Footprints of Death: Cluster Bombs as Indiscriminate Weapons Under International Humanitarian Law

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FOOTPRINTS OF DEATH: CLUSTER BOMBS AS INDISCRIMINATE WEAPONS UNDER INTERNATIONAL HUMANITARIAN LAW

Virgil Wiebe*

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In October 1999, ten-year-old Burim Jashari lost his left leg and may lose his right one, as a result of an exploding cluster bomblet in his village of Babushi Muhaxhereve, Kosovo. "Momma, can you give me one of your legs?" he reportedly asked his mother after the accident. Four other boys with whom he was tending animals were also injured. Burim identified a picture of a U.S. dropped cluster bomblet as the culprit.¹

INTRODUCTION

Cluster bombs are indiscriminate weapons. The inherent nature of cluster bombs as wide-area munitions, at a minimum, should make their use illegal in civilian areas, as the risk of civilian casualties is prohibitively high. Unexploded bomblets act as _de facto_ landmines after initial use, making them indiscriminate killers for decades to come.² In light of these characteristics, a moratorium on the use, production, trade, and stockpiling of cluster bombs should be implemented immediately. This moratorium should lead to banning their use, production, transfer and stockpiling through international treaty.

While cluster bombs have not been banned explicitly under international law,³ close scrutiny of their historical use through the lens of established international humanitarian law supports the argument that they should be. Principles of discrimination (those norms which call on military forces to distinguish between civilian and military targets and to limit damage to civilians) have been firmly enshrined in international humanitarian law. Cluster bombs can be shown to be geographically indiscriminate in nature, when used in areas of civilian concentration. Cluster munitions have large "footprints" (the surface area where bomblets are dispersed), and most versions are difficult to accurately target, making their use especially problematic in civilian areas. Cluster

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¹ Thane Burnett, _Burim's Story: Young Victim of Deadly Dregs of War_, TORONTO SUN, Dec. 5, 1999, at 62.
² Unexploded bomblets and submunitions are often referred to as "duds." This terminology is somewhat misleading, as the word "dud" suggests that such a bomblet not only has not but will not explode. Duds which fail to explode on initial contact often do explode when disturbed at a later time.
³ The Ottawa Mines Ban Treaty, with its design-focused definition of landmines (as opposed to a definition focused on the actual effects of particular weapons), most likely excludes cluster bombs from its coverage. Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, Dec. 3, 1997, 36 I.L.M. 1507 [hereinafter Mines Ban Treaty, or MBT]. The MBT defines an anti-personnel landmine as "a mine designed to be exploded by the presence or contact of a person and that will incapacitate, injure, or kill one or more persons." Id. at Art. 2, ¶ 1. For discussion of this issue, see infra Parts III.D & V.A.2.
munitions can also be shown to be temporally indiscriminate, as their high initial misfire rates combined with their small size convert them into de facto landmines. These cumulative characteristics of cluster bombs make them inherently indiscriminate and outweigh their military utility.

Militaries see cluster bombs as more effective against personnel, armored vehicles, and lightly protected buildings than unitary bombs because of their wide area coverage. When access to precision guided munitions fitted with unitary warheads is limited, militaries of both the powerful and less powerful states wish not to restrict their weaponry options. Thus far, these “military utility” arguments in favor of using cluster munitions have trumped humanitarian concerns.

This Article applies these principles of discrimination to the real, rather than idealized, use and characteristics of cluster bombs. Briefly stated, these principles call upon parties to an armed conflict to distinguish between civilians and combatants and to weigh the military advantages of a particular weapon or type of attack against the harm it will do to civilians and civilian objects. This Article also considers briefly the global problem of cluster munitions and examines fundamental components of the discrimination principle as they apply to cluster bombs. As three specific case studies, it analyzes the use of cluster bombs by breakaway Serbs in Croatia in 1995, by NATO in the bombing campaign of 1999 in Serbia and Kosovo, and by Russia in the breakaway republic of Chechnya in 1994–96 and again in the renewal of the conflict beginning in late 1999. These case studies illustrate that the restraint of international humanitarian law has been insufficient to mitigate the well documented harm that ravages communities for months, years, and even decades after a conflict ends. Also examined are past efforts to ban or restrict the use of cluster bombs to discover whether lessons learned from the past can be helpful in current discussions concerning cluster bombs.

The international community should ban the use of cluster munitions, or, at the very least, sharply restrict their use to non-civilian areas and impose obligations on the users of cluster bombs related to unexploded bomblets. While a ban is under consideration, concerned states should take a lead in calling for a moratorium. While an imperfect instrument, the five year review conference of the Conventional Weapons Treaty provides the most hopeful forum for the creation of new rules.

4. See infra Part III for a detailed description of the discrimination principle. The discrimination principle primarily concerns itself with harm to civilian persons and objects. While tenable arguments against the use of cluster bombs can be made under a related international law principle prohibiting superfluous injury and unnecessary suffering against both civilian and military personnel, this paper focuses on discrimination principles.

5. Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate
I. WHAT ARE CLUSTER BOMBS AND WHY DO MILITARIES WANT THEM IN THEIR ARSENALS?

Loosely defined, cluster munitions are weapons systems that disperse a large number of small explosive bomblets (or "submunitions") over a large area, as opposed to unitary or single warhead bombs, which strike a single point. A useful comparison may be the difference between a shotgun blast and a rifle. A cluster bomb "shotgun" delivers hundreds of small exploding bomblets to a target. Each bomblet, in turn, showers a radius of up to 150 meters with shrapnel and or steel pellets. A unitary bomb "rifle" fires a single, much larger "bullet" at a target.

While the term "cluster bomb" suggests that these weapons are always dropped by aircraft, cluster bombs can also be delivered by artillery, missiles and rockets. When dropped from the air, each cluster munition usually consists of a large container (often referred to as a "tactical munitions dispenser," or TMD) packed with several hundred bomblets (also referred to as "submunitions"). Artillery shells or rocket warheads can also be packed with bomblets, as can cruise missile warheads. Upon reaching a target, the dispensers or larger shells open as a result of a small explosive charge, dispersing their bomblets over the target area. The area they cover is normally referred to as an elliptical "footprint." Footprints can be as large as 350 meters by 500 meters. Heavy bombers can carry as many as 40 tactical munitions dispensers.

Bomblets are quite small, with shapes and sizes resembling hockey pucks, tennis balls and soda cans. They are often brightly colored. Bomblets are armed in their descent, with their detonating fuzes usually


being activated as a result of rapid spinning. Upon impact, they are intended to explode, showering a radius of up to a 150 meters with shrapnel and ball bearings. Many are designed to be “dual purpose,” i.e., to be both anti-personnel and anti-materiel. Such bomblets generally have both shrapnel and “shaped charges,” which are intended to burn through armored vehicles and tanks. \(^9\) Some bomblets, referred to in the U.S. arsenal as “combined effects munitions,” pack an additional incendiary punch when the explosive charge includes materials like zirconium, a metal which burns at extreme temperatures when ignited. More advanced “smart” submunitions contain infra-red heat-seeking and acoustic sensors to target the engines of vehicles.\(^{10}\)

Finally, an additional and well-documented effect of bomblets is their conversion into de facto landmines when they fail to explode on contact. Often, the slightest touch can result in their explosion. Personnel charged with cleaning up unexploded ordnance recognize that areas saturated with cluster munitions are de facto minefields.\(^{11}\)

The combined effects nature of the weapon, in conjunction with its wide area coverage and shotgun like nature, are attractive features to a military seeking to kill large numbers of troops and disable multiple armored vehicles in open areas. When targeting capabilities for a single large bomb are limited, one’s chances of hitting a target are magnified when there are, for instance, 202 little chances (bomblets) to hit a target rather than one big chance (a single large unitary warhead). Addition-

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10. McGrath, a former British military officer and founder of a non-profit ordnance clearance organization, refers to four categories of cluster submunitions: Anti-personnel, Anti-tank/anti-materiel, Combined-effects Munitions (CEMs), and Landmines. Many cluster munitions systems are able to dispense conventional antipersonnel and anti-tank landmines as well as cluster bomblets. Rae McGrath, *Cluster Bombs: The Military Effectiveness & Impact on Civilians of Cluster Munitions* 18-23 (2000). Colin King, editor of the prestigious *Jane’s Mines and Mine Clearance*, categorizes cluster submunitions according to their fuzing: Simple Stabilized (those designed to impact their targeted at a set angle and stabilized in flight through fins or parachutes—includes most dual purpose and CEMs), Spin-Armed (spherical or ovoid submunitions whose fuzes are armed by spinning—generally these are anti-personnel), Dual Purpose Improved Conventional Munitions (DPICM)(stabilized and armed by a streamer) and Smart submunitions. Colin King, Int’l Comm. of the Red Cross, *Submunitions and Other Unexploded Ordnance, A Study: Explosive Remnants of War* 32-34 (2000) (on file with author) [hereinafter ICRC, Submunitions].

11. Thane Burnett, *Kosovo’s Legacy: Serbian Landmines and NATO Cluster Bomblets*, TORONTO SUN, Dec. 5, 1999, at 60. Canadian deminer, Major Kris Stec, in referring to British & U.S. cluster bombs dropped in Kosovo, stated, “They’re not technically a landmine but they do the same job when they’re sitting on the ground . . . . They’ve been our biggest hazard.” Jasper Harrison, with the German-based demining agency HELP concurs, saying, “They act like a mine, to a farmer or a child who steps on it, there’s no real difference.” Id.
ally, cluster bombs increase the ability to hit multiple targets, such as massed troops or a concentration of tanks.\textsuperscript{13}

That cluster munitions play a key role in strategic and tactical planning for future conflicts can be seen in the U.S. Department of Defense's \textit{2000 Annual Report to the President and the Congress}. Upgrades to the U.S. bomber fleet, making it capable of carrying advanced cluster munitions, are highlighted in the report. The U.S. Air Force heralds the development of improved guidance systems for cluster munitions, and the U.S. Army highlights the central role that improved ground based cluster munitions systems play in force composition.\textsuperscript{14}

\section*{II. Where Have Cluster Bombs Been Produced and Used?}

Cluster bombs have come into increasing use in the past sixty years. The first uses were by the Soviets and Germans during World War II.\textsuperscript{15} The U.S. military has employed them extensively in nearly every major conflict since the Vietnam War. From 1964 to 1973, Laos endured one of the most intensive bombing campaigns in modern history, as the United States attempted to destroy the social and economic infrastructure of the Pathet Lao communist forces. Over 500,000 bombing missions occurred, dropping over two million tons of ordnance. In Xieng Khouang province alone, one of the most heavily bombed areas, an estimated 300,000 tons of bombs were dropped (an average of more than two tons per inhabitant). A 1971 U.S. Information Service refugee survey found that at least 80\% of the victims were civilians.\textsuperscript{16}

In the first five years following the end of the war, over 4,500 people were killed or injured by unexploded ordnance, according to surveys recently conducted. For the entire period between 1973 and 1996, at least 11,000 people were killed or injured. Estimates are that at least half of

\begin{footnotesize}
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  \item \textsuperscript{15} King, supra note 11, at 10--11.
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those casualties were caused by cluster submunitions. Injuries and deaths continue to the present day. According to data collected in 1998, the percentage of child victims is on the rise. Forty percent of unexploded ordnance victims are killed outright. Sixteen of Laos’ provinces are affected by unexploded ordnance (UXO), and 25% of the country’s villages remain severely contaminated. Since the end of the war, numerous efforts have been undertaken to clear land and living area of UXO.

Ordnance experts estimate that between nine and twenty-seven million unexploded cluster bomblets remain in the ground in Laos. Currently, UXO clearance, training, and community awareness activities are being conducted by five international mine clearance organizations and military advisors from the United States and Belgium. From 1996–98, over 122,000 pieces of UXO were cleared, with approximately 50–75% of that total being cluster bomblets. In 1999, 41,000 cluster bomblets were cleared, with another estimated 50,000 cleared in the year 2000. Manufacturers estimated a ten percent failure rate for the cluster bomblets used, “but it is now generally agreed that the actual rate was 30% because the ordnance was often not dropped in accordance with manufacturer specifications.”

The United States also heavily employed cluster munitions during the Gulf War. During Desert Storm the U.S. Air Force dropped 47,167 cluster munitions, carrying 13,167,544 submunitions. The U.S. Army also fired


18. For a summary of early efforts, see Shoemaker, supra note 16.
19. McGrath, supra note 11, at 31; ICRC, 2000 CCW REPORT, supra note 17, at 5.
21. Id.
22. INTERNATIONAL COMMITTEE OF THE RED CROSS, EXPERT MEETING ON EXPLOSIVE REMNANTS OF WAR: A SUMMARY REPORT 8 (2000) [hereinafter ICRC, NYON SUMMARY REPORT]. At this rate, assuming 9 million unexploded bomblets, it will take 180 years to clear Laos of cluster bomb UXO, or 540 years assuming 27 million.
17,286 MLRS rockets, scattering an additional 11,130,000 submunitions.\textsuperscript{25}

Of the air-dropped bombs, 10,035 were CBU-87s.\textsuperscript{26}

[T]he CBU-87/B, was described by air force officials as the weapon of choice in the Middle East. This “combined effects munition” carries 202 bomblets, the BLU-97/B. Each 3.4-pound bomblet carries a triple punch: a prefragmented antipersonnel casing to spray deadly shrapnel; a hollow-charge antitank warhead; and a disc of incendiary zirconium to add a fiery finishing touch. The air force claims one such bomblet will disable heavy vehicles over a 50-foot radius and aircraft over a 250-foot radius. Troops would be still more vulnerable at greater ranges.

A single B-52 strategic bomber can carry 40 such cluster bombs, with a total of 8,080 bomblets. Theoretically, assuming a danger radius of 250 feet, one B-52 could carpet-bomb over 176 million square yards, equal to 27,500 football fields. The 28 B-52s which reportedly dropped 470 tons of explosives on Iraqi ground forces on one day, January 30, [1991] could have obliterated 1,600 square miles, an area one-third the size of Connecticut.\textsuperscript{27}

United States soldiers estimated that the dud rate for cluster munitions used in the Gulf War was between 10–20%, well above the “acceptable” level of 3–5%.\textsuperscript{28} Human Rights Watch has cited reports noting dud rates of as high as 30% during the Gulf War.\textsuperscript{29}

Lest one get the impression that only the United States has used cluster bombs extensively, a few additional examples are in order. Cluster munitions have been employed worldwide, used by state and non-state actors in places as diverse as the Afghanistan, Angola, Chechnya, Croatia, the Falkland/Malvinas Islands, Ethiopia, Eritrea, Kashmir, Lebanon, Nagorno-Karabakh, Sierra Leone, Sudan, and Vietnam.\textsuperscript{30}

\textsuperscript{25.} Id. at 40.
\textsuperscript{27.} Walker & Stambler, supra note 9.
\textsuperscript{30.} See, e.g., Army Reportedly Seizes Areas from UNITA, BBC MONITORING AFRICA, June 16, 2000 (Angolan government troops seize a Ukrainian-made Uragan multiple rocket
Contractors from around the globe produce cluster bombs, multiple rocket launcher systems, submunitions, and their components. A non-exclusive list includes manufacturers in Belgium, Brazil, Chile, China, the Czech Republic, Egypt, France, India, Israel, Italy, Germany, North Korea, Poland, South Africa, South Korea, Sweden, Switzerland, Turkey, the United Kingdom, the United States, and the Federal Republic of Yugoslavia. \(^{31}\)
The Sudanese government routinely bombs the southern province of Equatoria, often employing cluster bombs in targeting hospitals and schools. In the conflict between Pakistan and India over the Kashmir in mid-1999, India reportedly used air-dropped cluster bombs. Israel has made repeated use of cluster bombs in southern Lebanon for decades in its struggle against Hezbollah.

