALLY FLAWED*, *supra* note 57, at 21, 25.

78. *OFF TARGET*, *supra* note 6, at 54–55, 80.

79. Press Release, Human Rights Watch, *Israeli Cluster Munitions Hit Civilians in Lebanon* (Jul. 24, 2006), <http://hrw.org/english/docs/2006/07/24/isrlpa13798.htm> [hereinafter *Israeli Cluster Munitions Hit Civilians in Lebanon*].

80. *Cluster Munition Casualty List*, *supra* note 11.

Munition Coalition (“CMC”) in November 2003.<sup>81</sup> The CMC hopes to serve a similar role as the International Campaign to Ban Landmines did in the landmines campaign. So far, it has actively participated in the CCW process, making frequent statements in formal sessions and lobbying diplomats behind the scenes. In a March 2005 statement, CMC’s coordinator said:

One point is becoming increasingly clear and is being reflected by the converging views of the U.N., the ICRC [International Committee of the Red Cross] and the NGO community. This point is that the vast majority of existing cluster munitions must never be used and must be immediately prohibited because of their unacceptably high failure rate.<sup>82</sup>

Although the adoption of the 2003 CCW Protocol V on Explosive Remnants of War prompted some states to argue the work of regulation was finished, the CMC has kept the cluster issue alive.

States have also demonstrated their concern by imposing national restrictions on their use of cluster munitions. Denmark, Germany, Norway, Poland, South Africa, Switzerland, the United Kingdom, and the United States have established maximum dud rates for future submunitions.<sup>83</sup> Other states have started to phase out old models, such as the BL-755, the Rockeye, the BL-66 Belouga, and the 155mm DPICM projectile.<sup>84</sup> In 2003, the Senate of Australia, a Rockeye stockpiler, introduced a moratorium on the use of submunitions with a dud rate higher than 1 percent.<sup>85</sup> Norway, which stockpiles Rockeye and CBU-87 cluster bombs, issued a

81. For more information on the Cluster Munition Coalition, see <http://www.stopclustermunitions.org> (last visited Feb. 20, 2007).

82. Cluster Munition Coalition, Statement to CCW Working Group on Explosive Remnants of War (Mar. 8, 2005).

83. REINHILDE WEDIACHER, SIEMON WEZEMAN & MICHA HOLLESTELLE, CLUSTER WEAPONS: NECESSITY OR CONVENIENCE? 32 (discussing Denmark), 33 (Poland, South Africa, Switzerland, United States), and 34 (Germany, Norway, United Kingdom) (2005); Germany, CCW Group of Governmental Experts Working Group on Explosive Remnants of War, *Reliability and Use of Cluster Munitions*, 2, U.N. Doc. CCW/GGE/X/WG.1/WP.4 (2005); Norway, CCW Group of Governmental Experts Working Group on Explosive Remnants of War, *Responses to Document CCW/GGE/X/WG.1/WP.2, Entitled IHL and ERW, Dated 8 March 2005*, 7, U.N. Doc. CCW/GGE/XI/WG.1/WP.5 (2005); Letter from Johann Kellerman, Counselor: Disarmament, South African Delegation to the Conference on Disarmament, to Reinhilde Weidacher, Researcher, Pax Christi Netherlands 2 (Jan. 19, 2005); Memorandum from Switzerland to Pax Christi Netherlands 2 (June 7, 2005); United Kingdom, CCW Group of Governmental Experts Working Group on Explosive Remnants of War, *Military Utility of Cluster Munitions*, 3, U.N. Doc. CCW/GGE/X/WG.1/WP.1 (2005); Memorandum from the U.S. Secretary of Defense William Cohen to the Secretaries of the Military Departments (Jan. 10, 2001) (“Subject: DoD Policy on Submunition Reliability (U)”) (on file with author).

84. HUMAN RIGHTS WATCH, WORLDWIDE PRODUCTION AND EXPORT OF CLUSTER MUNITIONS 9 (2005), available at <http://hrw.org/backgrounders/arms/cluster0405/cluster0405.pdf> [hereinafter WORLDWIDE PRODUCTION AND EXPORT OF CLUSTER MUNITIONS].

85. PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA, 100 JOURNALS OF THE SENATE 2416 (2003).

moratorium on these weapons in 2006.<sup>86</sup> In the same year, Belgium banned cluster munitions altogether.<sup>87</sup> These examples are just some of many.

Use of cluster munitions in Lebanon sparked renewed public outrage. In August 2006, U.N. Humanitarian Chief Jan Egeland called Israel's actions "completely immoral."<sup>88</sup> He further commented, "What's shocking and completely immoral is: 90 percent of the cluster bomb strikes occurred in the last 72 hours of the conflict, when we knew there would be a resolution . . . . Every day, people are maimed, wounded and killed by these weapons. It shouldn't have happened."<sup>89</sup> David Shearer, the U.N. humanitarian coordinator in Lebanon, echoed these statements, stating, "For a humanitarian person, it defies belief that this would happen."<sup>90</sup> Even Israeli soldiers expressed horror at the situation. The head of an Israel Defense Force rocket unit told the Israeli paper *Ha'aretz*, "What we did was insane and monstrous, we covered entire towns in cluster bombs."<sup>91</sup> At the diplomatic level, then-U.N. Secretary-General Kofi Annan called on the CCW Review Conference to address the "atrocious, inhumane effects of these weapons" with new international norms.<sup>92</sup> Widespread public concern is thus pushing forward the development of international law.

### C. Declining Military Utility

Despite continued use of cluster munitions, the military utility of these weapons is declining. During the Iraq war in 2003, the U.S. Air Force relied less on cluster munitions and more on precision-guided munitions than it had in Yugoslavia and Afghanistan.<sup>93</sup> After the conflict, many military leaders and lawyers complained about the weapon because it endangered soldiers as well as civilians.<sup>94</sup> One Marine officer said he refused to use ground-launched cluster munitions even if it degraded his troops' capabili-

86. Norway, Statement to CCW Working Group on Explosive Remnants of War (June 20, 2006).

87. Belgium, *Loi réglant des activités économiques et individuelles avec des armes* [The Law Regulating Economic and Individual Arms Activity], June 8, 2006, <http://www.lecdh.be/docparlement/pa4495.htm>.

88. U.N. *Denounces Israel Cluster Bombs*, BBC NEWS, Aug. 30, 2006, [http://news.bbc.co.uk/2/hi/middle\\_east/5299938.stm](http://news.bbc.co.uk/2/hi/middle_east/5299938.stm).

89. *Id.*

90. *Israel Pressed on Cluster Targets*, BBC NEWS, Sept. 19, 2006, [http://news.bbc.co.uk/2/hi/middle\\_east/5360150.stm](http://news.bbc.co.uk/2/hi/middle_east/5360150.stm).

91. Meron Rappaport, *IDF Commander: We Fired More Than a Million Cluster Bombs in Lebanon*, HA'ARETZ, Sept. 12, 2006, <http://www.haaretz.com/hasen/spages/761781.html>.

92. Press Release, Message of the U.N. Secretary-General to Third Review Conference of Convention on Certain Conventional Weapons (Nov. 7, 2006), <http://www.un.org/apps/sg/sgstats.asp?nid=2289>.