In addition to using cluster bombs extensively in Chechnya, discussed more fully below, Russia has been an active exporter of cluster bomb systems. For example, the Russian Grad ("Hail") Multiple Launch Rocket System, which can be equipped with cluster bomb warheads, has been sold to over thirty-nine countries, including Afghanistan, Cambodia, China, India, Mongolia, North Korea, Pakistan, and Vietnam. Non-state actors, such as UNITA in Angola, have also gotten into the cluster bomb action, employing the Russian Uragan Multiple Rocket Launch system.

During the NATO air campaign from late March to early June of 1999, which was designed to stop Serbian forces from effecting ethnic cleansing of Kosovar Albanians, NATO warplanes and cruise missiles dropped at least nearly 1800 cluster bombs on Kosovo and Serbia. Each bomb contained between 147 and 202 bomblets, leading to an estimate of over 300,000 submunitions dropped. Estimates of dud rates


32. See Wiebe & Peachey, Clusters of Death, supra note 8, at 79–88; McGrath, supra note 11, at 38–39.

33. Rahul Bedi, India Steps Up Attacks, But Says Yes to Talks, DAILY TELEGRAPH (London), June 1, 1999; Surinder Oberoi, India Accepts Talks with Pakistan or Kashmir but Continues Offensive, AGENCE FRANCE PRESSE, June 8, 1999, available at LEXIS, All News, Agence France Presse File. India also possesses short range ballistic missiles, most notably the Prithvi, which can be fitted with cluster bomblet warheads. See, e.g., Centre for Defence & International Security Studies, National Briefings: India, http://www.cdiss.org/india_b.html (last modified May 11, 2000).


36. Id.

37. Jeffrey Fleishman, NATO’s Attempts to Help Kosovars Blowing Up in Their Faces, RALEIGH NEWS & OBSERVER, Nov. 25, 1999, at A17 (1100 U.S. cluster bombs and “about” 500 British cluster bombs deployed during Operation Allied Force). It was not until November 2000 that the Dutch government publicly acknowledged dropping 165 CBU-87s during Operation Allied Force. F.H.G. Degrave (Minister of Defence) & J.J. van Artsen (Minister of Foreign Affairs), Memorandum to the Chair of the Permanent Committee for Foreign Affairs of the Lower House of the States-General, Subject: Cluster Bombs, Nov. 17, 2000, DVB/NNN-571/00 (Neth.) (on file with author) [hereinafter Dutch Cluster Bomb Memorandum]. See also infra note 175 and accompanying text.
have varied from 5% (quoted by government officials) to over 30% (estimated by clearance groups on the ground), resulting in between 15,000 and 90,000 unexploded bomblets to be cleared.

III. CLUSTER BOMBS AND THE PRINCIPLE OF DISCRIMINATION IN INTERNATIONAL LAW

A. Basic Principles of Discrimination

The characteristics of cluster bombs (namely their use in massive numbers combined with their dud rates, and their wide-area nature) implicate fundamental concerns of international humanitarian law. The fundamental principle of discrimination, requiring that warfare should be directed only at combatants, has been enshrined in international law.

The modern codification of the prohibition against indiscriminate warfare finds its origins in the 1868 St. Petersburg Declaration, which states that the "only legitimate object which states should endeavor to
The first attempt to place such limits on air warfare can be found in the 1899 Hague Conventions, which prohibited for five years the launching of projectiles or explosives from balloons or by similar new means. The imprecise nature of bombing at the time justified such a ban under existing norms traditionally applied to ground warfare. This ban was extended for five more years in 1907. That concern about imprecise bombing has been at the heart of restrictions on aerial bombardment since it inception should inform any efforts at regulating cluster bombs.

Following World War I and the debut of aerial bombardment, efforts were made to codify rules of air warfare to minimize injury to civilians and require aircraft to target, as much as possible, only military objectives. The 1923 Rules of Air Warfare, drafted by a commission of international jurists at the Hague, never became formal international law but reflected reaction to aerial bombing in World War I. According to paragraphs 3 & 4 of Article 24 of the draft Rules:

(3) The bombardment of cities, towns, villages, dwellings or buildings not in the immediate neighbourhood of the operations of land forces is prohibited. In cases where [military objectives] are so situated, that they cannot be bombarded without the indiscriminate bombardment of the civilian population, the aircraft must abstain from bombardment.

(4) In the immediate neighbourhood of the operations of land forces, the bombardment of cities, towns, and villages, dwellings or buildings is legitimate provided there exists a reasonable presumption that the military concentration is sufficiently important to justify such bombardment, having regard to the danger thus caused to the civilian population.


Massive aerial bombardment and resulting staggering civilian casualties during World War II severely tested the principle of distinction in an age of "total war" and lack of clear rules. Hays Parks, one of the U.S. military's leading authorities on the laws of armed conflict, has attempted to summarize the state of affairs regarding the laws of armed conflict at the conclusion of WWII. Certain "fundamental principles" could be found interwoven in the bombing campaigns of the warring parties: "[t]he intentional attack of the civilian population generally was regarded as prohibited," but "collateral injury to the civilian population or damage to civilian objects was the 'price of doing business'"; "concern for collateral civilian casualties ... was regarded as a mutual obligation shared by the attacker, defender, and the individual civilian," with the "primary responsibility ... rest[ing] squarely with the defender"; and the attribution of civilian casualties to a myriad of factors, including the intensity of enemy defenses, dispersal of targets, and "their commingling with the civilian population as a natural consequence of industrialization and urban growth." The international community responded to the horrors of World War II with the 1949 Geneva Conventions, deemed by Parks to be "pragmatic and balanced," as they distributed responsibility for limiting damage to protected persons and places between the defender and attacker.

The next major recodification of international humanitarian law came in the late 1970s. The basic principle protecting civilian populations in international conflict from indiscriminate attack and injury finds articulation at Article 48 of the 1977 Additional Protocol I to the 1949 Geneva Conventions governing international armed conflicts, which states:

In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives.

44. Id. at 55–59.
Other provisions of Additional Protocol I, which are reviewed below, cover in greater detail legal restrictions concerning distinction, proportionality and minimizing collateral damage and incidental injury.\textsuperscript{46}

The 1977 Additional Protocol II to the 1949 Geneva Conventions purports to protect victims of non-international armed conflicts.\textsuperscript{47} The application of international humanitarian law to internal conflicts is relevant to the use of cluster munitions, as many of the conflicts in which they are used are civil wars.\textsuperscript{48} Protocol II applies to all armed conflicts not covered by Protocol I and "which take place in the territory of a High Contracting Party between its armed forces and dissident armed forces or other organized armed groups which, under responsible command, exercise such control over a part of its territory as to enable them to carry out sustained and concerted military operations and to implement this Protocol."\textsuperscript{49} The principle of discrimination finds its most elemental expression in Additional Protocol II in Article 13(2): "[t]he civilian population as such, as well as individual civilians, shall not be the object of attack. Acts or threats of violence the primary purpose of which is to spread terror among the civilian population are prohibited." The effectiveness and application since ratification of Additional Protocol II has been questioned, as civil conflicts in the territory of states parties to the protocol have arisen and its applicability has been challenged.\textsuperscript{50}


\textsuperscript{48} See, e.g., supra note 30 and accompanying text for a list of conflicts in which cluster munitions have been used.

\textsuperscript{49} Additional Protocol II, supra note 47, art. 1(1). Notably, the parties limited the definition of armed conflicts to "not apply to situations of internal disturbance and tensions, such as riots, isolated and sporadic acts of violence and other acts of a similar nature." \textit{Id.} at art. 1(2).

In recent years, the distinction in international law between international and internal conflicts has been eroded considerably. The International Criminal Tribunal for the Former Yugoslavia noted in the Tadic case a fading of this distinction by finding that certain customary rules apply in both internal and international conflicts. Commentators have noted and welcomed the trend of “blurring the different thresholds of applicability.”

This brief recounting of the history of the principle of discrimination in the laws of armed conflict highlights the tension between the desire for military effectiveness and the demand to reduce as much as possible the injury caused to civilians. As a prelude to considering to applying these principles to cluster bombs, greater attention should be paid to the elements of distinction and proportionality.

1. The Principle of Distinction

The distinction component finds its clearest expression in Additional Protocol I, Article 51(2) (prohibiting making civilians the object of attack) and Article 52, which strictly limits attacks to “military objectives” (those objects which “make an effective contribution to military action” or “offer[] a definite military advantage”). Thus, the intentional targeting of civilian populations, civilian individuals, or civilian objects is strictly forbidden.

This apparently straightforward principle finds different interpretations. For example, the International Committee for the Red Cross Commentary on Protocol I considers that effective contribution includes objects “‘directly used by the armed forces’ (e.g., weapons and equipment), locations of ‘special importance for military operations’ (e.g., bridges), and objects intended for use or being used for military pur-

there have been many noninternational armed conflicts, but only very rarely has the state where the conflict occurred acknowledged the applicability of [common] Article 3.”); Meron, Humanization of Humanitarian Law, 94 AM. J. INT’L L. 236, 261 (2000) (“[T]he states involved are rarely willing to recognize such situations [of belligerency]. In practice, therefore, Protocol II has seldom been formally applied.”).


52. Meron, supra note 50, at 261–63 (noting that the U.S. Joint Chiefs of Staff have ordered that the laws of wars apply to U.S. actions, regardless of the type of conflict and that the regulations promulgated by the U.N. Secretary General for U.N. troops restate broad principles without distinguishing between international and non-international conflicts).

53. According to Article 52, “[a]ttack shall be limited strictly to military objectives. Insofar as objects are considered, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture, or neutralization, in the circumstances ruling at the time, offers a definite military advantage.” Additional Protocol I, supra note 45, art. 52(2).
The ICRC defines the concept of "military objective" as excluding targets which offer only "potential or indeterminate advantages."\textsuperscript{55} The United States, on the other hand, takes a more expansive view, allowing the targeting of economic facilities "that indirectly but effectively support and sustain the enemy's war-fighting capability."\textsuperscript{56} Clear examples of the United States position include the bombing of electrical power plants both in Iraq during the Gulf War and in Serbia during the 1999 NATO "Allied Force."

2. The Principle of Proportionality & Limiting Collateral Damage

The rule of proportionality does not prohibit civilian deaths, but is directed at limiting incidental but foreseeable damage to civilians and civilian objects when a legitimate military objective is targeted. Proportionality may also be seen as the requirement to limit collateral damage or incidental injury. When such damage or death is "excessive" in relation to the anticipated "concrete and direct military advantage," Article 51(5)(b) of Additional Protocol I prohibits the attack. The ICRC Commentary on Protocol I indicates that this "expression . . . was intended to show that the advantage concerned should be substantial and relatively close, and that the advantages which are hardly perceptible and those which only appear in the long term should be disregarded."\textsuperscript{57} The U.S. military, on the other hand, takes a more expansive view of "military advantage":

What is a "concrete and distinct military advantage?"—[it] refers to attack as a whole, not isolated parts of it, but there are no other geographic or chronological boundaries to the term. The rule clearly recognizes the inevitability of collateral civilian casualties. . . . Military advantage [is] not limited to tactical gains, but is linked to the "full context of a war strategy," e.g. the execution of the Coalition war plan for the liberation of


\textsuperscript{55} Id.


\textsuperscript{57} ICRC COMMENTARY ON PROTOCOL I, supra note 54, at 684.
Kuwait. Balancing [is] done on a target by target basis. . . . [o]r it may be done on a campaign-wide basis. 58

A U.S. government attorney echoed such an approach in his post-conflict assessment of United States actions in Operation Allied Force in the Kosovo conflict:

[T]he need to intervene to save lives and restore regional stability established the political objective for NATO’s effort. There was a specific purpose for the military actions, and they must be judged at least in part on what the nations using the force were trying to achieve. . . .

. . .

“Military advantage” is not restricted to tactical gains. One must take into account the full context of a war strategy. 59

The risk of such an approach is that of an “ends justifying the means” approach, whereas classic Just War theory makes a distinction between jus ad bellum and jus in bello principles. Rather than the noble purpose of a war justifying the means undertaken to achieve that purpose, the “justness” of a war can be undermined by indiscriminate actions taken in its prosecution. Among the criteria for waging a “just war” are that the “means must be indispensable to achieve the end” and that the means must be discriminating both in terms of proportionality of harm and the immunity of innocents. 60 In its Commentary on Additional Protocol I, the International Committee of the Red Cross also contends that the distinction between jus ad bellum and jus in bello is maintained in the instrument’s Précambro:

[T]he violation of the law of peace, which includes certain exceptions ‘(jus ad bellum)’ to the general prohibition of the use of force, neither prevents nor exempts any Party to a conflict from respecting the law applicable in such a situation ‘(jus in bello)’. A moral and humanitarian argument can be added to


this legal aspect: just as the dissemination of humanitarian law contributes to the promotion of humanitarian ideals and of a spirit of peace among nations, the faithful application of such law can contribute to reestablishing peace, by limiting the effects of hostilities. . . . The [preamble] states that ‘jus in bello’ cannot affect ‘jus ad bellum.’

While the U.S. military tends to take a big picture view of “military advantage,” it tends to employ a shorter term view when considering the possibility of civilian injury, heavily discounting future harm to civilians as against the likelihood of immediate civilian deaths. The U.S. military “adheres to a narrower interpretation emphasizing direct civilian injuries or deaths,” and when reviewing potential targets “much greater emphasis is typically given to immediate and direct collateral effects.” This method of calculating adverse effects on civilian populations is a matter of some dispute, with another view holding “that planners must consider the long-term, indirect effects on a civilian population.” Michael Walzer, a noted student of the laws of warfare, has written that “[w]e are to weigh ‘the mischief done,’ which presumably means not only the immediate harm to individuals but also any injury to the permanent interests of mankind, against the contribution that mischief makes to the end of victory.” Much recent commentary has focused on long term environmental effects of warfare, emphasizing the need for a more expansive view of collateral damage than simply damage done at the time of conflict.