93. OFF TARGET, *supra* note 6, at 16.

94. See, e.g., interview with Lieutenant Colonel Stephen Baer, Operations Officer, Third Infantry Division, U.S. Army, in Baghdad, Iraq (May 20, 2003); interview with Colonel David Perkins, Commanding Officer, Second Brigade, Third Infantry Division, U.S. Army, in Baghdad, Iraq (May 23, 2003); telephone interview with Colonel Lyle Cayce, Staff Judge Advocate, Third Infantry Division, U.S. Army, in Washington, D.C. (Oct. 17, 2003).

ties.<sup>95</sup> “We have to demand giving commanders better options,” said Lieutenant Colonel Steven Baer, operations officer for the Third Infantry Division, noting the danger duds pose to soldiers passing through strike areas.<sup>96</sup> In a presentation summarizing lessons learned during the Iraq war, the Third Infantry Division called the ground-launched DPICM a “loser” and asked if it had become a “Cold War relic.”<sup>97</sup>

The United Kingdom, another major user of cluster munitions, has also expressed doubts about their utility. In a March 2005 paper presented at the CCW meeting of governmental experts, the United Kingdom said that precision-guided munitions have made air-dropped clusters less useful. The paper concludes, “In the long term [ground and air models] are likely to be used more sparingly, as new precision weapons come into service, and may one day be removed from service altogether.”<sup>98</sup> Other countries, including Denmark, France, Germany, the Netherlands, Norway, Poland, and Sweden, have pledged to phase out certain models of these weapons.<sup>99</sup>

The availability of new types of unitary warheads—weapons that produce a single explosion—decreases dependence on cluster munitions for ground war. This important alternative eliminates the humanitarian side effects of cluster munitions because it does not have an area effect and leaves very few duds. The United States has started to develop such a weapon to replace its MLRS rocket.<sup>100</sup> In Iraq, the United States relied heavily on this long-range weapon because Iraqi artillery outranged U.S. artillery.<sup>101</sup> The problem was that the MLRS’s only warhead carried submunitions, and it was used even when a unitary warhead would have sufficed.<sup>102</sup> The guided MLRS rocket, with a precision guidance system and a single warhead, could serve the same purpose as the MLRS rocket did in Iraq without having significant side effects.<sup>103</sup> Several soldiers called for just such an alternative after the Iraq war.<sup>104</sup>

95. Interview with U.S. Marine officer, in Iraq (May 2003).

96. Interview with Lieutenant Colonel Steven Baer, *supra* note 94.

97. THIRD INFANTRY DIVISION, FIRES IN THE CLOSE FIGHT: OIF [OPERATION IRAQI FREEDOM] LESSONS LEARNED 22, available at [http://sill-www.army.mil/Fa/Lessons\\_Learned/3d%20ID%20Lessons%20Learned.pdf](http://sill-www.army.mil/Fa/Lessons_Learned/3d%20ID%20Lessons%20Learned.pdf) (last visited Feb. 24, 2007).

98. United Kingdom, *Military Utility of Cluster Munitions*, *supra* note 83, at 4.

99. France, CCW Group of Governmental Experts, *Working Paper on Submunitions*, 2–3, U.N. Doc. CCW/GGE/XII/WG.1/WP.9 (2005); Germany, CCW Group of Governmental Experts, *Reliability and Use of Cluster Munitions*, *supra* note 83; Joris Janssen, *Dutch Plan to Update Cluster Weapons*, JANE’S DEF. WKLY., Oct. 11, 2005; Norway, CCW Group of Governmental Experts, *Responses to Document CCW/GGE/X/WG.1/WP.2, Entitled IHL and ERW, Dated 8 March 2005*, 7, *supra* note 83; WORLDWIDE PRODUCTION AND EXPORT OF CLUSTER MUNITIONS, *supra* note 84, at 8–10.

100. OFFICE OF THE UNDER SECRETARY OF DEFENSE (ACQUISITION, TECHNOLOGY AND LOGISTICS), REPORT TO CONGRESS: CLUSTER MUNITIONS 8 (2004) [hereinafter REPORT TO CONGRESS: CLUSTER MUNITIONS].

101. HUMAN RIGHTS WATCH, TIME TO TAKE STOCK: THE U.S. CLUSTER MUNITION INVENTORY AND THE FY2006 DEPARTMENT OF DEFENSE BUDGET 7 (2005) [hereinafter TIME TO TAKE STOCK].

102. OFF TARGET, *supra* note 6, at 95–96.

103. TIME TO TAKE STOCK, *supra* note 101, at 7.

104. OFF TARGET, *supra* note 6, at 95–96.

The development of new cluster munition technology further demonstrates the military's dissatisfaction with existing models of these weapons. Some technology has decreased reliance on inaccurate cluster munition canisters. The Wind Corrected Munitions Dispenser, introduced in Afghanistan, compensates for wind currents during the fall of the air-dropped CBU-103.<sup>105</sup> The most significant change with regard to reliability is the availability of self-destruct devices, which increase civilian protection and military utility by reducing the dud rate. In Iraq, U.K. ground forces used only submunitions equipped with such a device.<sup>106</sup> Germany has pledged not to use its MLRS rockets until their submunitions have been "modernized" with self-destruct or self-neutralization mechanisms.<sup>107</sup>

The most cutting-edge U.S. cluster munitions address both accuracy and reliability. The air-dropped Sensor Fuzed Weapon, or CBU-105, and the ground-launched Sense and Destroy Armor Munition ("SADARM") have self-destruct mechanisms and precision-guided submunitions designed to target tanks.<sup>108</sup> Some commentators argue that these weapons, of which there are very few, should not even be included in the definition of cluster munitions. While technical innovations do not obviate the danger of cluster munitions—even with self-destruct devices, they must not be used in populated areas—they confirm the limited military utility and great civilian harm of older models, which countries still stockpile in abundance.

In addition to new technology, the changing nature of military engagements has decreased the utility of cluster munitions. Modern militaries depend on cluster munitions primarily as an anti-armor tool, but unlike Cold War enemies, today's urban insurgents rarely employ large numbers of tanks and armored vehicles. Instead, they fight house-to-house and mingle with the population. While cluster munitions have anti-personnel capability, during counter-insurgency operations, states want to avoid creating more enemies; using weapons such as cluster munitions, which cause significant civilian harm, will likely increase the opposition. As exemplified by Iraq and Afghanistan, recent conflicts have led to post-war occupation, and dud-producing munitions endanger friendly troops. Cluster munition use is also counter to the goals of peacekeeping operations where protection of

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105. FATALLY FLAWED, *supra* note 57, at 6.

106. Thomas Frank, *Officials: Hundreds of Iraqis Killed by Faulty Grenades*, NEWSDAY, June 2003 (citing the British Ministry of Defence), available at <http://www.commondreams.org/headlines03/0623-01.htm>.

107. Germany, Statement to CCW Working Group on Explosive Remnants of War (Mar. 8, 2005).

108. Global Security, CBU-105 Wind Corrected Munitions Dispense (WCMD), <http://www.globalsecurity.org/military/systems/munitions/cbu-105.htm> (last visited Nov. 6, 2006); Global Security, BLU-108/B Submunition, <http://www.globalsecurity.org/military/systems/munitions/blu-108.htm> (last visited Nov. 6, 2006); Global Security, M898 SADARM (Sense and Destroy Armor), <http://www.globalsecurity.org/military/systems/munitions/sadarm.htm> (last visited Nov. 6, 2006).

civilians is imperative.<sup>109</sup> In general, untraditional military engagements have undermined the utility of this traditional weapon.

While Israel's military situation may constitute an exception to this rule, this does not justify its use of cluster munitions in southern Lebanon in 2006. A report on the military utility of cluster munitions notes that unlike most countries, Israel still faces the threat of large armored attacks, which could make cluster munitions useful.<sup>110</sup> Hezbollah, however, did not pose such a threat. Israel deployed most of the clusters during the last three days of the conflict, after both sides knew a ceasefire would take effect. A reservist said, "In the last 72 hours we fired all the munitions we had. . . . Friends of mine in the battalion told me they also fired everything in the last three days—ordinary shells, clusters, whatever they had."<sup>111</sup> The Israeli military has not made a statement on why it used cluster munitions in this circumstance or whether it judged them to be effective. In measuring the military effectiveness of cluster munitions, or any weapon, use must not be confused with utility.

#### D. Conclusion

An examination of the current discourse surrounding cluster munitions reveals that the historical preconditions for treaty negotiations have been met. The weapons' humanitarian harm has been well documented and is increasing in today's conflicts, which are fought largely in populated areas. NGOs have initiated public campaigns against cluster munitions, more than a dozen states have demonstrated their disapproval of the weapon through national actions, and diplomats and soldiers alike have expressed outrage at the use in Lebanon. Through the development of alternative weapons and attempts to improve existing technology, militaries have acknowledged that the utility of cluster munitions is declining.

The propitiousness of these circumstances is evidenced by the fact that in February 2007, delegates of forty-nine countries assembled in Oslo to "discuss how to effectively address the humanitarian problems caused by cluster munitions."<sup>112</sup> The gathering followed states parties' failure at the November 2006 CCW Review Conference to approve negotiations on a treaty for the weapon. The list of participants included users, producers, and stockpilers.<sup>113</sup> Representatives of more than one hundred NGOs also trav-

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109. WEDIACHER ET AL., *supra* note 83, at 22–25. (This report is based on answers to questionnaires about cluster munitions and military utility sent to countries that stockpile cluster munitions).  
110. *Id.* at 25.

111. Meron Rappaport, *What Lies Beneath*, HA'ARETZ, Sept. 8, 2006, <http://www.haaretz.com/hasen/pages/760246.html>.

112. Oslo Conference on Cluster Munitions, Declaration, Feb. 22–23, 2007, available at [http://www.regjeringen.no/upload/UD/Vedlegg/Oslo%20Declaration%20\(final\)%2023%20February%202007.pdf](http://www.regjeringen.no/upload/UD/Vedlegg/Oslo%20Declaration%20(final)%2023%20February%202007.pdf) [hereinafter Oslo Declaration].

113. Press Release, Cluster Munition Coalition (Feb. 23, 2007), <http://www.stopclustermunitions.org/news.asp?id=51>.

eled to Oslo to demonstrate their support for the conference.<sup>114</sup> At the end of the two-day meeting in Norway, all but three states—Japan, Poland, and Romania—had agreed to a declaration that committed them to conclude a new cluster munitions convention by 2008.<sup>115</sup> The legally binding instrument they propose will “prohibit the use, production, transfer and stockpiling of cluster munitions that cause unacceptable harm to civilians” and establish post-conflict measures to minimize the effects of duds, such as risk awareness and clearance.<sup>116</sup> The states plan to continue their work at three meetings over the course of the next two years.<sup>117</sup> Having thus initiated the treaty process, the international community must now negotiate the specific details.

## V. EIGHT ESSENTIAL ELEMENTS

Past weapons treaties not only illustrate that the time is ripe to negotiate a legal instrument on cluster munitions, but also provide precedent that can be adapted to regulate these weapons. They offer models for provisions on critical issues, such as targeting and technology, transfers and transparency. No single treaty provides a comprehensive model, but one can draw on their examples to construct a whole.

Effective cluster munitions regulation must also consider three characteristics of cluster munitions. First, these weapons contain dozens or hundreds of submunitions, which magnifies their harm. Second, they have an area effect, which extends their reach beyond a single point. Finally, many of their submunitions do not explode on impact, which means their harm lingers after conflict. Cluster munitions are thus peculiar weapons with numerous components that spread their effects over space and time. Their regulation requires provisions modeled on multiple instruments and consolidated into a single document. The following eight essential elements, laid out after a discussion of existing international law, take these characteristics into account and represent minimum standards for cluster munitions regulation.<sup>118</sup>

### A. Existing Law

At the 1974 Lucerne Conference on conventional weapons, sponsored by the International Committee of the Red Cross, diplomats first advocated for legal action in response to the humanitarian harm cluster munitions cause.

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114. *Id.*

115. *Id.*

116. Oslo Declaration, *supra* note 112.

117. *Id.*

118. This part of the paper was inspired in part by a memorandum from Human Rights Watch to CCW Delegates, (Nov. 8–19, 2004) (“Essential Elements for Reducing the Civilian Harm of Cluster Munitions”) (two-page document written by the author).

In a working paper, seven states proposed banning “anti-personnel cluster warheads or other devices with many bomblets which act through the ejection of a great number of small-calibred fragments or pellets.”<sup>119</sup> The states highlighted the weapon’s broad area effect, which endangers civilians, and its potential for inflicting unnecessary suffering on combatants.<sup>120</sup> The Lucerne Conference led to the 1980 CCW, which regulates or bans weapons that “may be deemed to be excessively injurious or to have indiscriminate effects.”<sup>121</sup> The convention did not cover cluster munitions in its original protocols, however, leading states parties to continue debating how to handle this problematic weapon.

Currently, general IHL governs the use of cluster munitions. The 1977 Protocol I to the 1949 Geneva Conventions lays out customary provisions designed to protect civilians in armed conflict.<sup>122</sup> The rule of distinction requires states to distinguish between soldiers and civilians, military and civilian objects.<sup>123</sup> An attack is indiscriminate and thus illegal if it violates that rule. A cluster munition attack, under the law, may not indiscriminately treat separate military objectives as one, as a cluster does when it blankets a populated area to target individual soldiers.<sup>124</sup> Nor can it be indiscriminate in effect, as it is when armed forces use submunitions with high dud rates.<sup>125</sup> An attack must also pass the proportionality test, which weighs civilian harm against military advantage.<sup>126</sup> The short-term harm from strikes and the long-term harm from duds both suggest that cluster munitions must not be used in many circumstances. States are also required by law to take all feasible precautions to protect the civilian population.<sup>127</sup>

The 2003 CCW Protocol V on Explosive Remnants of War establishes post-conflict remedial measures, such as clearance and risk awareness. For example, it requires states parties to “mark and clear” remnants, such as submunitions, in its territory “as soon as feasible” after the end of hostilities.<sup>128</sup> It concludes with a technical annex, an addendum with suggestions for how to meet some of the protocol’s provisions. The annex includes best practices for reducing the humanitarian side effects of submunitions before conflict.

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119. INTERNATIONAL COMMITTEE OF THE RED CROSS, CONFERENCE OF GOVERNMENT EXPERTS ON THE USE OF CERTAIN CONVENTIONAL WEAPONS 198–99 (1976). The states calling for a ban were Egypt, Mexico, Norway, Sudan, Sweden, Switzerland, and Yugoslavia.

120. *Id.* at 17.

121. CCW, *supra* note 23.

122. I JEAN-MARIE HENCKAERTS & LOUISE DOSWALD-BECK, CUSTOMARY INTERNATIONAL LAW 3-79 (2005).

123. Geneva Protocol I, *supra* note 13, art. 48.

124. *Id.* art. 51(5)(a).

125. *Id.* art. 51(4)(c).

126. *Id.* art. 51(5)(b).

127. *Id.* art. 57.