With these of general principles of discrimination in mind, we turn to the specific case of cluster bombs. Schmitt usefully bifurcates the discrimination principle between (1) limits on the “indiscriminate use of weapons, regardless of their innate ability to discriminate,” and (2) “limits [on] the use of weapons that are by nature indiscriminate, that is, incapable of discriminating between lawful (combatant and military objectives) and unlawful (noncombatants and civilian objects) targets.” Indiscriminate use prohibitions should apply to use of cluster bombs in

61. ICRC Commentary on Protocol I, supra note 54, at 26, 28.
63. Id.
64. Michael Walzer, Just and Unjust Wars 129 (2d. ed., 1980).
65. See, e.g., Edith Brown Weiss, In Fairness to Future Generations 59–60 (1989) (“The duty to avoid adverse impacts from our actions upon our natural and cultural environment derives from the obligation we have as stewards of this planet to pass it on in as good condition as we found it. . . . The duty emphasizes prevention and mitigation of damage . . . rather than remedial measures”).
populated areas due to certain geographic characteristics (the difficulty of precise targeting and their wide-area nature), while prohibitions on inherently indiscriminate weapons should apply to cluster bombs because of temporal characteristics (their dud rates).

B. Indiscriminate Use Prohibitions in Populated Areas: Geographical Aspects of Cluster Bombs

The imprecise targeting of cluster munitions systems combined with the large "footprints" of each individual cluster weapon scattering hundreds of bomblets make their use indiscriminate in areas populated by civilians. These characteristics of cluster munitions make their use in populated areas suspect as possible indiscriminate attacks under international humanitarian law.67

1. Missed Targeting: The Imprecision of Current Cluster Weapons

Precise targeting in a populated area can reduce collateral damage. Cluster bombs, both as air-dropped munitions and when fired in ground-based Multiple Launch Rocket Systems, have proven to be very difficult to accurately target. In urban settings, the potential for greater collateral damage clearly increases, limiting choices. According to one commentator:

The risk of collateral damage resulting from air operations is often magnified in urban settings, where military and civilian assets are collocated and sometimes difficult to distinguish. Not

67. According to Article 51,

"Indiscriminate attacks are prohibited. Indiscriminate attacks are: (a) those which are not directed at a specific military objective; (b) those which employ a method or means of combat which cannot be directed at a specific military objective; or (c) those which employ a method or means of combat the effects of which cannot be limited as required by this Protocol; and consequently, in each such case, are of a nature to strike military objectives and civilians or civilian objects without distinction...."

...[T]he following types of attacks are to be considered as indiscriminate: (a) an attack by bombardment by any methods or means which treats as a single military objective a number of clearly separated and distinct military objectives located in a city, town, village or other area containing a similar concentration of civilians or civilian objects; and (b) an attack which may be expected to cause incidental loss of civilian life injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.

Additional Protocol I, supra note 45, art. 54(4), 54(5).
only does the urban environment, by connecting and closely packing both military and civilian resources, increase the chances that military attacks will injure civilians or destroy civilian property, but it increases the likelihood that even relatively small destructive impacts can unleash substantial reverberating effects on the urban population. The close proximity of civilian and military targets in urban environments exists in the horizontal dimension (military and civilian structures situated side-by-side) as well as the vertical dimension (military and civilian assets stacked one above the other, within the same structure).  

A secret U.K. Ministry of Defence operational analysis of the Kosovo crisis indicated poor targeting performance by British bombing runs. The Hunting RBL755 cluster bombs, the British equivalent of the U.S. CBU-87, hit their targets only 40% of the time. At least 31% missed their targets, and 29% could not be accounted for. These unguided weapons were dropped generally from high altitudes. Ministry of Defence sources claimed that poor weather could account for many of the problems.  

The U.S.-based Multiple Launch Rocket Systems (MLRS) also are notoriously prone to poor targeting. As noted in the newest draft of the U.S. Army Manual 6-60, “[r]ockets are inherently less precise than cannon projectiles. They have a much larger CEP [circular error probable] [and] are therefore much less predictable.” The manual goes on to state that:

The MFOM [MLRS Family of Munitions] rockets are extremely sensitive to the low level winds due to the relatively low velocity of the rocket as it leaves the launch tube. The

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68. Waxman, supra note 62, at x. Waxman defines “urban operations” as “any operations . . . on terrain that is dominated by man-made structures, whether it is a small town or large city.” Id. at 2.


resulting effect produces a path heading error in the first few seconds of flight.\footnote{71}

If precise targeting is the problem, are there “technological fixes” to resolve it? If precision guided munitions (PGMs) are available, and their use is expected to reduce damage to civilians without reducing the expected damage to the target (or increasing the danger to the aircrew), they should be used.\footnote{72} A spirited discussion has emerged over whether the United States should be required in urban areas or areas of mixed civilian and military assets to use precision guided munitions. Some have argued that the availability and increasing use of PGMs by the United States has created an emerging norm of customary international law. The U.S. military has strenuously objected to such a legal interpretation, creating the situation of the major creator of a potential legal norm also being its most “persistent objector.”\footnote{73} A related humanitarian law consideration is the prohibition on the use of weapons that cause superfluous injury or unnecessary suffering. Training materials for U.S. military attorneys state that an armed force “can’t use otherwise lawful arms in a manner that causes unnecessary suffering.”\footnote{74} The example given is that one cannot drop a 2000 pound bomb instead of precision guided munitions against a military objective when civilians are nearby.\footnote{75}

At the extreme end of the precision guided munitions spectrum is Operation Deliberate Force, the U.N. action in Bosnia in 1995. The Rules of Engagement for U.S. forces engaged in the action stated that “target planning and weapons delivery will include considerations to minimize collateral damage.” Reportedly, 98% of all U.S. air-dropped munitions were precision guided.\footnote{76} NATO military leaders explicitly decided against use of cluster munitions, out of concern for civilians. NATO did not attack Serb gun and artillery positions with cluster bombs, as the “long term hazard for civilians” created by an estimated 10% unexploded cluster ordnance rate was “unacceptable.”\footnote{77}
The precision guided munitions "solution" to cluster bomb targeting takes two forms. The first method is simply to stop using cluster munitions altogether for the intended target and replace them with a more accurate unitary weapon. The U.S. Army and the Armed Services and Appropriations Committees of the U.S. House of Representatives have proposed removing cluster munitions warheads from an Army missile system (the Army Tactical Missile System—ATACMS) and replacing them with unitary warheads. According to a House Armed Services Committee report, "[t]his warhead upgrade is intended to limit collateral damage when used against targets in urban environments and is a direct outgrowth of the Army’s inability to conduct deep strike missions against such targets with its existing ATACMS missile inventory during Operation Allied Force."78

That the U.S. Army decided against launching missiles with cluster bomblet warheads into urban areas during Operation Allied Force in Kosovo out of concern over collateral damage should also call into question the U.S. Air Force’s decision to do just the opposite, i.e., use cluster munitions extensively. The U.S. Army’s executive officer for tactical missiles, General John Holly, stated that missiles’ increased accuracy supports such a change for the ATACMS missile.

Given the increased accuracy that we have demonstrated with the ATACMS missile, we are now able to achieve the necessary lethal effects on the target sets with the unitary warhead. . . . That has only previously been achievable with submunitions, basically because we didn’t have that very precise accuracy. Now with the accuracy you can hit the target, and when you hit the target you no longer have as large of a beaten area around that particular target. . . . As we go into coalition warfare, where there is increased concern, as there should be, over collateral damage, a point hit gives you tremendous capability.79

Another example of replacing cluster bombs with unitary warheads is the British plan to replace the air-dropped RBL755 cluster munitions with either Maverick or Brimstone missiles, each being fitted with leaves 100 unexploded bomblets), available at LEXIS, All News, Agence France Presse File; Tracy Wilkins, Refugee Camp in Bosnia Attacked, L.A. TIMES, Oct. 9, 1995, at A1 (Serbian Orkan rocket with cluster warhead kills six women and children and wounds 30).

78. Neil Baumgardner, House Committees Want Funding for Unitary Warhead ATACMS, DEF. DAILY, May 30, 2000, at 1. The specific plan, which was initiated but not completed during Allied Force due to the end of the conflict, was to replace the standard payload of 300 bomblets with a unitary 500 lb warhead on 51 ATACMS. Id.

79. Id.
unitary warheads. According to its manufacturer, "[the] Maverick missile offers minimum collateral damage when used in close air support missions against urban targets."81

The second method of dealing with cluster bomb targeting issues attempts to simply improve the targeting of cluster munitions themselves. Problems with targeting bombs during Operation Desert Storm in 1991 led the U.S. Air Force to develop several systems to attempt to address the problem. The Wind Corrected Munitions Dispenser (WCMD), essentially a tail unit attached to existing cluster bomb munitions dispensers, reportedly addresses the problem of wind drift, allowing high altitude bombing.82 Air Force requirements call for the WCMD to achieve a circular error probable of one hundred feet or less.83 Tests performed in June 1999 reportedly achieved a five meter circular error probable.84 The system has not yet been used in combat.85

One of the public rationales given by the U.S. military for use of cluster munitions is their effectiveness against armor, i.e., tanks, armored combat vehicles, and artillery.86 Department of Defense planning documents, however, indicate that advanced cluster munitions are not primarily intended for targeting armored vehicles. According to a May 2000 General Accounting Office report, "two of the Air Force’s newer and more advanced anti-armor weapons (the Joint Stand Off Weapon BLU-108 variant and the Sensor Fuzed Weapon) are expected to be used against unarmored targets over 60 percent of the time."87 Indeed,
the U.S. Air Force has no intention of using the Combined Effects Munition CBU-87, the cluster munition of choice during the Operation Allied Force in Serbia and Kosovo in 1999, against armored targets. It projects using the CBU-87 against non-armored targets 99% of the time. 88

2. “Footprint” Size: Godzilla Can’t Be Too Careful

Even assuming targeting issues can be overcome after all by new technology, an insurmountable problem arises with cluster munitions in civilian areas—the large footprints. Regardless of how carefully targeted cluster munitions are in a populated area, their “footprints” are so large as to make collateral damage highly likely. Unguided cluster bombs which are difficult to target might be compared to a raging Godzilla, indiscriminately stomping vast footprints of destruction, each a square kilometer in size, through downtown Tokyo. 89 With advanced targeting technology, a kinder, gentler Godzilla can take very careful, gigantic footsteps, but will still cut a wide swath in an urban or populated environment.

The footprint of a cluster bomb is the area covered by the bomblets or submunitions when they impact the ground. The size of the footprint is determined by a variety of factors, including design, altitude from which the dispenser is dropped, altitude at which the dispenser opens, the dispenser spin rate, wind, and slope of the ground on which the bomblets fall. Given the many variables which determine footprint size, it is not surprising that reported cluster bomb footprint sizes also vary . . . While the majority of cluster munitions in a strike generally fall within a concentrated area, there may well be “stray” munitions which fall a distance from the main impact area. These “stray”

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88. Id. at 18. The Navy and Marine Corps do plan to use the Rockeye against armored targets 75% of the time, but the Rockeye is a Vietnam-era weapon not in future development. Id. at 18, 20–21.

89. To push the analogy a bit further in anticipation of Part III.C infra, unexploded cluster bomblets left in those footprints are like Godzilla movies; they keep rearing their ugly heads for years to come. In “Godzilla 2000,” we discover the “23rd screen appearance of the indestructible fire-breathing monster that emerges from the sea to wreak awesome destruction. . . . By the end of the film, most of Tokyo lies smoking at his feet.” Stephen Holden, He’s Back! And There Goes Tokyo Once Again, N.Y. TIMES, Aug. 18, 2000, § 5, at 12.
munitions may or may not always be included in the estimated footprint size.\textsuperscript{90}

The area within which injury can be caused by flying fragments is actually much larger than the actual footprint, as each bomblet showers shards and pellets over an area with a radius of up to 150 meters.\textsuperscript{91}

As an example, the U.S. CBU-87, a cluster munition packed with 202 combined effects bomblets, has an average footprint of 200 meters by 400 meters (according to U.S. military sources). Add an injury radius of up to 150 meters, and there will be a typical affected area of 350 meters by 550 meters.\textsuperscript{92} Another example is the Russian made RBK-500 cluster bomb dispenser. When filled with 565 ShOAB bomblets, the resulting footprint is about 300 meters by 400 meters.\textsuperscript{93}

Ellipses that size cover an area the size of several football fields. And cluster bombs are rarely used singly; “salvo fire” overlaps several footprints (as if Godzilla were intent on stamping out a particular area) while “ripple” fire places footprints end to end (Godzilla strolls through the park).\textsuperscript{94} As an example, in 1999 clearance experts in the village of Musa, Kosovo discovered at least five cluster bomb footprints where NATO had targeted Serb anti-aircraft positions.\textsuperscript{95}

Ground-based cluster munitions footprints cover staggering amounts of area. The Russian “Smerch” ("Tornado") Multiple Launch Rocket System carries twelve rockets, with each carrying a standard warhead of seventy-two submunitions. A salvo of twelve rockets covers 672,000 square meters.\textsuperscript{96} A single salvo of the U.S. MLRS M270 launcher, with its twelve M26 rockets, can shower 7,728 submunitions over a footprint of up to 600 yards by 650 yards in one minute.\textsuperscript{97}

\textsuperscript{90} Wiebe & Peachey, \textit{supra} note 8, at 12 (citations omitted).
\textsuperscript{91} \textit{Id.} (citations omitted).
\textsuperscript{92} \textit{Id.} Maj. Gen. Charles Wald estimated the CBU-87 cluster bomb footprint at 200 meters by 400 meters. \textit{Id.} (citations omitted). Other elements of NATO have estimated even larger footprints for cluster bomb strikes in Kosovo: “NATO believes there should be no problem locating strike sites, which (including a 200m x 200m safety margin) are assumed to be one square kilometer in size for each cluster bomb unit.” Parliamentary/NATO Cluster Meeting, \textit{supra} note 8, at ¶ 5.
\textsuperscript{93} Wiebe & Peachey, \textit{Clusters of Death}, \textit{supra} note 8, at 45; NORMAN FRIEDMAN, THE NAVAL INSTITUTE GUIDE TO WORLD NAVAL WEAPONS SYSTEMS 108 (1994 update).
\textsuperscript{94} See Dantes, \textit{supra} note 10, at 78–79.
\textsuperscript{95} MINES ADVISORY GROUP, KOSOVO 13 (1999) (on file with author). A villager named Gani was killed in October 1999 trying to move a BLU-97 cluster bomblet away from an area frequented by children. \textit{Id.}
\textsuperscript{97} \textit{Id.} at 27–28, 31–32 (citations omitted).
The MLRS M26 rocket has a large ‘footprint’ or dispersion of submunitions in the target area... and therefore requires detailed planning in close operations.... Specifically, they must be careful not to assign missions or targets that are closer than 2000m to friendly troops. 98

Indeed, cluster munitions footprints are so large because targeting historically has been so bad. Cluster weapons “are by nature indiscriminate, because bomblets or other submunitions cannot be aimed at individual targets ... where the use of a cluster weapons is to compensate for imprecision of delivery by attacking a point target with an area weapon, most of the bomblets will explode away from the intended target.” 99 Militaries have also deployed cluster munitions in attacks against areas where targets are suspected, such as wooded areas where tanks or troops might be hiding, 100 or in “high level bombing against vast, vaguely defined ‘area targets.’” 101

3. Massive Numbers of Multi-Purpose Munitions: More Bang for the Buck

Central to the argument of retaining cluster bombs is their military utility: they can do so many different things. Current generation submunitions can be deployed against multiple types of targets, including troop concentrations, defensive positions, positions behind the front lines, tanks formations, convoys, and stockpiled supplies. 102 They are also cheap and plentiful. According to one analyst, “they offer unmatched cost-effectiveness in their ability to dispense a payload over a broad area and attack multiple targets.” 103 For example, Dual Purpose

99. Eric Prokosch, Cluster Weapons, Papers in the Theory and Practice of Human Rights #15 (Univ. of Essex, 1995) at 10. Prokosch distinguishes two types of submunitions from this generalization: smart submunitions which individually seek out targets and “weapons which can be aimed precisely and whose area coverage corresponds to the area of the precise military target being attacked.” Id. As an example of the latter category, he refers to anti-runway cluster bombs, which, if used at low altitudes against airfields away from civilian settlements. Id. at 10 n.8. Because these systems employ a mix of large cratering bomblets with smaller time-delay anti-personnel bomblets, the time delay bomblets might run afoul of the Mines Ban Treaty. Id. at 11.
101. Prokosch, supra note 99, at 10
102. King, supra note 11, at 37.
103. Id.
Improved Conventional Munitions (DPICMs) cost as little as three dollars apiece. The United States has approximately 600 million such submunitions in its stockpile.\textsuperscript{104}

When such weapons have such broad application and are available to field commanders in such large numbers, the danger is that "military advantage" considerations overwhelm humanitarian concerns. Virtually any legitimate target can be attacked with submunitions, increasing the tendency to indiscriminate use.\textsuperscript{105}

4. Targeting + Footprint + Populated Area + Multi-Purpose = Indiscriminate Use

Article 51(4)(b) of Additional Protocol I prohibits attacks which employ a means or method of combat which cannot be directed at a specific military objective. Article 51(5)(a) considers an attack indiscriminate if it is "an attack by bombardment by any methods or means which treats as a single military objective a number of clearly separated and distinct military objectives located in a city, town, village or other area containing a similar concentration of civilians or civilian objects." Article 57(2)(a)(ii) charges attackers with taking "all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event, minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects."

The combination of questionable targeting ability, large footprints, and multipurpose use for submunitions makes compliance with international humanitarian law difficult, if not impossible, when using cluster munitions in populated areas. A U.S. Army Major acknowledges as much in writing that "[c]ommanders must still consider the precision error and large submunitions dispersion patterns when applying this

\textsuperscript{104} Id. at 21, 41. This estimate was arrived at by extrapolating from the total cost ($12 billion) divided by the per unit cost ($20) of retrofitting 1994 DPICM stockpiles with self-destruct mechanisms. Id. Published figures of the total number of submunitions is difficult to come by. A 1994 report indicated that the U.S. alone had produced 750,000,000 submunitions from the mid-70s up to that point, and that Allied forces in the Gulf War had expended at least 24,000,000 submunitions. Steven Askin and Stephen Goose, The Market for Anti-Personnel Landmines—A Global Survey, JANE'S INTELL. REV., Sept. 1, 1994, at 425, available at LEXIS, Military Justice, Jane's Defence Publications File. The U.S. had replenished those massive stockpiles by 1998. A 1999 U.S. General Accounting Office study indicated that in the 1998 weapons inventory, the Rockeye was 107 percent and the Combined Effects Munitions was 164 percent of the 1990 inventory. U.S. General Accounting Office, Report to the Chairman, Subcommittee on Defense, Committee on Appropriations, House of Representatives, Defense Acquisitions: Reduced Threat Not Reflected in Anti-Armor Weapon Acquisitions, July 1999, GAO/NSIAD-99-105, at 19, at http://www.access.gpo.gov/su_docs/aces/aces160.shtml [hereinafter U.S. GAO, Reduced Threat]. Put simply, there are hundreds of millions of submunitions in the military stockpiles around the world.

\textsuperscript{105} King, supra note 11, at 37.
method of attack due to the high probability of extensive collateral damage.” The commentary in the German military manual places cluster bombs alongside incendiary weapons and concludes, based on Article 51(4) of Additional Protocol I, that their use in “densely populated regions” is prohibited.

C. Landmines Super: Unexploded Cluster Bombs as Temporally Indiscriminate & Inhumane Weapons

There is a predicted failure rate of 2–6 per cent. This is not significantly worse than other bombs, although the difference is there are lots of bomblets. The actual failure rate in Kosovo was ‘clearly higher than 2–6 per cent’. Some say 20 per cent. NATO believe a rate of 8–12 per cent is supported by information on the ground.

Submunitions consist of three types: impact fused, time delay fused, and anti-disturbance fused. The anti-disturbance fused submunitions clearly represent anti-personnel “landmine” devices. Impact and time delay fused submunitions on the ground after 23+ years may be considered duds but are very unstable. Because there is no way to determine the type of fuse of the remaining CBU’s, they must all be treated as anti-disturbance devices. U.S. doctrine considers all areas littered with submunitions (regardless of fuse type) as minefields.

Unexploded cluster bombs are inherently indiscriminate as de facto landmines. The basic principle of humanitarian law is a simple one codified in Article 51(4)(b): indiscriminate attacks include those “which employ a method or means of combat which cannot be directed at a specific military target.” The landmines ban movement also appealed to the humanitarian law principles of superfluous injury and unnecessary suffering, and the dictates of public conscience, in its bid to outlaw antipersonnel landmines. The 1997 Mines Ban Treaty (MBT) acknowledged as much in its Preamble:

106. MLRS, supra note 98, at 1.
108. Parliamentary/NATO Cluster Meeting, supra note 8, at ¶ 2.
Basing themselves on the principle of international humanitarian law that the right of the parties to an armed conflict to choose the method or means of warfare is not unlimited, on the principle that prohibits the employment in armed conflicts of weapons, projectiles, and materials and methods of warfare of a nature to cause superfluous injury or unnecessary suffering and on the principle that a distinction must be made between civilians and combatants.  

The same characteristics which make AP landmines indiscriminate apply to unexploded cluster bomblets. They are small. They are often detonated by the proximity, presence or contact of persons. They do not "decay." Most do not have self-destruct or self-deactivate mechanisms. In addition, there are several characteristics unique to cluster bomblets that make them even more likely to cause harm to civilians. Their charges are generally greater than those of landmines, as they are designed to kill rather than maim. Their elegant shapes, whether the spherical "bombies" of the Vietnam conflict or the soda can shapes used by both sides of the Kosovo-Yugoslav war, as well as their often bright colors, make them irresistible to children and adults alike. Emerging evidence suggests that children are more likely to be killed by cluster bomblets than mines, in areas where both have been used.

The proportionality arguments related to the long-term injury and death to civilians, discussed above, apply to these characteristics of

111. The explosive charges of cluster bomblets are generally greater than those of landmines. Donna Kelley & Richard Blystone, One Year Later: Remnants of War in Kosovo (CNN television broadcast, Apr. 3, 2000); E-mail from Richard Lloyd, U.K. Working Group on Landmines to Virgil Wiebe, Center for Applied Legal Studies, Georgetown University Law Center (June 1, 2000) (on file with author) (indicating that the BLU-97 cluster bomblet has three times the explosive charge of a PMA2 landmine).
112. An account by a U.S. medic following the Gulf War underscores the point:
19 March 1991. The first civilian cluster bomb victim died today. It was a child. These insidious bombs were sprinkled all over the desert. Despite numerous warnings to the contrary, people could not leave them alone. They seemed to be drawn to them, almost mystically.
113. The International Committee of the Red Cross found that "[i]n Kosovo, children under the age of 14 are 3.4 times more likely to be injured or killed by cluster bomb submunitions than by AP [anti-personnel] mines. Incidents involving submunitions are also much more likely than landmines to result in death or injury to several people." INTERNATIONAL COMMITTEE OF THE RED CROSS, INFORMATION PAPER: EXPLOSIVE REMNANTS OF WAR: OUTLINE OF A PROPOSAL FOR AN ADDITIONAL PROTOCOL TO THE U.N. CONVENTION ON CERTAIN CONVENTIONAL WEAPONS (CCW) (July 28, 2000) (on file with author) [hereinafter ICRC, REMNANTS OF WAR].
cluster bombs.\textsuperscript{114} Any immediate military advantage in the use of cluster bombs must be weighed against the long-term adverse effects of unexploded submunitions.\textsuperscript{115}

A growing chorus of voices acknowledge that cluster bombs function as \textit{de facto} landmines. The International Committee of the Red Cross stated in July 2000 that “[a]s a result of their use and design, submunitions have predictably high failure rates which have resulted in significant numbers of avoidable civilian casualties.”\textsuperscript{116} Killing Secrets, a United Kingdom campaign for an accountable arms trade, issued a report in May 1999 vigorously arguing against the use of cluster bombs in Kosovo. Rae McGrath, that report’s author and former director of Mines Advisory Group, argued that an unexploded BLU 97/B bomblet “effectively becomes a very powerful anti-personnel mine” and that NATO use of cluster bombs would end up harming the people they sought to help.\textsuperscript{117}

Even governments have begun to acknowledge the growing problem of cluster munition UXO. The U.S. government, while explicitly stating that cluster bomb UXOs are not landmines, has admitted that use of cluster bombs even a low dud rate can result in hazardous conditions.\textsuperscript{118} The Dutch government recently stated that “[e]ven a low percentage of submunitions from a cluster bomb may provide a considerable amount of submunitions, which continue to pose a threat. Estimates on the percentage of submunitions from a cluster bomb which do not explode vary from no more than four percent (by the

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{114} See \textit{supra} Part III.A.2.
\item \textsuperscript{116} ICRC, \textit{Remnants of War, supra} note 113.
\item \textsuperscript{117} McGrath, \textit{supra} note 38, at 3.
\item \textsuperscript{118} The Department of Defense explained that:
\begin{quote}
[B]ecause the bomblets are dispensed over a relatively large area and a small percentage of them typically fail to detonate, there is an unexploded ordnance hazard associated with this weapon. These submunitions are not mines, are acceptable under the laws of armed conflict, and are not timed to go off as anti-personnel devices. However, if the submunitions are disturbed or disassembled, they may explode, thus, the need for early and aggressive unexploded-ordnance clearing efforts. Combined effects munitions remain an appropriate and militarily effective weapon when properly targeted and employed. However, the risk of collateral damage, as with any weapon, must be considered when employing these weapons.
\end{quote}
\end{itemize}
\textit{Kosovo After-Action Report, supra} note 13, at 90. In Kosovo, however, the United States did not practice what it preached. According to U.N. sources, NATO did not provide detailed information on cluster bomb airstrikes “until nearly a year after the conflict ended.” Carlotta Gall, \textit{U.N. Aide in Kosovo Faults NATO on Unexploded Bombs,} \textit{N.Y. Times,} May 23, 2000, at A3.
\end{footnotesize}
manufacturer) to ten to twelve percent (established by the U.N. mine coordination centre UNMACC in Kosovo) and even higher.\footnote{119}

This acknowledgment comes on the heels of the Ottawa Mines Ban Treaty. Many in the international campaign to ban landmines urged an “effects-based” definition of landmines, and such a definition arguably would have encompassed many cluster bomblets. In June 1997, technical experts drafted the so-called Bad Honnef guidelines, calling for AP landmines to be defined as “any device or piece of ordnance which, although its primary purpose or design may be other than [to explode by the contact, presence, or proximity of a person], can be deployed in a manner to achieve this effect without modification or through a specific design feature.”\footnote{120}

In the final wording of the Ottawa Mines Ban treaty, the effects-based definition gave way to a design-based definition.\footnote{121} The Canadian delegates to the MBT negotiations reportedly urged an effects-based reading of the definition at MBT negotiation and the Italian government’s MBT implementing statute takes an effects-based approach to AP mines.\footnote{122} At least one national legislature has reached the conclusion that cluster bombs should be covered by national legislation banning mines. The Spanish Congress agreed in February 1997 to include cluster bombs and “arms with similar effects” in a future law banning landmines.\footnote{123} In late 1997, after heavy lobbying efforts by arms manufacturers of parliamentarians,\footnote{124} the government was reconsidering this position.\footnote{125}

\footnote{119. Dutch Cluster Bomb Memorandum, supra note 37.}
\footnote{120. Mary Foster, Kosovo and Landmines, Ploughshares Monitor, at 2, http://www.ploughshares.ca/content/MONITOR/mons99c.html (Sept. 1999).}
\footnote{121. The MBT defines an anti-personnel landmine as “a mine designed to be exploded by the presence, proximity, or contact of a person and that will incapacitate, injure, or kill one or more persons.” Mines Ban Treaty, supra note 3, at art. 2(1) (emphasis added). See infra Part V.A.2 for additional discussion on the making of the MBT. Dud rates are built into contracts with weapons manufacturers. See, e.g., Laurenzo, supra note 14. It might therefore be argued that, as duds are expected in orders of cluster munitions received from manufacturers, dud rates are included in the “design” of the weapons. It is acknowledged that just because duds are expected does not mean they are desired or demanded. While a military might return a shipment with a high dud rate, the same would not happen with a shipment with a dud rate with a duds below the contracted rate. I am grateful to Wendy Perdue for making this latter subtle, but important distinction. While the argument that cluster bombs are legally landmines has not yet carried the day, it bears further consideration and research.}
\footnote{122. Foster, supra note 120.}
Militaries treat unexploded cluster munitions as de facto landmines. In its manual for use of rocket fired cluster munitions, the U.S. Army states that "[s]ome risk will be accepted when firing MLRS into areas friendly units could occupy or pass through during future operations." A newer draft of the Army manual offers a slightly stronger wording: "[p]lanners must consider the risk when firing MLRS into areas friendly units could occupy or pass through during future operations." And well they should, as artillery based and MLRS submunitions are known to have high dud rates:

[D]espite many years of effort in the U.S. devoted to the development of a reliable self-destruct fuze for bomblet rounds, none has so far been applied to its 155mm ICM [Improved Conventional Munition] stockpile. The latter currently consists of M483A1 and M864 projectiles, respectively filled with 88 and 72 M42/M46 grenades, which have been known to exhibit dud rates as high as 15%. The situation is no better with the Multiple-Launched Rocket System (MLRS) and ATACMS missile stockpiles.

According to an official U.S. document dated July 15, 1997 and prepared for use at the Ottawa Convention negotiations in Oslo, "[w]hen a BLU97/B cluster bomblet fails to operate as designed and remains unexploded [it] can be detonated or exploded by the presence, proximity or contact of a person. And, when detonated or exploded, [it] produces an effect similar to a traditional anti-personnel landmine."