128. CCW Protocol V, *supra* note 14, art. 3(2).

In a rare attempt at cluster munition litigation, the Office of the Prosecutor (“OTP”) for the International Criminal Tribunal for the Former Yugoslavia (“ICTY”) considered prosecuting NATO forces for using cluster munitions during the Yugoslavia bombing campaign. A committee reporting to the prosecutor, however, recommended against an investigation, a recommendation the OTP followed.<sup>129</sup> The committee said that cluster bombs do not inherently violate IHL.<sup>130</sup> It explained further that submunition duds are not legally the same as landmines, which are banned under the Mine Ban Treaty and, some say, under customary law.<sup>131</sup> The committee also contrasted NATO’s use with that of Orkan cluster attacks on Zagreb in 1995, which were war crimes because they intentionally targeted civilians. President Milan Martić of the self-proclaimed Republic of Serb Krajina allegedly ordered the latter “knowingly and willfully” to “terrorise civilians.”<sup>132</sup> NATO’s attacks lacked a similar intent. The committee was correct in all three of its determinations.<sup>133</sup>

The OTP committee’s decision does not undermine the general argument that cluster munitions raise serious concerns under IHL. The report does not say that there were no IHL violations. It represents a statement of prosecutorial discretion, not a court decision or a legally binding precedent. The report says, “It is the opinion of the committee, based on information presently available, that the OTP should not commence an investigation into use of cluster bombs as such by NATO.”<sup>134</sup> The OTP did not start a thorough investigation of the issue, let alone bring the case to court. At the end of the document, referring to the allegations against NATO as a whole, the committee wrote, “In all cases, either the law is not sufficiently clear or investigations are unlikely to result in the acquisition of sufficient evidence to substantiate charges against high level accused or against lower accused for particularly heinous offenses.”<sup>135</sup> The fact that no case was initiated does not mean that no crime was committed.

Nevertheless, the rules of IHL are insufficient to regulate cluster munitions. Whether states deliberately or unintentionally violate them, the OTP

129. Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia, ¶ 27, available at <http://www.un.org/icty/pressreal/nato061300.htm> (last visited Nov. 7, 2006) [hereinafter OTP Report].

130. *Id.*

131. *Id.*

132. *Id.* (referring to Prosecutor v. Martić, Case No. IT-95-11, Rule 61 Hearing Decision (Mar. 8, 1996)); Press Release, ICTY, Milan Martić and Mile Mrksić Transferred to the Hague (May 15, 2002), <http://www.un.org/icty/pressreal/p675-e.htm>; Prosecutor v. Martić, Case No. IT-95-11, Indictment (July 25, 1995), available at <http://www.un.org/icty/indictment/english/mar-ii950725e.htm>.

133. For comments on and critiques of the OTP’s decision, see Thomas Michael McDonnell, *Cluster Bombs over Kosovo: A Violation of International Law?*, 44 ARIZ. L. REV. 31, 115–18 (2002); Virgil Wiebe, *Footprints of Death: Cluster Bombs as Indiscriminate Weapons Under International Humanitarian Law*, 22 MICH. J. INT’L L. 85, 134–37 (2000); Andreas Laursen, *NATO, the War over Kosovo, and the ICTY Investigation*, 17 AM. U. INT’L L. REV. 765, 778–79 (2002).

134. OTP Report, *supra* note 129, ¶ 27.

135. *Id.* ¶ 90.

report demonstrates that the rules are difficult both to interpret and to enforce. The proportionality test, for example, is vague. Commentators disagree about whether it encompasses the long-term harm of cluster munitions. Regardless, it requires a balancing test that is inherently subjective. CCW Protocol V's provisions use qualified language or, as in the case of the technical annex, are voluntary. New law for cluster munitions must therefore strengthen and clarify existing IHL with the following eight essential elements.

## B. *Essential Elements of a New Legal Instrument*

### 1. *Reiterate International Humanitarian Law*

CCW Amended Protocol II on Mines, Booby-Traps, and Other Devices sets a precedent for reiterating existing IHL in new legal instruments. Article 3 lays out the rules of distinction, discrimination, and all feasible precautions and applies them to landmines.<sup>136</sup> They strengthen the treaty by showing it is based on well-accepted precedent. A cluster munition instrument must similarly build on international law. As described above, IHL establishes rules applicable to these weapons. Although by themselves they are insufficient, reiterating them provides a legal basis for the other essential elements.

### 2. *Prohibit Use in or near Populated Areas*

CCW Protocol III on Incendiary Weapons provides an important precedent for limiting the targeting of populated areas. It prohibits making "any military objective located within a concentration of civilians the object of attack by air-delivered incendiary weapons."<sup>137</sup> It defines "concentration of civilians" as "any concentration of civilians, be it permanent or temporary, such as inhabited parts of cities, or inhabited towns or villages, or as in camps or columns of refugees or evacuees, or groups of nomads."<sup>138</sup> Future weapons treaties can adapt this broad definition to encompass all areas threatened by arms strikes.

To address the harm caused by cluster munition strikes, a new instrument must prohibit use in or near populated areas. Most cluster munitions are unguided and inaccurate, and if they do not hit their intended target in a city or town, they are likely to land on a civilian area. Even if a weapon strikes its target, all but the most cutting-edge submunitions are unguided and cannot pinpoint combatants. Instead, they blanket an area, indiscriminately killing soldiers and civilians alike. Air and ground clusters have proven equally dangerous in populated areas. In May 1999, during the NATO bombing of Nis, Yugoslavia, a CBU-87 suffered a technical failure

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136. CCW Amended Protocol II, *supra* note 25, art. 3(8-10).

137. CCW Protocol III, *supra* note 26, art. 2(2).

138. *Id.* art. 1(2).

and landed on an urban area instead of the intended airfield.<sup>139</sup> The strike killed fourteen civilians and wounded twenty-eight others.<sup>140</sup> In Iraq, U.S. ground forces made widespread use of clusters in populated areas. A March 31, 2003, attack on the crowded neighborhood of Nadir in al-Hilla killed 38 civilians and injured 156.<sup>141</sup> This incident was one of many attributable to cluster munitions.

The war in Afghanistan demonstrated that the term “populated area” must be clarified, as in CCW Protocol III, to include towns and villages as well as cities. A strike on the village of Ainger, for example, killed at least five civilians, including three children.<sup>142</sup> Four cluster bombs, containing 808 bomblets, landed on the village east of Kunduz on November 17, 2001.<sup>143</sup> One witness, twenty-five-year-old Marhama, said she heard the “whir” of an airplane while cooking bread in her kitchen. The explosion knocked her unconscious and killed her husband, sixty-year-old Aji Agha Pather, and her son, ten-year-old Sami. Marhama herself suffered a severe leg injury that has made caring for her five surviving children difficult.<sup>144</sup>

Cluster munitions regulation must also prohibit strikes *near* populated areas. Two strikes in the Herat region of Afghanistan illustrate the danger of such strikes. On October 22, 2001, a cluster bomb intended for a nearby military base landed on the neighborhood of Qala Shater, killing eleven to thirteen residents.<sup>145</sup> Many inhabitants had fled before the attack; otherwise the total would have been higher.<sup>146</sup> A week later, five cluster bombs, containing 1010 bomblets and apparently targeting another, more remote military base, landed on the village of Ishaq Suleiman with similarly harmful results.<sup>147</sup> Incidents such as these appear to be the result of malfunctioning munitions or human error rather than intentional targeting of civilian areas. Nevertheless, using cluster munitions near populated areas is unacceptable because the inaccurate weapons are vulnerable to landing in villages and the hundreds of submunitions involved magnify the harm caused by mistakes.