Official U.S. military response to criticism of cluster bomb use is that duds are not mines, they are simply unexploded ordnance. Maj. Gen. Chuck Wald, in a U.S. Department of Defense press briefing in May 1999, characterized unexploded bomblets as being like any other UXO, directly contradicting the 1997 U.S. report cited by Rae McGrath above:

[T]here are some duds in there. Very few. But when they are, it’s like any other unexploded ordnance. This is not a mine. There’s no proximity on it where if you walk by or make the ground rumble or anything like that it’s going to go off. So they’re just like any other unexploded ordnance any place in the world. But they are not a mine. They have no timers on them.

126. MLRS FIELD MANUAL 1996, supra note 6, at 3-2.
127. MLRS FIELD MANUAL 1999, supra note 70, at 4-2.
129. McGrath, supra note 38, at 4.
whatsoever or anything like that. I think it’s just like a 500-
pound bomb, except there are several of them in a cluster.
That’s the way I’d characterize it.\textsuperscript{130}

A big difference between a 500-pound bomb and a 3-pound bomblet
may just be that the smaller version of unexploded ordnance can be
picked up by a child, that it can “hide” more easily, either in ground
cover or buried by the elements, and that there are 200 bomblets for
every large bomb. The U.N. Mine Action Coordination Centre in
Kosovo, charged with coordinating the clearance of mines and unex-
ploded bombs in Kosovo, considers cluster bomblets to be a species
apart from both mines and other UXO.\textsuperscript{133} Dud rates are apparently
higher for cluster bomblets than for other bombs and the number of
bomblets used is higher than large unitary bombs.\textsuperscript{132}

Considerable dispute exists over what are the actual dud rates of
cluster munitions. NATO spokespersons repeatedly roll out a 5% dud
rate.\textsuperscript{133} In actual use, the dud rates have been known to have been much
higher. McGrath estimates that a more accurate dud rate would be 10–
15%, based on review of the Kosovo crisis and the Falklands-Malvinas
War.\textsuperscript{134} There are multiple reasons for submunitions failure: manufactur-
ing defects; movement and storage; loading, flights and landings;
bomb release; submunition ejection, dispersal and arming; and ground
impact.\textsuperscript{135} Deminers in the field have cited “high altitude delivery, soft
terrain, angle of impact, and vegetation such as tress or bushes” as con-
tributing factors to a high dud rate.\textsuperscript{136}

The “technological fix” most commonly proposed for dud rates is to
equip cluster bomblets with self-destruct or self-deactivate mechanisms.
Manufacturer attempts to reduce problems of malfunctions have pro-
duced problems of their own: (1) “the self-destruct mechanism itself


\textsuperscript{131} \textit{Mine Action Co-ordination Centre (MACC), U.N. Interim Administration Mission in Kosovo (UNMIK): Monthly Summaries, June 1, 1999–Mar. 1, 2000} 5 (2000) (“In this booklet NATO cluster bomblets and submunitions are NOT included in UXOs. Included are other items of ordnance like artillery and mortar shells, hand grenades and rockets.”).

\textsuperscript{132} \textit{Parliamentary/NATO Cluster Meeting, supra note 8, at \S 2.}

\textsuperscript{133} \textit{See supra note 38.}

\textsuperscript{134} McGrath, \textit{supra note 11, at 27–29.}

\textsuperscript{135} \textit{Id. at 25–27.}

\textsuperscript{136} Wiebe & Peachey, \textit{Clusters of Death, supra note 8, at 11 n.37 (citing Interview by Titus Peachey, Peace Education Director, MCC, with ACT Deminers, Decani, Kosovo, Dec. 17, 1999).}
introduces one or more additional critical junctures into the chain” and (2) the “introduction of a potential self-destruct failure adds considerably to the danger of the non-functioned submunition. Any secondary fusing system, once failed, has a tendency to be especially sensitive to any disturbance or movement.”

It was reported that during the Gulf War, a large number of self-destruct artillery fired mines failed to self-destruct as designed, resulting in casualties. Also during the Gulf War, many air-dropped “Gator” scatterable mines equipped with self-destruct mechanisms were found unexploded weeks and even months after they were dropped. The rhetorical promise of the high-tech fix, however, is nearly impossible to counter in a culture where such a high degree of faith is placed in science to resolve messy problems.

Equipping bomblets with self-destruct and/or self-deactivate mechanisms may also result in more widespread use of the weapons, as states may believe they are “safer” for civilians. Decreasing dud rates, of course, does nothing to address concerns raised about targeting and footprints.

IV. CASE STUDIES: CROATIA, KOSOVO AND CHECHNYA

Three case studies illustrate the arguments presented above. The first, Prosecutor v. Martic, provides the first recorded case of a criminal indictment for use of cluster munitions, and articulates principles that apply beyond the facts of the particular case. In the second study, the large number of cluster munitions used by NATO (both unguided “dumb” bombs and precision guided “smart” ones) in its bombing campaign in Kosovo-Serbia provides an example of their use in an arguably “good war.” Mistargeted cluster bombs, their wide area

137. McGrath, supra note 11, at 27. McGrath refers to a restricted U.K. Ministry of Defence memo warning clearance teams to treat submunitions armed with self-destruct mechanisms as being equipped with anti-handling devices. Id.


139. King, supra note 11, at 18 (“Similar failure rates were observed among other scatterable mines incorporating self-destruct mechanisms.”).

coverage in urban areas, and ongoing casualties from unexploded ordnance raise questions as to how humanitarian a cluster bomb can be. Finally, Russia has used an array of cluster munitions in the Chechen wars, even in the context of harsh international criticism. The rocket attack in October 1999 on Grozny unfortunately provides an ideal example of how inappropriate cluster munitions are in urban areas.

A. Ethnic Cleansing Cluster Bombs: The Prosecutor v. Martic before the International Criminal Tribunal for the Former Yugoslavia

Few reported cases have considered the use of cluster bombs, but the indictment of Milan Martic by the Prosecutor of the International Criminal Tribunal for the Former Yugoslavia provides a richly detailed case study. Careful factual investigation on the ground provides useful information about the type of weapons used, the immediate and longer term effects, the estimated dud rate, and the motivations behind the attack. The case also implicates the international legal principles discussed above.

In July 1995, the Prosecutor of the International Criminal Tribunal for the Former Yugoslavia (ICTY) indicted Milan Martic, the self-proclaimed leader of the Croatian Serb separatists, for a May 1995 cluster bomb attack on Zagreb, Croatia. On February 27, 1996, a Trial Chamber of the ICTY heard evidence in the case. On March 7, 1996, that Trial Chamber issued an international warrant for Martic’s arrest. As of late 2000, however, Mr. Martic had not been arrested.


144. See infra note 170 for an account of the failure of U.N. forces to arrest Mr. Martic.
1. Rocket Attacks on Zagreb Lead to an Indictment

The attack on Zagreb took place in the context of a Croatian army offensive to reclaim Croatian territory in the Krajina region. A self-proclaimed Serbian separatist government, headed by Martic, had occupied portions of that region, and the Croatian Army had moved aggressively to recover the territory. Martic’s forces, overmatched on the battlefield, struck back by targeting rockets packed with cluster submunitions at the Croatian capital of Zagreb.\textsuperscript{145} According to the prosecutors, on May 2, 1995 at 10:35 a.m., six Orkan rockets were launched against Zagreb. Three of those rockets struck Zagreb’s city center and the other three struck Plesic, a residential area near the Zagreb airport. The following day, shortly after noon, another six similar rockets were launched against Zagreb. Two rockets hit the city center, and four hit the outskirts of town.\textsuperscript{146} A children’s hospital, an old age home, and the National Theater sustained damage.\textsuperscript{147} According to a Croatian police officer, casualties resulting from immediate injuries included seven civilians dead, 124 severely injured, and eighty-seven lightly injured as a result of the attacks.\textsuperscript{148}

International observers condemned the attack. The U.S. ambassador to Croatia, Peter Galbraith, thought the attack an “utter outrage,” stating that “cluster bombs (on the rockets) sent into the centre of a European capital are intended for one purpose and that is to kill lots of people . . . Furthermore, the timing of the attacks . . . is further evidence that the sole purpose was to kill as many people as possible.”\textsuperscript{149}

The ICTY Prosecutor brought four charges against Martic for the attacks. Counts I and III charged that he “knowingly and willfully order an unlawful attack against the civilian population and individual civilians in Zagreb,” thereby violating the laws and customs of war. Counts II and IV, charged Martic in the alternative with failing to take reasonable and necessary measures to prevent the commission of a war crime he knew or had reason to know was about to be committed.\textsuperscript{150} The

\begin{itemize}
\item \textsuperscript{145} See, e.g., \textit{Serb Rebels Rain Missiles on Zagreb}, \textit{SUN-SENTINEL} (Fort Lauderdale), May 4, 1995, at A1.
\item \textsuperscript{146} \textit{Martic Indictment}, supra note 141.
\item \textsuperscript{147} Tracy Wilkinson, \textit{Serb Attacks on Croats Threaten to Widen War}, \textit{L.A. TIMES}, May 4, 1995, at A1. 21 members of the Danube Ballet were among the injured. \textit{Id.} at A2.
\item \textsuperscript{148} \textit{Martic Hearing}, supra note 142, at 26–27.
\item \textsuperscript{149} Joel Brand, supra note 30, at 15. Ambassador Galbraith’s condemnation no doubt was influenced by the fact that bomblets fell within a hundred meters of the U.S. embassy. Tracy Wilkinson, \textit{Serb Strike Rattles Croatian Capital}, \textit{CHI. SUN-TIMES}, May 3, 1995, at 34.
\item \textsuperscript{150} \textit{Martic Indictment}, supra note 141. Charges I & III specifically cited Articles 3 and 7(1) of the Tribunal’s Statute. Article 3 of the Statute addresses “[v]iolations of the laws or customs of war.” While the charges do not specify the subsection of Article 3 addressed, the factual allegations suggest that subsections (b) and (c) and Article 7(1) address individ-
prosecutors argued that regardless of whether the court considered the
conflict to be internal or international, prohibitions against attacks
against civilians are considered to be customary international law. The
question was open because there were allegations that the Krajina Serbs
were receiving assistance from the Serbian government.

Additional Protocol I prohibits attacks or reprisals against civilians
in international conflicts under Article 51(2), which states that "[t]he
civilian population as such, as well as individual civilians, shall not be
the object of attack. Acts or threats of violence the primary purpose of
which is to spread terror among the civilian population are prohib-"151
Under law governing internal conflicts, Additional Protocol II
prohibits making civilian populations or individual civilians the target
of attacks under Article 4(1). The prosecutors also cited the ICTY Tadic
case, which stated that, with respect to minimal humanitarian standards,
the distinction between international and internal conflicts has become
increasingly untenable, and that a "state-sovereignty-oriented approach
has been gradually supplanted by a human-being-oriented approach."152
The evidence and arguments presented by the prosecution when seeking
the arrest warrant focused on two interrelated issues—the targeting of
civilians and the type of munition used.153

2. Orkan Rockets: Lethal Footprints + Poor Targeting + High Dud
Rate + Civilian Targets = War Crime

Major Ted Itani of the Canadian army served as an expert witness
on the Orkan system.154 The Orkan ("Hurricane") system is a multiple
rocket launch system (MLRS). The mobile launcher can be loaded with
12 rockets.155 The range of the rockets in 1995 was fifty kilometers.156
The bomblets of the Orkan rocket, called "dual purpose improved con-

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151. Additional Protocol I, supra note 45, Art. 51(2).
152. Martic Hearing, supra note 142, at 6–8.
153. Id. The prosecution also went to lengths to rebut any right of retaliation allowing
civilian targeting. See id. at 7–8. Testimony was taken regarding statements made by Martic
about ordering the bombing of Zagreb and other cities in retaliation for attacks on the
Krajina Serb forces. Id. at 20–22.
154. For Major Itani’s credentials, see id. at 38–39.
155. Id. at 5.
156. Id. at 41.
Footprints of Death

(1) Conventional munitions,” (DPICMs), were designed for anti-personnel and anti-armor purposes. Each bomblet has a shaped charge which can penetrate up to sixty millimeters of armor. Each bomblet also carries between 400 and 450 stainless steel pellets. Each rocket warhead can carry 265, 285, or 288 bomblets. Upon detonation, the shaped charge can bore a hole through not only a tank, but the roof of a car. The steel balls radiate in all directions, with each bomblet having a lethal radius of ten meters and a casualty or injury radius of up to fifty meters.

Major Itani testified that:

[Most systems employing DPICMS are] designed for use against soft military targets. That is to say, targets that have little or no protection, such as troops in the open; such as installations and supply depots where there are fuel dumps or ammunition dumps; communication centres that have not been hardened, that is to say communications that have not been put underground into bunkers. It can also be used against mass formations of armour, that is to say armoured personnel carriers and tanks that are deployed in an area of, say, 1,000 metres by 1,000 metres.

The “optimum” height for the warhead to open is 400 meters. A single rocket can disperse bomblets over an ellipse of approximately 150 meters by 200 meters. The “Circular Error Probable” for each Orkan rocket is 600 meters, which means it may under or overshoot, or go to the left or right of its target, by 600 meters. Major Itani stated that this would probably improve with developments to the system, but also that “[t]he system is designed as an area weapon, therefore, one cannot expect pinpoint accuracy . . . . It can be almost indiscriminate, in fact, the probable area is so high . . . . The distinction here, I think, that is important, is that it is a rocket and therefore it has no guidance system . . . that can be terminally guided on to a target.”

If one considers the footprint to be 150 meters by 200 meters, and adds in a lethal radius of each bomblet of 10 meters, then the total lethal

157. Id. at 41–42.
158. Id. at 44.
159. Id. at 42.
160. Id. (emphasis added). Major Itani’s testimony highlights ongoing confusion about the nature of the term “Circular Error Probable” with respect to cluster munitions. For a unitary warhead weapons, the CEP is that radius from the target that the warhead will most likely drop within. But for a cluster munition, CEP is often used interchangeably with the concept of “footprints,” i.e., more than half of the submunitions will fall within a given radius or area. Here, Major Itani apparently is referring to the former definition of CEP, in a sense where the center of the “footprint” is intended to fall.
footprint is 170 meters by 220 meters. The injury radius is 250 meters by 300 meters.

The dud rates of the rockets fired may have exceeded forty percent. According to the prosecutors, approximately 3000 bomblets were dropped on Zagreb, and police clearance personnel retrieved between 1220 and 1600 of them,\textsuperscript{161} producing a dud rate of between 40-50%. The prosecutors stressed not only the immediate deaths and injuries caused by the attack, but also the deaths and injuries resulting from the exploding duds. One pyrotechnician was killed, and another lost his arm while attempting to defuse the bomblets within days of the attack.\textsuperscript{162}

Major Itani testified that "duds" might be caused by the warheads exploding too close to the earth, thus not allowing enough time for each bomblet to spin and arm itself. He also stated that if a bomblet did not directly strike an object, it might fail to explode. He explained further:

The large numbers of unarmed, so to speak, bomblets, that could be recovered still pose a danger, as would be the case with those that are armed, and it is a residual danger that can last for many, many years, because if it is soft ground these things can get buried 25, 30 centimetres, and at some future date, through frost action or farming activity or construction, these could be dug up and accidentally exploded.\textsuperscript{163}

Immediately following the first attack, a policeman on the scene in central Zagreb testified that "[in] Zrinjevac Park itself, there were bomblets all around the place. They were hanging from trees, bomblets."\textsuperscript{164} Nearly three months after the attack, four children "found an unactivated bomblet which remained after the bombing . . . and they played with it . . . ." It exploded, severely injuring all four.\textsuperscript{165}

\textsuperscript{161} Id. at 23. If twelve rockets were loaded with warheads carrying 288 bomblets each, the total number of 3,456 bomblets were dropped, resulting in a dud rate of about 35%. See id. at 24, 37. Again, if the total number of bomblets dropped was 3,456, the dud rate surpasses 46%. A press account at the time of the attack reported a 10-15% dud rate. Tracy Wilkinson, \textit{Croatian Troops Reportedly Mass on New Fronts}, \textit{L.A. Times}, May 5, 1995, at A12 (citing \textit{Jane's Armour and Artillery}).

\textsuperscript{162} \textit{Martic Hearing, supra} note 142, at 23. Thirty-five-year-old Ivan Markulin was killed when he attempted to defuse a bomblet caught in a tree at the children's hospital. The hospital director showed the carnage to Ambassadors touring the site three hours after the attack. "This is part of the jaw of the man who tried to defuse the thing," said Ivan Fattorini. A reporter described the corpse as "peppered with shrapnel wounds above the waist," and having "no recognisable face." \textit{Serb Rebels Agree to Ceasefire}, \textit{The Herald} (Glasgow), May 4, 1995, at 8.

\textsuperscript{163} \textit{Martic Hearing, supra} note 142, at 45, 37–38.

\textsuperscript{164} Id. at 26.

\textsuperscript{165} Id. at 27.
3. Shrapnel in the City: Cluster Munitions as Disproportionate Weapons in Urban Environments

The prosecutors in Martic did not argue that the Orkan rocket was a prohibited weapon *per se*, but that it was prohibited to use it in the way it was used against the civilian population. The prosecution argued through presentation of witnesses that no legitimate military targets existed in downtown Zagreb. Most telling is the prosecution's argument that, even if there were legitimate military targets in downtown Zagreb, this weapon was not suited to that task:

Assuming for the sake of argument that someone could argue that a building in downtown Zagreb, at noon, in the middle of the day, where civilians are walking around, assuming that is a legitimate military target, quite clearly the wrong weapons system was used to attack that building. If one was going to destroy a military target, such as a communications centre, or such, as some type of facility on an army base, the type of weaponry that would be used would not have been an Orkan rocket manned with a clustered bomb system, a system that was clearly designed, in this particular instance, your Honour, to kill civilians in downtown Zagreb and to otherwise put a reign of terror through that city to scare them into submission.

Detective Sergeant Curtis, a British police officer working for the ICTY, testified that even were the downtown Zagreb police station a legitimate target, the Orkan was “totally the wrong sort of warhead to use, as the Orkan missile is an anti-personnel missile,” and the bomblets were not able to penetrate buildings.

A number of points are to be taken from the Martic case: (1) cluster bombs are wide-area munitions incapable of hitting point targets in urban areas without large numbers of civilian deaths and injuries, and (2) unexploded cluster bomblets matter, and their residual infliction of civilian casualties long after an action is over is a factor to be considered when bringing war crimes prosecutions.

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166. *Id.* at 10.
167. *Id.* at 12. According to witnesses, there were no military installations in Zagreb city center. *Id.* at 18, 32. A police officer testified that the Ministry of Defence was located “several kilometers” from the attack. *Id.* at 33.
168. *Id.* at 12.
169. *Id.* at 18.
170. What happened to Mr. Martic? Nothing much—he did not appear for the hearings and has defied the jurisdiction of the court. Despite the issuance of an international arrest warrant by the ICTY, Martic has not been arrested. For several months, he lived in a villa in Banja Luka, Bosnia, not far from a British Peacekeeping post. William Kole, *War Criminal Suspects Elude Tribunal*, TORONTO STAR, Aug. 31, 1999, at A2. In January 2000, the former
Robert Hayden, Director for the Center for Russian and East European Studies, has written that the Martic case stands for the proposition that “use of cluster bombs against civilian targets is a violation of the laws of war” and that “NATO’s attack on Nis in May [1999] cannot be distinguished from the Croatian Serb’s attack on Zagreb for which Martic was indicted, except that civilian casualties were greater in Nis.”

We will see below that there are some distinctions with the incident in Nis, Serbia, most notably the fact that neither the U.S. pilot nor his superiors intentionally targeted civilians. What a close consideration of the Nis case reveals is that regardless of specific intention, the use of cluster munitions in concentrations of civilians is not only unwise, but borders on the illegal. A wide-area munition, used in a densely populated civilian area, is likely to cause large numbers of civilian casualties.

B. Humanitarian Cluster Bombs: Operation Allied Force in Kosovo/Serbia

I have been an orthopedist for 15 years now, working in a crisis region where we often have injuries, but neither I nor my colleagues have ever seen such horrific wounds as those caused by cluster bombs... They are wounds that lead to disabilities to a great extent. The limbs are so crushed that the only remaining option is amputation. It’s awful, awful... Most people are victims of the time-activated cluster bombs that explode sometime after they fall... People think it’s safe, and then they get hurt... There are villages here where large portions of the area cannot be accessed because of a large number of unexploded cluster bombs... Even when all of this is over, it will be a big problem because no one knows the exact number of unexploded bombs.


In March 1999, NATO forces launched a bombing campaign which was widely hailed as a "humanitarian intervention," but also criticized as a violation of international law for failing to receive advance sanction by the U.N. Security Council. Considerable controversy surrounds the question of whether massive human rights violations by Serb forces, including the expulsion of hundreds of thousands of Kosovar Albanians, were inevitable or were, in fact, provoked by the withdrawal of European human rights monitors and the NATO air campaign. Even assuming the "justness" of the cause, the means used to execute the war still remained subject to the principles of discrimination under international humanitarian law. The use of cluster bombs in Kosovo underscored the difficulties, if not impossibility, of using such munitions in civilian areas without unacceptable collateral damage and such use also highlights the ongoing death and destruction caused by unexploded cluster bomb ordnance. Indeed, it has been the use of cluster munitions in Kosovo that has reignited debate about how and whether they should continue to play a role in many countries' arsenals.

1. Dumb & Dumber: The Mix of Precision Guided and Unguided Cluster Munitions in Operation Allied Force

NATO forces used both guided and unguided cluster munitions on Kosovo and Serbia during the campaign to stop ethnic cleansing from March to June 1999. Nearly 97% of NATO's cluster bombs were unguided (so-called "dumb" bombs) and the remainder some form of precision guided (so-called "smart" bombs). I base this estimation on reports indicating the total number of cluster munitions used against Serbia and Kosovo, the types used, and the numbers of each type used. NATO warplanes and cruise missiles dropped 1797 cluster bombs on Kosovo and Serbia. A small number of the total were precision guided...
munitions, probably less than sixty. These were the Joint Stand Off Weapon (JSOW) and the Tomahawk Land Attack Missile (TLAM). The remaining cluster munitions were the following: British RBL-755s, United States and Dutch-dropped unguided CBU-87s, and an unspecified number of U.S. Rockeye cluster bombs.

The Joint Stand Off Weapon (JSOW) allows flight crews greater safety by releasing cluster weapons 15 to 45 nautical miles from their targets. The JSOW dispensers, which come in two cluster munitions variants, rely on Global Positioning System and Inertial Navigation System technologies to guide them to their targets.

While the JSOW is reportedly "unaffected by bad weather and [is] moderately accurate if the target is located properly," less than fifty JSOWs armed with cluster munitions were used during the Kosovo conflict. The U.S. Navy hesitated in using them more. Among the reasons

at A3 (stating that NATO dropped 1392 cluster bombs on Kosovo alone, presumably not including Serbia). NATO has stated in meeting with British Parliamentarians that in "Operation Allied Force (Kosovo)[,] 333 strike missions used 1392 cluster bomb (CB) dispensers." See Parliamentary/Nato Cluster Meeting, supra note 8, at ¶ 1. This suggests that the remaining 238 U.S. and U.K. cluster bombs were used against Serbia. In addition to the 1632 British and U.S. cluster munitions, the Dutch Defence Ministry informed the Dutch Parliament in November 2000 that the Dutch Air Force had dropped 165 CBU-87 cluster bombs on "surface targets such as airfields, electronic installations and assembly areas for military equipment and military units, armoured units, and fuel storage sites." Dutch Cluster Bomb Memorandum, supra note 37.

176. See infra notes 187 and 183 and accompanying text.
177. Kosovo After-Action Report, supra note 13, at 90.
the JSOW was not used more frequently were that “many of the targets
assigned to the Navy were inappropriate to be attacked with the cluster
bomb variant,” but also “[t]here were also concerns expressed about
collateral damage from the JSOW vehicle itself after it had dispensed
submunitions. Analysis shows that after dispense, the JSOW becomes
unstable and impacts the ground 200–300 yards downrange.’

The anti-armor “sister” to combined effects munition JSOW, the
JSOW AGM-154B armed with sensor fused (SFW) cluster bomblets,
has also received criticism from the General Accounting Office for its
alleged failure to “ensure minimizing of collateral damage from stand-
off distances.” This SFW version of the weapon was not used in
Operation Allied Force.

Less than one percent of the cluster bombs used in Operation Allied
Force were cruise missiles. The Tomahawk Land Attack cruise missile,
capable of carrying either 166 cluster submunitions or a unitary war-
head, is guided to its destination by precision guidance systems.186 Two
hundred and thirty-eight Tomahawks were used during the war, report-
edly ten (10) of which carried submunitions.187 The Tomahawks
equipped with cluster submunitions were used to “strike airfields and
other areas where light vehicles were parked” and other “mobile tar-
gets.”188 United States and British officials claimed that 198 of the 238
tomahawks hit their targets, or about eighty-three percent.189 The U.S.
admiral in charge of naval forces during the crisis claimed “zero collat-
eral” damage resulting from Tomahawk use.190 This assessment of

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184. Arkin, Fleet Praises JSOW, supra note 183 (report based on minutes of meeting
between war fighters and technical experts from the government and defense contractors).
185. Crawley, supra note 180.
186. Amy Truesdell, Cruise Missiles: The Discriminating Weapon of Choice?, JANE’S
INTELLIGENCE REV., Feb. 2, 1997, at 87, available at LEXIS, Military Justice, Jane’s De-
fence Publications File; Navy Fact File, U.S. Navy, Tomahawk Cruise Missile, at
http://www.chinfo.navy.mil/navpalib/factfile/missiles/wep-toma.html (last modified Jan. 28,
1999). The missile also can carry electric attack submunitions (small bomblets which dis-
perse silica thread or powder to disable electricity grids). John Robinson, TLAM
Performance in Kosovo Shows Heightened Tactical Role, DEF. DAILY, Oct.
12, 1999, at 1.
187. Bryan Bender, Tomahawk achieves new effects in Kosovo, JANE’S DEFENCE
The U.S. Department of Defense After-Action report noted that 218 Tomahawks were
used. KOSOVO AFTER-ACTION REPORT, supra note 13, at 92. The “majority” of the toma-
hawks used were the unitary warhead version; four were the electric attack version.
Robinson, supra note 186, at 1.
188. See id.; Bender, supra note 187.
189. Bender, supra note 187. It is not clear what the target percentage was for the
cluster bomb variant. Id.
190. Robinson, supra note 186, at 1.
collateral damage likely does not take into account longer-term injuries and deaths resulting from unexploded cluster bomblets.\footnote{193}

The vast majority of the cluster munitions deployed in Operation Allied Force were “dumb” bombs. One of the so-called smart bombs, the Joint Stand Off Weapon, performed with less intelligence than expected, and its use was therefore limited.

2. Death on Contact: Immediate Civilian Casualties During the Air Campaign

As stated above, NATO aircraft and missiles visited over 1797 cluster bombs on Kosovo and Serbia during the seventy-eight-day air campaign, with nearly 97% of those weapons being unguided RBL-755s, CBU-87s, or Rockeys.\footnote{192} Here we examine civilian casualties resulting from cluster bomb use and the military effectiveness of the bombing, including errant targeting and footprint patterns. Both during and after the campaign, NATO officials claimed the use of cluster bombs was perfectly legal under international law. In a briefing in mid-May 1999, reporters questioned U.S. Maj. Gen. Charles Wald about whether military lawyers had occasionally vetoed the use of CBU-87s. His response: “Never. It’s not illegal. It’s totally within the law of armed conflict, and it’s legal in the international community to use that weapon.”\footnote{193} Taken at face value, General Wald’s response indicates that Pentagon lawyers never called off a cluster bomb attack as unlawful.

Human Rights Watch (HRW) documented civilian deaths in the NATO air campaign, confirming seven incidents involving civilian deaths due to cluster bombs, and finding an additional five “likely incidents involving civilian deaths.”\footnote{194} Between ninety and one hundred and fifty civilians died as a result.\footnote{194} HRW stated that “[c]luster bombs should not have been used in attacks in populated areas, let alone urban targets, given the risks.”\footnote{195} By April 1999, according to its chief doctor, Pristina’s hospital had treated between 300 and 400 people wounded by cluster bombs; roughly half of those victims were civilians. The doctor also stated that because the number did not include those killed by the

\begin{footnotesize}
191. See supra note 62 and accompanying text.
192. See supra Part IV.B.1.
193. Ken Bacon Briefing, supra note 172.
194. Human Rights Watch, Civilian Deaths in the NATO Air Campaign, http://www.hrw.org/reports/2000/nato (Feb. 2000) [hereinafter Human Rights Watch, Civilian Deaths]. NATO claims that there were only “three incidents allegedly involving collateral damage caused by CBs [cluster bombs].” PARLIAMENTARY/NATO CLUSTER MEETING, supra note 8, at ¶1.
195. Human Rights Watch, Civilian Deaths, supra note 194.
\end{footnotesize}
bombs, and covers only the area of Pristina, the casualty toll was almost certainly higher.¹⁹⁶

These deaths and injuries occurred, even though the air campaign witnessed an “unprecedented review of targeting,” with legal officers involved in targeting decisions at multiple command levels.¹⁹⁷ “Great effort” was made “to limit attacks to military targets, and to limit the extent of collateral damage to the civilian population . . . . In many cases targets were rejected because of their location in the vicinity of civilian housing or other civilian objects . . . or if collateral damage might be expected to be politically if not legally excessive.”¹⁹⁸ The task of “producing targets” involved lawyers, targeteers, and intelligence analysts charged with reworking all attack plans for any target where more than 20 civilians might be killed.¹⁹⁹ In response to a Congressional inquiry following the war, the Pentagon responded by saying that “[c]luster munitions are governed by the same Law of Armed Conflict requirements that apply to the use of any other weapon in the military inventory.”²⁰⁰ When considering a strike against a specific target, the military advantage was weighed against the collateral effects. If the expected collateral damage was judged to be excessive in relation to the military advantage, according to the U.S. Defense Department, the attack did not take place.²⁰¹

Pentagon lawyers had to depend on accurate assessments of collateral damage from warfighters. If the failure rate of submunitions given to those conducting legal reviews was five percent, as Pentagon spokespersons claimed to the press, then the assessment of collateral damage was unlikely to be accurate. Also, because cluster munitions have such broad application to different target types, their multipurpose nature might make any “legitimate target” subject to attack by cluster munitions.