### 3. *Prohibit Use in Exacerbating Circumstances*

Past weapons treaties restrict use of weapons in circumstances that exacerbate the harm to civilians. Early treaties provide an example of restricting methods for launching munitions. Hague Declarations from 1899 and 1907 prohibit “the discharge of projectiles and explosives from balloons or by

139. CIVILIAN DEATHS IN THE NATO AIR CAMPAIGN, *supra* note 58, at 27–28.

140. *Id.*

141. OFF TARGET, *supra* note 6, at 128 (basing its numbers on reports of local elders). *See also* Tyler Hicks & John F. Burns, *Iraq Shows Casualties in Hospital*, N.Y. TIMES, Apr. 3, 2003, at B2 (reporting thirty-three civilian deaths).

142. FATALLY FLAWED, *supra* note 57, at 21.

143. *Id.*

144. Interview with Marhama, in Ainger, Afg. (Mar. 17, 2002).

145. FATALLY FLAWED, *supra* note 57, at 23.

146. *Id.*

147. *Id.* at 21–22.

other new methods of a similar nature.”<sup>148</sup> Others limit the location of use. As discussed above, CCW Protocol III on incendiary weapons prohibits use in concentrations of civilians.<sup>149</sup> These provisions govern how weapons are delivered and where.

Delivery of cluster munitions must be regulated because misuse exacerbates both the impact of cluster munitions during strikes and the aftereffects of the weapons. For air-dropped cluster munitions, the altitude from which they are dropped can make a difference. In the 1991 Gulf War, U.S. forces dropped bombs designed for low altitudes from medium to high altitudes to protect their planes.<sup>150</sup> This change led to a significant increase in dud rates.<sup>151</sup> New technology, such as the Wind Corrected Munitions Dispenser, has allowed some models to be dropped from higher altitudes, but armed forces continue to use older models of cluster munitions that are less accurate from high altitudes.<sup>152</sup> Cluster munitions must only be used from the altitudes for which they are designed.

To minimize the dud rate of cluster munitions, use in certain places must be prohibited. Submunitions must land perpendicular to a hard target to function properly. Deploying them in some environments, such as on soft ground or in forests, can increase the number that does not explode on impact. In the Gulf War, desert sand and water caused “excessively high dud rates.”<sup>153</sup> Twelve years later, an air-dropped BLU-97 penetrated the soil of a field near Agargouf, Iraq, leaving duds where a shepherd grazed his flock.<sup>154</sup> In Afghanistan, tree limbs snagged the parachutes of many BLU-97s.<sup>155</sup> In a pomegranate orchard near Kandahar, for example, one international NGO counted eighty bomblets in a 91 meter radius alone.<sup>156</sup> Similar reports came from Iraq and Lebanon. ABC Nightly News showed footage of live ground-launched DPICMs hanging by their ribbons from trees in Iraq.<sup>157</sup> A legal instrument must thus regulate from where cluster munitions are released as well as where they land.

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148. 1899 Hague Balloon Declaration, *supra* note 4; 1907 Hague Balloon Declaration, *supra* note 19.

149. CCW Protocol III, *supra* note 26, art. 2.

150. 2 U.S. AIR FORCE, GULF WAR AIR POWER SURVEY, pt. II, 162–63 (1993) [hereinafter GULF WAR AIR POWER SURVEY].

151. *Id.* pt. I, 261, 48.

152. LT. GEN. T. MICHAEL MOSELEY, COMMANDER, U.S. CENTRAL AIR FORCE, OPERATION IRAQI FREEDOM—BY THE NUMBERS 11 (Apr. 30, 2003), available at [http://www.globalsecurity.org/military/library/report/2003/uscentaf\\_oif\\_report\\_30apr2003.pdf](http://www.globalsecurity.org/military/library/report/2003/uscentaf_oif_report_30apr2003.pdf) [hereinafter OPERATION IRAQI FREEDOM—BY THE NUMBERS]; U.K. MINISTRY OF DEFENCE, OPERATIONS IN IRAQ—FIRST REFLECTIONS 24 (July 2003), available at [http://www.globalsecurity.org/military/library/report/2003/iraq2003operations\\_ukmod\\_july03.pdf](http://www.globalsecurity.org/military/library/report/2003/iraq2003operations_ukmod_july03.pdf) [hereinafter OPERATIONS IN IRAQ—FIRST REFLECTIONS].

153. GULF WAR AIR POWER SURVEY, *supra* note 150, at pt. 1, 43, 48.

154. OFF TARGET, *supra* note 6, at 110.

155. FATALLY FLAWED, *supra* note 57, at 28.

156. *Id.*

157. ABC World News Tonight with Peter Jennings (ABC television broadcast, Dec. 12, 2003).

#### 4. *Reduce Dud Rates*

Several treaties regulate the unintended effects of weapons. In 1907, a Hague Convention forbade the laying of unanchored sea mines “except when they are so constructed as to become harmless one hour: at most after the person who laid them ceases to control them” and prohibited the use of anchored sea mines “which do not become harmless as soon as they have broken loose from their moorings.”<sup>158</sup> More recently, international law has applied such restrictions to landmines. CCW Amended Protocol II prohibits the use of remotely delivered anti-personnel mines unless they have devices that cause them to self-destruct or self-deactivate within 30 or 120 days, respectively.<sup>159</sup> By limiting the temporal effects of weapons, it reduces the chance that they will harm people other than those intentionally targeted.

To protect civilians from the aftereffects of cluster munitions, regulations must mandate a significantly lower dud rate. The extensive humanitarian harm caused by duds is well documented. In Yugoslavia, bomblets killed about 50 civilians and injured 101 in the year after the war ended.<sup>160</sup> In Afghanistan, the International Committee of the Red Cross reported at least 126 casualties, including 19 deaths from cluster duds in the first year after the start of the conflict.<sup>161</sup> In Iraq, the numbers were much higher. Al-Najaf Hospital alone treated 109 civilians in the first week after the battle for al-Najaf; most of them had been injured by submunitions.<sup>162</sup> In Lebanon, duds caused the majority of cluster munition casualties. As of January 2007, submunitions continued to kill or injure children playing, civilians collecting scrap metal, and farmers working in their fields.<sup>163</sup>

The attack on the city of al-Hilla, Iraq, exemplifies the danger from duds. According to Human Rights Watch’s report, “[E]xplosive duds endangered its inhabitants from moments after the battle began on [the night of] March 31, [2003].”<sup>164</sup> Ambulance drivers refused to rescue victims at night because duds were difficult to see in the dark.<sup>165</sup> The next morning, they found hundreds of wounded civilians waiting for transport to the hospital.<sup>166</sup> The danger from duds continued for months.<sup>167</sup> During the spring

158. Hague Sea Mines Convention, *supra* note 19, art. 1.

159. CCW Amended Protocol II, *supra* note 25, art. 6(2).

160. *FATALLY FLAWED*, *supra* note 57, at 42.

161. INTERNATIONAL COMMITTEE OF THE RED CROSS, *MINE VICTIMS REPORT* (Oct. 6, 2001 to date) (on file with author) [hereinafter *MINE VICTIMS REPORT*] (listing cluster bomb casualties up to November 2002).

162. *OFF TARGET*, *supra* note 6, at 106.

163. Cluster Munition Casualty List, *supra* note 11.

164. *OFF TARGET*, *supra* note 6, at 105.

165. *Id.*

166. *Id.*

167. *Id.* at 128–29.

and summer, the al-Hilla General Teaching Hospital recorded 253 cluster casualties.<sup>168</sup>

Children are particularly vulnerable to duds. Their natural curiosity leads them to view the submunitions as toys. In Afghanistan, eighty-five, or 67 percent, of the Red Cross-reported victims were under the age of eighteen.<sup>169</sup> For example, Arif, fourteen years old, and Sharif, thirteen, brothers from a Herat suburb, were injured while playing during an excursion to a local military base.<sup>170</sup> Arif lost his leg to a BLU-97 submunition.<sup>171</sup> In Iraq, ribbons on the end of DPICMs enticed children. The author saw a young boy carry a live DPICM dud through a crowd of neighbors in al-Hilla. Fortunately, it did not explode. Abbas Hussain, twelve, was not so lucky and lost half of his hand to a cluster grenade.<sup>172</sup> "He picked up something in the road. He thought it was something to play with but it hit the ground and exploded," said his uncle, Hossam al-'Alawi, during an interview at the al-Najaf Teaching Hospital.<sup>173</sup> Hospital records show one-quarter of the casualties in the weeks after the battles of al-Hilla and al-Najaf were children.<sup>174</sup>

Cluster munitions also harmed children in Lebanon. On October 22, 2006, in a field next to a house in Helta, for example, Khodr Ali Hussein Chebli was in a tree, throwing pinecones down at his brother, Rami.<sup>175</sup> Rami picked up a piece of metal to throw back. It turned out to be a DPICM. Warned by a neighbor boy that the metal was dangerous, he raised it over his head to throw it. It exploded and killed him. Fifty-one of 211 civilian casualties were children as of January 27, 2007.<sup>176</sup>

National practices suggest that requiring a less than 1 percent dud rate is technologically feasible. Several countries have used that percentage in their own efforts to limit the aftereffects of cluster munitions. Beginning in fiscal year 2005, the United States would not procure any new cluster munitions with a dud rate of 1 percent or higher.<sup>177</sup> In March 2005, Germany announced to its fellow CCW states parties that it would not use these weapons until their dud rate is below 1 percent.<sup>178</sup> The United Kingdom has pledged to mandate the same rate by 2015.<sup>179</sup> A cluster munitions convention should leave to the states how to meet this threshold, but self-destruct,

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168. *Id.*

169. MINE VICTIMS REPORT, *supra* note 161.

170. Interview with Sharif, in Bag Nazer Gah, Afg. (Mar. 29, 2002).

171. *Id.*

172. Interview with Hossam al-'Alawi, in al-Najaf, Iraq (May 24, 2003).

173. *Id.*

174. OFF TARGET, *supra* note 6, at 109.

175. Interview with witness, in Helta, Leb. (Oct. 22, 2006).

176. Cluster Munition Casualty List, *supra* note 11.

177. REPORT TO CONGRESS: CLUSTER MUNITIONS, *supra* note 100, at ii.

178. Germany, Statement to CCW Working Group on Explosive Remnants of War, *supra* note 107.

179. United Kingdom, *Military Utility of Cluster Munitions*, *supra* note 83, at 3.

self-neutralization, and self-deactivation devices are likely to be the most common solution to minimizing the dud rate.

### 5. Destroy or Retrofit Stockpiles

Modern weapons treaties regulate possession as well as use and provide models for requiring states to dispose of existing stockpiles. The 1972 Biological and 1993 Chemical Weapons Conventions require destruction within set time periods, nine months and ten years respectively.<sup>180</sup> Article 4 of the 1997 Mine Ban Treaty states that “each State Party undertakes to destroy or ensure the destruction of all stockpiled anti-personnel mines it owns or possesses, or that are under its jurisdiction or control, as soon as possible but not later than four years after the entry into force of this Convention for that State Party.”<sup>181</sup> States are given a reasonable time period to complete the process of destruction, and they are allowed to keep a small number of mines for the purpose of training deminers.<sup>182</sup> Disposing of stockpiles means old and problematic weapons are not available for use.

Cluster munitions regulation must require the destruction or retrofitting of inaccurate and unreliable stockpiles so that states are not tempted to use them. In Lebanon in 2006, Israel used CBU-58/Bs stamped 1973 and carrying a one-year warranty. Some of these had catastrophic failures, which means that none of the submunitions exploded.<sup>183</sup> Currently seventy-three countries stockpile cluster munitions, making them potential users.<sup>184</sup> Some of these caches are enormous. According to a recent Department of Defense report, the United States has 5.5 million cluster munitions and close to 750 million submunitions.<sup>185</sup> Even states that are known to abide by the laws of war may decide to deploy these outdated weapons in times of conflict. In 2003, the U.S. and U.K. air forces dropped at least 252 Vietnam-era clusters in Iraq.<sup>186</sup> The United States also made widespread use of the unreliable DPICM, which has a 3 to 16 percent dud rate, depending on which U.S. government figures one uses.<sup>187</sup> The only way to ensure these dangerous submunitions will no longer be used is to destroy them.

In the case of cluster munitions, retrofitting can be allowed as an alternative to disposal. Many states have adopted this course of action. Germany has announced plans to retrofit its stores of older cluster munitions. In March 2005, Germany declared that it will not use MLRS-launched sub-

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180. Biological Weapons Convention, *supra* note 21, art. 2; Chemical Weapons Convention, *supra* note 22, art. 4(6).

181. Mine Ban Treaty, *supra* note 28, art. 4.

182. *Id.* art. 3(1).

183. FORESEEABLE HARM, *supra* note 12, at 10.

184. Cluster Munition Information Chart, *supra* note 68.

185. REPORT TO CONGRESS: CLUSTER MUNITIONS, *supra* note 100.

186. OPERATION IRAQI FREEDOM—BY THE NUMBERS, *supra* note 152, at 11; OPERATIONS IN IRAQ—FIRST REFLECTIONS, *supra* note 152.

187. REPORT TO CONGRESS: CLUSTER MUNITIONS, *supra* note 100, at 2.

munitions until they are “modernized” with self-destruct devices.<sup>188</sup> For fiscal years 2005 and 2006, the United States appropriated \$12 million to add self-destruct devices to artillery-launched DPICMs; the Army requested another \$5.1 million for fiscal year 2007.<sup>189</sup> This program only impacts the tip of the iceberg, however. Millions of inaccurate and unreliable submunitions remain ready for use.

## 6. Restrict Transfers

Several weapons treaties include bans on transfers. The Biological Weapons Convention prohibits transfer “to any recipient whatsoever, directly or indirectly.”<sup>190</sup> The Chemical Weapons Convention requires states parties “never under any circumstances: (a) To . . . transfer, directly or indirectly chemical weapons to anyone.”<sup>191</sup> In the Mine Ban Treaty, Article 1 states, “Each State Party undertakes never under any circumstances (c) [t]o . . . transfer to anyone, directly or indirectly, anti-personnel mines.”<sup>192</sup> These provisions are designed to prevent the spread of problematic weapons.

A cluster munitions convention must similarly prohibit the transfer of inaccurate and unreliable cluster munitions. At least twelve countries have transferred more than fifty types of clusters to at least fifty-eight other countries since Vietnam.<sup>193</sup> Each of the recipients is now a potential user. While transfers of new technology could have humanitarian benefits by making it more widely available, the danger is that states will send their old submunitions to other states as they replace them. For example, when the United States started to phase out its DPICM in the late 1990s, it transferred more than 61,000 artillery-launched cluster munitions containing 8.1 million submunitions to Bahrain and Jordan.<sup>194</sup> The United States has also sold various DPICMs and BLU-63s to Israel from the 1970s to the present. It signed a secret bilateral agreement with Israel limiting the use of U.S.-made cluster munitions to “special wartime conditions,” such as a two-front war.<sup>195</sup> In August 2006, however, the U.S. State Department initiated an inquiry into whether the use in Lebanon violated this agreement.<sup>196</sup> It submitted a report to Congress in January 2007 stating that

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188. Germany, Statement to CCW Working Group on Explosive Remnants of War, *supra* note 107.