In May of 1999, the United States temporarily halted the use of cluster bombs “following two incidents of off-target impacts of cluster munitions.”²⁰² Human Rights Watch first reported this in December 1999, stating that “President Clinton issued a directive prohibiting

¹⁹⁶. Watson, supra note 172.
¹⁹⁸. Id.
²⁰¹. Id.
²⁰². Id.
further cluster bomb use in the conflict.... In doing so, the president had set a precedent for restricting cluster bomb use.”

Human Rights Watch reiterated in February 2000 that international criticism of the indiscriminate nature of cluster bombs led to “an unprecedented (and unannounced) U.S. executive order in the middle of May to cease their further use in the conflict.” Cluster bomb use by the United States, however, did resume in Serbia/Kosovo. According to the Pentagon:

The decision to temporarily halt the United States use of cluster munitions during the NATO air campaign in FRY [Federal Republic of Yugoslavia] was made by the NCA [National Command Authorities] following two incidents of off-target impacts of cluster munitions. The moratorium was verbally imposed during a regularly scheduled teleconference between the NCA and USCINCEUR [U.S. Commander in Chief, European Command]. The use of cluster munitions later resumed following a review of U.S. procedures.

The Dutch government, which also used CBU-87s in the conflict, called a similar suspension of their use, in line with the U.S. decision. Unlike the United States, however, the Dutch government did not decide to resume use of the weapon during the conflict.

United States ground based cluster munitions systems, the Army Tactical Missile System (ATACMS) and the Multiple Launch Rocket System (MLRS), were also reportedly included in the “temporary halt” because of their similar potential effects on civilians. Commanders of a


204. Human Rights Watch, Civilian Deaths, supra note 194. According to the Pentagon, “[t]he decision by the United States to temporarily suspend the use of certain cluster munitions during the air campaign was unilateral. The U.S. decision did not prevent others nations participating in the air campaign from using any specific munitions or employing cluster munitions if such munitions were the appropriate weapon for the target selected.” Fulford Letter, supra note 200.

205. Fulford Letter, supra note 200 (emphasis added). It is not clear what that review was or what the changes made were. According to the U.K. Ministry of Defence, “[t]he type of cluster bomb used by the U.S. was discovered to have a fault and was temporarily withdrawn from service, being returned to service shortly thereafter for use until the end of the conflict. The U.K. uses a different type, which continued to function normally, and there was thus no reason for it to be withdrawn.” U.K. MINISTRY OF DEFENCE, KOSOVO: LESSONS FROM THE CRISIS ¶ 7.47 (June 2000) [hereinafter U.K. MoD, Kosovo Lessons], available at, http://www.mod.uk/news/kosovo/lessons/chapter7.htm. In light of the fact that only 40% of the U.K.’s cluster bombs hit their targets, perhaps the British should have halted their use when the Americans did. See Ripley & Penney, supra note 69.

206. Dutch Cluster Bomb Memorandum, supra note 37. The suspension of use was lifted on October 27, 1999, well after the end of the war. Id.
potential ground invasion force were reportedly working to get the restrictions lifted when the war ended. In a much heralded attack following resumption of cluster bomb use, two U.S. B-52 bombers attacked Serb troop concentrations on Mount Pastrik on June 7, 2000. Some commentators claimed that it contributed to the peace by pressuring Serb negotiators. Indeed, NATO commanders believed at the time that hundreds of troops had been killed “in the single most devastating strike of the war.” After the war, however, “U.S. airmen who flew over Mount Pastrik found no sign of a slaughter on that scale,” and NATO commanders were astonished by the numbers Serbian troops withdrawing from Kosovo.

The overall military effectiveness of the bombing campaign has been called into question. Both the United States and the United Kingdom claim that cluster bombs are effective against armored vehicles and artillery positions. A report based on air and ground assessment by the U.S. Munitions Effects Assessment Team (MEAT) found that of 744 confirmed NATO strikes (including both cluster bombs and other munitions), only fifty-eight were successful. The report found that fourteen tanks, eighteen armored personnel carriers, and twenty artillery pieces were destroyed. Another military analyst found that submunitions “did not appear to make a significant contribution to the air campaign; most high-priority targets were attacked using precision-guided munitions.”

NATO aircraft dropped multiple cluster bomb units on each target, leaving multiple footprints. Recall Godzilla, trying to smash a single house in a village, stomping around the whole village to insure success. In civilian areas, Article 51(4)(c) defines indiscriminate attacks as

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209. Dana Priest, Kosovo Land Threat May Have Won the War, WASH. POST, Sept. 19, 1999, at A1. Recall that a single B-52 can carry forty cluster bombs, or a total of 8,080 bomblets. See supra note 27 and accompanying text.
210. Priest, supra note 209. NATO initially estimated that “as many as 400–600 soldiers may have been killed.” Subsequent reports “by military analysts and U.S. airmen state that there was no evidence of such a large number of casualties and few signs of heavy equipment losses.” King, supra note 11, at 24.
211. McGrath, supra note 11, at 48. The MEAT report was suppressed and replaced with one written by Harry Shelton, Chairman of the Joint Chiefs of Staff, which found, based largely on pilot interviews, that more than 10 times as many targets were destroyed (140 tanks, 220 armored vehicles, and 450 artillery pieces). Id.
212. King, supra note 11, at 24.
213. In Kosovo, 1392 cluster bombs were used in 333 strikes, or an average of about 4 cluster bombs per strike. PARLIAMENTARY/NATO CLUSTER MEETING, supra note 8, at ¶ 1. Presumably, the remaining 238 cluster bombs of the total 1630 deployed were directed against Serbia proper.
including those “which employ a method or means of combat the effects of which cannot be limited as required by this Protocol; and consequently, in each such case, are of a nature to strike military objectives and civilians or civilian objects without distinction.” As an example:

[II]n a park just on the outskirts of Pristina, the administrative capital of Kosova, allied forces dropped up to 20 cluster bombs on a small Yugoslav army installation. The building belonging to the installation was presumably destroyed by a larger bomb, but the wooded hillsides on both sides of the road through the park are roped off and marked as dangerous. The ordnance from the 20 cluster bombs used in the strike covers a wide area.\footnote{214}

The U.S. DOD Kosovo Operation After Action Report to Congress in February 2000 had but one paragraph dedicated to the use of cluster bombs, and reiterated the DOD contention that their use is legal and that they are not mines, while paying lip service to the collateral damage effects.\footnote{215} Human Rights Watch harshly criticized the report, asserting the United States failed to acknowledge any need for changes to NATO doctrine or practice. It termed the report’s defense of cluster bombs as a “feeble justification . . . without acknowledging their unacceptable risk to civilians.”\footnote{216}

On June 2, 2000, Carla Del Ponte, the chief prosecutor of the International Criminal Tribunal for the Former Yugoslavia (ICTY), announced to the Security Council that after an eleven month review, the ICTY would not open a formal investigation of NATO leaders for alleged war crimes in their execution of the actions in Kosovo. Included among the allegations, lodged by three separate groups (one of Yugoslav critics, one comprising international legal scholars, and the Russian parliament), were that cluster bombs were designed to target civilians. The review committee concluded that the charges did not merit an investigation.\footnote{217}

\footnote{214. Wiebe & Peachey, \textit{Clusters of Death}, supra note 8, at 13 (citations omitted). Serbian forces bear some responsibility, as parties to a conflict are charged with the responsibility, to the maximum extent feasible, to “avoid locating military objectives within or near densely populated areas.” Additional Protocol I, \textit{supra} note 45, art. 58(b).}

\footnote{215. \textit{Kosovo After-Action Report}, \textit{supra} note 13, at 90.}


\footnote{217. Charles Trueheart, \textit{U.N. Tribunal Rejects Calls for Probe of NATO}, \textit{WASH. POST}, \textit{June 3, 2000}, at A9. One effort urging the ICTY prosecutor to seek indictments against President Clinton and Defense Secretary William Cohen was led by Jerome Zeifman, former chief counsel for the House Watergate committee. Included in the suggested counts against the two were:}
Following closely on the heels of Del Ponte’s decision was an Amnesty International report which said that “NATO violated international law in its bombing war over Yugoslavia by hitting targets where civilians were sure to be hit.” Kenneth Roth, the executive director of Human Rights Watch, also criticized NATO actions, including use of cluster bombs as “inherently indiscriminate weapons” near civilian areas. Amnesty International, in its report, stated that:

Cluster bombs are not banned under international law, but they do present a high risk of violating the prohibition of indiscriminate attack. In addition, cluster weapons present a humanitarian issue due to their high dud rate (NATO officials acknowledged to AI that the rate is approximately five percent). This means that unexploded sub-munitions are a continued threat to anyone who comes into contact with them. According to some press accounts, thousands of unexploded canisters are still, one year after the conflict, left on the ground in Kosovo alone. Many of these bomblets are embedded beneath the surface of the soil and are not easily detected.

On June 13, 2000, ICTY Prosecutor Del Ponte publicly released the committee report. It stated that

There is no specific treaty provision which prohibits or restricts the use of cluster bombs, although, of course, cluster bombs must be used in compliance with the general principles applicable to the use of all weapons... There is... no general legal consensus that cluster bombs are, in legal terms, equivalent to landmines.

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The killing, injuring, terrorizing and destruction of the homes of thousands of Serbian and other civilians in former Yugoslavia, including, but not limited to such acts described by former President Carter as... [the] use of antipersonnel cluster bombs that have resulted in damage to hospitals, offices and residences of ambassadors, and the senseless and brutal killing of innocent civilians and conscripted troops; and [the] use of specific types of cluster bombs that are designed to kill and maim humans and are condemned almost universally by other nations, as are land mines.

218. *Amnesty International Accuses NATO of Illegal Bombing Raids*, BALT. SUN, June 8, 2000, at 18A.
219. *Id.*
The ICTY prosecutor's report also went to great lengths to distinguish the ICTY Martic case discussed above, in which Serbian separatist Milan Martic was alleged to have deliberately targeted Zagreb's civilian population with cluster bombs, from NATO cluster bomb use ("[t]here is no indication cluster bombs were used in such a fashion by NATO"). While it is true the Martic case focused in part on the international humanitarian law prohibition against deliberately targeting civilians (the principle of distinction), it also considered the proportionality principles at issue in the NATO bombing campaign. It did so by focusing attention on both military utility arguments (i.e., whether the use of wide-area cluster munitions was appropriate in a densely populated area even if legitimate military targets were located there) and the longer-term dangers caused to civilians by unexploded ordnance.

Even acknowledging the distinction between intentional terror attacks on civilians on the one hand, and efforts to target "legitimate" military objectives (which stretched well beyond explicitly military materiel and personnel to include the economic infrastructure of Serbia and Kosovo), the choice of weapons, the method of delivery, and the known long term consequences should be taken into account in proportionality considerations. Cluster munitions were being dropped from altitudes over 15,000 feet in order to protect the lives of pilots at the cost of the lives of civilians. The U.S. Air Force has acknowledged the "inaccuracy when dropped from higher altitudes" of Combined Effects Munitions and knew of this problem well before the Kosovo conflict, leading to its decision following the Gulf War to develop more accurate targeting mechanisms (e.g., Wind Corrected Munitions Dispensers).

The United States was well aware of the likelihood of high dud rates of both the CBU-87 and the Rockeye systems that it deployed, based on its experience in the Gulf War.

222. Id.
223. Eric Ostberg, of the ICTY Prosecutor's Office, told the Tribunal that “[i]f one was going to destroy a military target, such as a communications centre, or such, as some type of facility on an army base, the type of weaponry that would be used would not have been an Orkan rocket manned with a clustered bomb system.” Martic Hearing, supra note 142, at 12. The Tribunal also heard expert testimony that the cluster bomb rocket used was an area munition inappropriate for use in urban areas and that a high number of duds caused injury and death after the attack, including the severe injury of four children a full three months after the attack. Id. at 23–27, 42–44.
224. Lucier, supra note 217.
226. Particularly shocking was the continued use of Rockeyes, which were shown in the Gulf War to have dud rates as high as 40%. King, supra note 11, at 17. The U.S. DOD claimed a 5% dud rate for air-dropped submunitions during Operation Allied Force, mysteri-
Such temporally indiscriminate (high dud rates) and geographically indiscriminate (wide-area nature) features of these weapons are what call into question the legality of the cluster bomb use during Operation Allied Force. The ICTY Prosecutor failed to even consider injuries from unexploded ordnance in Kosovo and Yugoslavia in her decision not to indict. The Prosecutor's office narrowly read the Martic indictment to avoid indicting NATO forces for cluster bomb use.