189. DEPARTMENT OF THE ARMY, PROCUREMENT PROGRAMS, COMMITTEE STAFF PROCUREMENT BACKUP BOOK, FISCAL YEAR (FY) 2007 BUDGET ESTIMATE SUBMISSION: PROCUREMENT OF AMMUNITION, ARMY 366 (2006), available at <http://www.asafm.army.mil/budget/fybm/FY07/pforms/ammo.pdf>.

190. Biological Weapons Convention, *supra* note 21, art. 3.

191. Chemical Weapons Convention, *supra* note 22, art. 1(1)(a).

192. Mine Ban Treaty, *supra* note 28, art. 1(b).

193. Cluster Munition Information Chart, *supra* note 68.

194. WORLDWIDE PRODUCTION AND EXPORT OF CLUSTER MUNITIONS, *supra* note 84, at 7.

195. FORESEEABLE HARM, *supra* note 12, at 40–42.

196. David S. Cloud, *Inquiry Opened into Israeli Use of U.S. Bombs*, N.Y. TIMES, Aug. 25, 2006, at A1.

Israel “may have” been in violation.<sup>197</sup> This example shows that bilateral agreements are an insufficient way to regulate the use of such submunitions; only a prohibition on transfers will have the desired effect.<sup>198</sup>

Other states have made similar transfers. The United Kingdom transferred its Vietnam-era BL-755 to fifteen countries.<sup>199</sup> France, which has pledged to phase out its Belouga, has exported it to Argentina, Greece, and India.<sup>200</sup> DPICMs are particularly common exports. In addition to the U.S. transfers mentioned, Germany and Israel have sent this submunition to thirteen different states.<sup>201</sup> A new instrument must stop the spread of these weapons to prevent extending the civilian harm they cause.

### 7. *Mandate Transparency*

The Chemical Weapons Convention and the Mine Ban Treaty provide good models for a provision on transparency. The former establishes elaborate reporting requirements, which call for declarations on possession and location of chemical weapons and production facilities, among other subjects.<sup>202</sup> The Mine Ban Treaty devotes Article 7 to transparency measures. Paragraph 1(b) requires each party to report “[t]he total of all stockpiled anti-personnel mines owned or possessed by it . . . [and] to include a breakdown of the type, quantity, and, if possible, lot numbers of each type of anti-personnel mine stockpiled.”<sup>203</sup> Paragraphs 1(c) and 1(h) of Article 7 provide information to facilitate clearance. States parties must release the “location of all mined areas that contain, or are suspected to contain, anti-personnel mines” and the “technical characteristics of each type of anti-personnel mine produced . . . and those currently owned or possessed by [them].”<sup>204</sup> Both technical information and locations of use are essential to minimizing the civilian harm that weapons cause.

To reduce the humanitarian harm of cluster munitions, a regulatory instrument must require producers and stockpilers to disclose comparable information relating to these weapons. They must provide technical data to the international community, including the number of submunitions, footprint size, and dud rate. This information would facilitate enforcement of cluster munitions regulation by clarifying which models do not meet legal standards. For example, without knowing the dud rate it would be impossible to tell if a cluster munition violated element four of this proposal re-

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197. David S. Cloud and Greg Myre, *Israel May Have Violated Arms Pact, U.S. Says*, N.Y. TIMES, Jan. 28, 2007, <http://www.nytimes.com/2007/01/28/world/middleeast/28cluster.html?ex=1327640400&en=d2ba5ee2a96d6eed&ei=5088&partner=rssnyt&emc=rss>.

198. FORESEEABLE HARM, *supra* note 12, at 40–42.

199. WORLDWIDE PRODUCTION AND EXPORT OF CLUSTER MUNITIONS, *supra* note 84, at 6.

200. *Id.* at 5.

201. *Id.*

202. Chemical Weapons Convention, *supra* note 22, art. 3.

203. Mine Ban Treaty, *supra* note 28, art. 7(1)(b).

204. *Id.* art. 7(1)(c), (h).

garding reduction of dud rates. The information would also assist deminers clearing cluster munitions after use. Even though Afghanistan had a large demining infrastructure before the U.S. bombing, most of its clearance experts had never seen the BLU-97.<sup>205</sup> As a result, it took longer to clear the submunitions and the process was more dangerous to deminers.<sup>206</sup> If the United States had been more open with the technical details of that weapon, it could have expedited clearance and saved lives.

Dissemination of accurate, usable, and complete information about the sites of cluster munition use is also critical. User states must reveal not only type and quantity used, but also strike locations. In Afghanistan, the U.S. Defense Department provided the U.N. a list of CBU strikes and locations for use by clearance organizations.<sup>207</sup> Deminers reported, however, that the list was of little help.<sup>208</sup> It existed in at least three very different and sometimes contradictory versions.<sup>209</sup> It was also highly inaccurate and used latitude and longitude to mark locations for deminers who had no global positioning system receivers.<sup>210</sup> A comparable list for Iraq, distributed by the U.S. Army Corps of Engineers, was much more useful and accurate, but it was not complete.<sup>211</sup> The U.S. Air Force released some, if not all, of its strike location information. The Army, however, did not provide comparable information.<sup>212</sup> As a result, clearance teams depended largely on ad hoc reports from people in the field who found unexploded ground-launched submunitions.<sup>213</sup> A similar situation exists today in Lebanon because Israel has refused to release adequate information about strike sites despite pleas from the U.N. and others to do so.<sup>214</sup> A cluster munition instrument must include transparency requirements for both technical information and locations of use.

### 8. Strengthen Post-Conflict Remedial Measures

Several treaties mandate post-conflict remedial measures. The Chemical Weapons Convention requires states parties to “destroy all chemical weapons [they] abandoned on the territory of another State Party.”<sup>215</sup> Under the Mine Ban Treaty, “[e]ach State Party undertakes to destroy or ensure the

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205. FATALLY FLAWED, *supra* note 57, at 34.

206. *Id.*

207. *Id.* at 37–38.

208. *Id.*

209. *Id.*

210. *Id.*

211. U.S. ARMY CORPS OF ENGINEERS, LIST OF EXPLOSIVE REMNANTS OF WAR, received by Human Rights Watch, June 2003 (on file with author).

212. *Id.*

213. Interview with Gunnery Sergeant Tracy Jones, U.S. Marine Corps, in Karbala, Iraq (May 24, 2003).

214. Israeli Cluster Munitions Hit Civilians in Lebanon, *supra* note 79; Press Release, Human Rights Watch, Lebanon: Israeli Cluster Munitions Threaten Civilians (Aug. 17, 2006), <http://hrw.org/english/docs/2006/08/17/lebanon14026.htm>.

215. Chemical Weapons Convention, *supra* note 22, art. 1(3).

destruction of all anti-personnel mines in mined areas under its jurisdiction or control, as soon as possible but not later than ten years after the entry into force of this Convention for that State Party.”<sup>216</sup> The latter treaty also requires states parties “in a position to do so” to contribute to victim assistance and mine awareness.<sup>217</sup> CCW Amended Protocol II obliges states to clear mines “without delay after the cessation of active hostilities.”<sup>218</sup> It is thus common for modern weapons treaties to require states to clear or take other actions regarding the munitions they used or that are under their control.

CCW Protocol V establishes additional post-conflict obligations for explosive remnants of war. It requires parties to clear all remnants in their territory and to facilitate clearance of explosive ordnance they used in territory not under their control.<sup>219</sup> It also establishes duties to record and share information, to protect humanitarian missions, and to take all feasible precautions to protect civilians from explosive remnants of war.<sup>220</sup> The obligations apply to unexploded submunitions, although the protocol does not specifically mention cluster munitions.

A new cluster munitions instrument must reiterate this law to ensure that parties are bound even if they are not party to Protocol V. Because states continue to use unreliable submunitions, efficient and effective clearance is a humanitarian imperative. In Afghanistan, which had a well-established demining infrastructure before the 2002 war, duds caused more than one hundred civilian casualties in the months after the conflict.<sup>221</sup> Even if the dud rate were reduced to 1 percent, cluster munitions would leave some unexploded submunitions from which civilians must be protected.

The law must also be strengthened because Protocol V is full of qualifying language like “as far as practicable,” “as far as feasible,” and “as soon as feasible.” Cluster munitions regulation must remove these kinds of vague phrases, replacing them with tougher scope and time requirements, such as those laid out in the Chemical Weapons Convention and Mine Ban Treaty for clearance and other post-conflict measures. A cluster munition instrument must strengthen the extent of states parties’ obligations and establish strict timelines for their completion.

## VI. CONCLUSION

A binding legal instrument with these eight essential elements will effectively diminish the humanitarian harm of cluster munitions. Reiteration

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216. Mine Ban Treaty, *supra* note 28, art. 5(1).

217. *Id.* art. 6(3).

218. CCW Amended Protocol II, *supra* note 25, art. 10(1).

219. CCW Protocol V, *supra* note 14, art. 3.

220. *Id.* arts. 4–6.

221. MINE VICTIMS REPORT, *supra* note 161.

of existing law will remind states of the overarching rules that lie behind any specific regulation of this weapon. Restrictions on use in or near populated areas will eliminate most of the risks to civilians during strikes. Requirements to avoid exacerbating circumstances and to lower the dud rate will reduce the threat from unexploded submunitions after the conflict. Clauses calling for stockpile destruction and transfer prohibitions will decrease the global scope of the problematic weapons. Finally, increased transparency and stronger post-conflict remedial measures will minimize the harmful effects of any unexploded submunitions left after hostilities.

In addition to providing precedent, past weapons treaties illuminate three historical preconditions for creating such legally binding instruments. In the case of cluster munitions, they have today aligned. Recent conflicts have vividly illustrated the humanitarian harm caused by cluster munitions and the fact that an end to their use is not in sight. Like-minded states and an international NGO campaign have heightened public concern about the issue. As new technology becomes available, inaccurate and unreliable cluster munitions are less useful to modern militaries. The international community must take advantage of this confluence of circumstances and negotiate a cluster munitions convention. The history of weapons treaties shows that if states have the will, they have the power to ameliorate suffering in war. With regard to cluster munitions, the time to act is now.

## APPENDIX I: LIST OF WEAPONS TREATIES

Treaty (short name)	Treaty (full name)	Date of Signing	Regulation/ Ban	Number of Parties <sup>222</sup>
St. Petersburg Declaration	Declaration Renouncing the Use, in Time of War, of Certain Explosive Projectiles, St. Petersburg	1868	Ban	20
1899 Hague Balloon Declaration	Declaration (IV, 1) to Prohibit, for the Term of Five Years, the Launching of Projectiles and Explosives from Balloons, and Other Methods of Similar Nature, The Hague	1899	Ban	24
Hague Gas Declaration	Declaration (IV, 2) Concerning Asphyxiating Gases, The Hague	1899	Ban	31
Hague Dum Dum Bullets Declaration	Declaration (IV, 3) Concerning Expanding Bullets, The Hague	1899	Ban	31
1907 Hague Balloon Declaration	Declaration (XIV) Prohibiting the Discharge of Projectiles and Explosives from Balloons, The Hague	1907	Ban	20
Hague Sea Mines Convention	Convention (VIII) Relative to the Laying of Automatic Submarine Contact Mines, The Hague	1907	Regulation	27
Submarine and Gas Convention	Treaty Relating to the Use of Submarines and Noxious Gases in Warfare, Washington	1922	Regulation and Ban	10
1925 Geneva Protocol	Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and Bacteriological Methods of Warfare, Geneva	1925	Ban	134
Biological Weapons Convention	Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, London, Moscow, and Washington	1972	Ban	155
Convention on Conventional Weapons (CCW)	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, Geneva	1980	Ban and Regulation	102
CCW Protocol I	CCW Protocol on Non-Detectable Fragments, Geneva	1980	Ban	100
CCW Protocol II	CCW Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices, Geneva	1980	Regulation	89

222. International Committee of the Red Cross, *International Humanitarian Law—Treaties and Documents: Treaties and Documents by Date*, <http://www.icrc.org/ihl.nsf/INTRO?OpenView> (last visited Mar. 11, 2007); International Committee of the Red Cross, *State Parties to the Following*

## APPENDIX I: LIST OF WEAPONS TREATIES (CONT'D)

Treaty (short name)	Treaty (full name)	Date of Signing	Regulation/ Ban	Number of Parties
CCW Protocol III	Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons, Geneva	1980	Regulation	95
Chemical Weapons Convention	Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Paris	1993	Ban	182
CCW Protocol IV	Protocol on Blinding Laser Weapons, Geneva	1995	Ban	85
CCW Amended Protocol II	CCW Amended Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices, Geneva	1996	Regulation	87
Mine Ban Treaty	Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, Ottawa	1997	Ban	153
CCW Protocol V	Protocol on Explosive Remnants of War, Geneva	2003	Regulation	31

## APPENDIX II: GLOSSARY

**BLU-97:** A yellow, soda can-sized, air-dropped “bomb live unit,” or submunition, widely used by NATO in Yugoslavia and the United States in Afghanistan.

**CBU-87:** A type of air-dropped “cluster bomb unit,” i.e. the container of a cluster munition. It contains 202 BLU-97 submunitions and was recently used by NATO in Yugoslavia and the United States in Afghanistan.

**CBU-103:** A type of air-dropped “cluster bomb unit,” i.e. the container of a cluster munition. It contains 202 BLU-97 submunitions, but unlike the CBU-87, it has a guidance system at the rear called the Wind Corrected Munitions Dispenser. The United States introduced it in Afghanistan and used it in Iraq.

**CBU-105:** A type of air-dropped “cluster bomb unit,” i.e. the container of a cluster munition. It is also called the Sensor Fuzed Weapon. It carries forty guided submunitions with self-destruct mechanisms. The United States introduced it in Iraq.

**Cluster Munition Coalition (CMC):** A group of more than 175 NGOs working together to stop the humanitarian harm of cluster munitions.

**Convention on Conventional Weapons (CCW):** A convention that governs controversial weapons that “may be deemed to be excessively injurious or to have indiscriminate effects.” It does not encompass non-conventional nuclear, biological, or chemical weapons.

**Dual Purpose Improved Conventional Munition (DPICM):** A bell-shaped submunition, launched by artillery or MLRS and used in, among other places, Iraq and Lebanon.

**Global Positioning System (GPS):** A system that gives latitude and longitude coordinates of a location.

**International Humanitarian Law (IHL):** The law, also called the law of war or law of armed conflict, that governs the conduct of state and non-state actors during armed conflict. It is designed to protect those who are not, or who are no longer, fighting and to regulate the means and methods of war.

**Multiple Launch Rocket System (MLRS):** A rocket launcher that fires twelve long-range rockets. Submunitions are the only warhead for current unguided models.

*Nongovernmental Organization (NGO)*: A non-profit group unaffiliated with a government.

*Sense and Destroy Armor Munition (SADARM)*: A ground-launched cluster munition that carries two guided submunitions with self-destruct devices. The United States introduced it in Iraq.