3. Death from Duds: Collateral Damage from Unexploded Ordnance

Casualties: NATO figures dated 2 July [2000] show a total of 148 casualties caused by cluster bomblets since the conflict ended—101 injuries (57 children, 31 adults, 13 KFOR soldiers) and 47 deaths (24 children, 18 adults, 5 KFOR soldiers). The most vulnerable civilians are children aged 7–16. CBs [cluster bombs] will certainly kill people touching them when they explode.227

Twelve-year-old Adhurim Bajrami was playing in a field [in September 1999] with his five young cousins when innocent games turned to tragedy. One of the kids set off an explosion that killed four of the boys and left Bajrami's back scarred with shrapnel. Family members blame Serbian mines, but the U.S. military concluded that the danger came from NATO itself. The four boys were killed by remnants of NATO cluster bombs.228

The use of cluster munitions in Kosovo and Serbia created de facto mine fields. In the Spring of 2000, deaths and injuries from cluster bombs were on the rise.229 Already during the conflict, the dangers of unexploded cluster bombs became apparent. Serbian forces used both rocket-fired and air-dropped cluster munitions early in the conflict, with deaths resulting from unexploded Orkan submunitions.230 Critics pointed out the problem of duds. Joost Hiltermann, director of the Arms Division of Human Rights Watch, called for a halt to cluster bomb use

227. PARLIAMENTARY/NATO CLUSTER MEETING, supra note 8, at ¶ 4.
during the war, arguing that "[t]he duds that are left inside cluster bombs effectively turn into landmines.... And like antipersonnel landmines, they kill civilians even years after the conflict has ended. NATO should stop using them immediately."231 Serbian fired cluster bomblets also proved to be a hazard and, in one well-publicized instance, a curious Albanian policeman died when he picked up an unexploded submunition fired by a Serbian Orkan rocket.232

As in earlier cluster bomb ridden conflicts, children have been drawn to cluster bomblets. According to a report in October 1999, "most of the victims have been children, who were attracted by the bright-yellow cylinders that appeared to be toys."233 According to a UNHCR spokesperson, cluster bomblets are attractive to children because they are bright yellow hard plastic because "[t]hey are only a foot long and easy to pick up and tend to go off as soon as they are disturbed. The result is usually fatal."234

Responding to a question about the attractive nature of unexploded bomblets to children and the chance for accidents, NATO spokesperson, Maj. Gen. Charles Wald responded:

I hope that doesn’t happen, but I would certainly say that the sooner we have the Serb/MUP forces leave Kosovo, and we can have the Kosovar Albanians get back to a normal life, there are probably going to be a lot more children survive because of that than they would picking up some small object accidentally out in the trees.235

During the same press briefing, Maj. Gen. Wald had stated that U.S. military planners had made proportionality considerations in the use of cluster bombs. The above statement seems to equate “Kosovar Albanians getting back to a normal life” with a “direct and concrete military advantage” under Article 51(5)(b) of Additional Protocol I. Such a position provides a perfect example of the U.S. military’s

231. Press Release, Human Rights Watch, NATO’s Use of Cluster Bombs Must Stop (May 11, 1999), at http://www.hrw.org/hrw/press/1999/may/cluspress.html. A colleague and I wrote in June 1999 that “[t]he rate at which cluster bombs fail to explode at the intended time is 5 to 30 percent. Use of cluster bombs, then, is tantamount to the creation of uncharted mine fields.” Titus Peachey & Virgil Wiebe, War’s Insidious Litter, CHRISTIAN SCIENCE MONITOR, June 9, 1999, at 11.


233. Whitelaw, supra note 228, at 15.


235. Ken Bacon Briefing, supra note 172.
position that proportionality considerations can be done on a "campaign wide basis" and the "full context of a war strategy." Such a calculus swallows the rule, especially in light of the foreseeability of cluster bomb deaths and injuries.

The U.K. Ministry of Defence issued its report on Operation Allied Force in June 2000, stating that:

U.K. armed forces will always use the weapons systems judged most effective against a given target, taking into account the need to minimise collateral damage. The bomblets are designed to detonate on impact but, as with any other similar munitions, a small percentage failed to do so. The manufacturer's estimated failure rate for the RBL 755 cluster bomb used during the Kosovo conflict is approximately 5%. Contrary to a number of stories in the media, cluster bombs should not be confused with anti-personnel type weapons that are specifically designed to lie dormant and detonate once disturbed. Cluster bombs are an effective weapon against area targets such as a group of soft-skinned military vehicles.

When reading the Ministry of Defence's warning not to "confuse" cluster bombs and landmines, it is difficult not to be reminded of the saying "if it looks, acts, and smells like a duck, it must be a duck." To paraphrase the report, cluster bombs should be confused with anti-personnel type weapons that are specifically foreseen to lie dormant and detonate once disturbed. According to Human Rights Watch, "[t]he [U.K.] government claims that cluster bombs should not be 'confused with' anti-personnel landmines just because they are not intended to harm civilians. But their unexploded bomblets are just as lethal as landmines when civilians stumble on them."

By July 2000, NATO had acknowledged a dud rate of 8–12% (after consistently claiming a 5% rate for over a year), while other experts have suggested an even higher rate. In its After Action report, the U.S. Department of Defense acknowledged that there is an unexploded ordnance hazard associated with cluster bombs, that there is a need for early and aggressive unexploded ordnance clearance, but that cluster bombs are not mines and are acceptable under the laws of armed conflict. The actions of NATO in terms of cluster bomb clearance,

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236. See supra notes 20 and 21 and accompanying text.
237. U.K. MoD, Kosovo Lessons, supra note 205, ¶ 7.46.
239. See supra note 13 and accompanying text.
however, did not live up to the rhetoric. NATO failed to inform mine clearance teams of the estimated locations of cluster bomb strikes for nearly a year after the conflict was over. Military mine clearance teams restricted their work to clearing areas considered “essential” for their mission, leaving while many cluster bomb sites remained uncleared and unmapped. Kosovar Albanian refugees were not warned of the dangers of cluster bombs before their return.241

Beyond the very real dangers to life and limb caused by unexploded ordnance, cluster bomb UXO and landmines impede the use of agricultural land and “social space” (defined as an area within a 500 meter radius of any town or settlement, and 200 meters either side of a road or track).242 Unexploded cluster bomblets in Kosovo have functioned as de facto landmines, as they have in multiple conflicts before.243 They are inherently unable to discriminate between enemy soldier and civilian. “Humanitarian” cluster bombs continue to kill the very persons they were intended to save.

4. Errant Footprints: The Cluster Bombing of Nis

One of the most highly publicized accidents involving CBU-87 cluster bombs during the war occurred in the Serbian city of Nis and evidently was one of the incidents leading to a pause in the use of cluster bombs discussed above.244 On May 7, 1999 a cluster bomb strike intended for the Nis airport went astray. The city’s hospital complex and outdoor market were both hit by combined effects munitions, resulting in early reports of up to 15 deaths and 70 injuries.245 According to Human Rights Watch, the mid-day attack “killed fourteen civilians and injured twenty-eight. Cluster bomb submunitions fell in three widely separated areas: near the Pathology building of the Nis Medical Center in southeast Nis; in the town center near the Nis University Rector’s Office, including the area of the central city market place, the bus station near the Nis Fortress, and the ‘12 February Health Center’; and near a car dealership and the “Nis Express” parking lot across the river from the fortress.”246 According to HRW, the nearest cluster bomb strike to the Nis airport was 1.5 kilometers, and the farthest was 6 kilometers.

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242. ICRC, 2000 CLUSTER BOMBS & LANDMINES REPORT, supra note 179, at 22. UXO and landmines in Kosovo affect access to agricultural land and clean water, kill cattle, and endanger children at their schools. Id., at 22–23.
243. See supra Part III.C.
244. See supra Part IV.B.2.
245. Serbs Say 15 are Killed at Hospital and Market, N.Y. TIMES, May 8, 1999, at A7 [hereinafter Serbs Say]
246. Human Rights Watch, Civilian Deaths, supra note 194.
Amnesty International noted that, even granting the Nis airport as a legitimate military target, "there are residential buildings very close to the perimeter of the airfield, in the suburb of Medosevac." Indeed, British media reported the area surrounding the Nis airport was cluster bombed on May 17 but was unable to give details on casualties or damages.

NATO Secretary General Solana confirmed that NATO had carried out the attack, stating that "NATO has confirmed that the damage to the market and clinic was caused by a NATO weapon which missed its target." According to Human Rights Watch, its U.S. Air Force sources revealed that "the CBU-87 cluster bomb container failed to open over the airfield but opened right after release from the attacking airplane, projecting submunitions at a great distance into the city." Only four days before the incident, NATO spokesperson Jamie Shea responded to questions concerning the targeting of electrical facilities in Nis, and stated that care had been taken to insure that facilities like hospitals in Nis had redundant power capabilities. Ironically, the hospital itself was then hit in the May 7 attack.

Police initially reported finding 20 unexploded bomblets in the area of the strikes with "[a]bout 10 yellow canisters with parachutes attached were visible on the street near the hospital." Later Serb reports stated that "there are several hundred unexploded cluster bombs in the city center."

Amnesty International concluded that:

The use of cluster bombs and the fact that the attack was made at a time of day when civilians were bound to be present, suggests that NATO may have failed to ensure that necessary precautionary measures [required by Article 57 of Protocol I] were taken in this instance, in violation of the laws of war. ... Amnesty International believes that in this instance, NATO failed to meet its obligations to take necessary precautions by using cluster weapons in the vicinity of civilian concentrations, thereby violating the prohibition of indiscriminate attacks under Article 51(4) and (5) of Protocol I.

247. AMNESTY INTERNATIONAL, "COLLATERAL DAMAGE?", supra note 175, at 58.
249. Human Rights Watch, Civilian Deaths, supra note 194.
250. Id.
251. AMNESTY INTERNATIONAL, "COLLATERAL DAMAGE?", supra note 175, at 59.
253. Human Rights Watch, Civilian Deaths, supra note 194.
254. AMNESTY INTERNATIONAL, "COLLATERAL DAMAGE?", supra note 175, at 59-60.
Defenders of particular military actions validly criticize post-conflict “arm-chair” analysis as divorced from the realities and pressures of war, where complete information is not available and difficult decisions must be made quickly. Under military law, a commander breaches Additional Protocol I when he knows an attack will cause excessive incidental damage. Commanders must take objectively reasonable precautions in light of the information available at the time of the attack.\textsuperscript{255}

Unlike the situation described in the Martic case, it does not appear that the United States intentionally targeted civilians in Nis. Nonetheless, reports suggest that a multiple cluster bomb strike was planned. While official reports mention the malfunction of a single cluster munition, Human Rights Watch reported cluster bomblets falling in three widely separated areas. The distance between those areas is larger than even the largest footprint reported for a CBU-87 (a square kilometer). A multiple cluster strike in a civilian area, with a weapons with a known dud rate of at least five percent, calls the proportionality calculation into serious question. Again, Serbian forces bear some responsibility for locating a military target in a civilian area, but breaches of humanitarian law by an opponent do not relieve the attacker of its legal obligations with respect to the civilian population.\textsuperscript{256}

The fact that the United States has acknowledged, in its after action report, that submunitions do have a dud rate and “the need for early and aggressive unexploded-ordnance clearing efforts” after the use of these weapons, the case can be made for accountability not only for the immediate deaths, but for those subsequent deaths as a result of unexploded ordnance.

\textbf{C. Anti-Terror Cluster Bombs: Russian Use in the Chechen Wars}

On October 23, 1999, Yusup Magomedov begged his mother to let him go outside to play soccer in the Chechen village of Novi Sharoi following days of confinement as a result of the war. A few minutes later, an unexploded Russian cluster bomblet, fired the day before, detonated and shredded his legs. Seven children died in the explosion, and at least 15 were injured. A week later, while Russian bombs rained down as Yusup and his mother cowered in a cellar, doctors sharing their hiding place ampu-

\begin{footnotes}
\item \textsuperscript{255} Barfield, \textit{supra} note 26, at 7-7.
\item \textsuperscript{256} Additional Protocol I, \textit{supra} note 45, Art. 51(8).
\end{footnotes}
tated his gangrenous legs above the knees with a kitchen
knife.\textsuperscript{257}

1. Battling Terrorists: Indiscriminate Cluster Bomb
Use During the Chechen Wars

Russian forces have used cluster munitions extensively in the
Chechen conflict, both during the 1994–96 war, as well as during the
recurrence of hostilities which began in September 1999.\textsuperscript{258} Reporting on
the use and effect of cluster bombs has been incidental to reporting on
other human rights abuses and violations of international humanitarian
law by both sides of the conflict. While Russian leaders harshly criti-
cized the use of cluster munitions in Kosovo by NATO forces as banned
under international law, Russian forces have not hesitated to use cluster
munitions and other heavy weaponry indiscriminately against civilians.

In contrast to the NATO/Serbia conflict in Kosovo, where consid-
erable independent investigation by unexploded ordnance removal
specialists has allowed for a growing body of literature concerning the
operation of NATO cluster munitions, there appears to be a dearth of
publicly available data concerning the use and lasting effects of Russian
or Chechen submunitions. Enough information has gotten out, however,
to know that Russian forces have dropped cluster bombs extensively
from the air and from multiple launch rocket systems.\textsuperscript{259}

During the First Chechen War, Russian execution of the war
prompted considerable internal opposition. Russian casualties were
high, and neither the Russian army nor the general populace supported
the war.\textsuperscript{260} Early in the war, massive Russian aerial bombardment and
artillery had killed or injured thousands of civilians, with little to show
in the way of military advances. Cluster munitions clearly made up a
significant portion of the weaponry used.

Thousands of civilians are believed to have died in Grozny,
many of them from bomb attacks in which the Russian jets have
been using rockets and shells packed with nails and pellets that

\textsuperscript{257} Margaret Coker, Tragedy in Chechnya, ATLANTA J. & CONST., Feb. 6, 2000, at
C7.

\textsuperscript{258} For a strategic/military analysis of both Chechen wars, see Federation of Ameri-
can Scientists, Military Analysis Network, First Chechnya War: 1994–96, at
http://www.fas.org/man/dod-101/ops/war/chechnya1.htm (January 15, 2000); Federation of
American Scientists, Military Analysis Network, Second Chechnya War: 1999–???, at

\textsuperscript{259} See, e.g., Fyodor Zavyalov, Federal Troops Pounding Guerilla Strongholds,

\textsuperscript{260} Michael McFaul, Russia Under Putin: One Step Forward, Two Steps Back, J. De-
do only surface damage to concrete buildings but rip through anything or anybody else standing in the way.\textsuperscript{261}

A notable example early in the war was the January 3, 1995, cluster munition bombardment of Shali, Chechnya. Two Russian jets hit a roadside market first and then the hospital where wounded had been taken. Also hit were a Muslim cemetery (while a funeral service was in progress), the village school, and a collective farm. At least fifty-five people were killed, and 186 were wounded. Zaur Musliyev, chief doctor of the hospital, reported that five medics died when a bomb exploded in the operating room, and that a new mother died when a bomb exploded in the maternity ward (her baby survived). Journalists reported seeing unexploded baseball sized bomblets in the hospital courtyard and in the field around the roadside market. Residents reported that no Chechen fighters were based in the village.\textsuperscript{262}

Russian lawmaker Aivars Lezdinsk condemned the use of cluster bombs, claiming they were banned under the Geneva Conventions.\textsuperscript{263} Andrei Mironov, a former dissident and an aide to then presidential human rights commissioner Sergei Kovalyov, collected evidence of cluster bombs and other ordnance early in the conflict, including a tennis ball sized bomblet he found in Shali following the attack on January 3rd. Mironov reported over a hundred people killed, higher than earlier estimates, claiming they were nearly all civilians. "I remember, Soviet propaganda spoke a lot about the Americans, how they were using such weapons in Vietnam. But now they (the Russians) do the same," Mironov said.\textsuperscript{264}

Khamsad Elmurzayev, a Chechen doctor in a field hospital south of Grozny, underscored the grave injuries caused by cluster bombs:


\textsuperscript{264} Peter Graff & Graham Brown, \textit{Russian Activist Collects Bombs as Evidence Against Moscow}, AGENCE FRANCE PRESSE (Goiti), Feb. 12, 1995, available at LEXIS, All News, Agence France Presse File. Mironov described the bombs as weighing about 500 kilograms and containing hundreds of bomblets lined with steel pellets. He also displayed evidence of dart bombs and incendiary bombs. That the victims were nearly all civilians suggests that Chechen fighters may have been present. \textit{Id.}
“Hands and legs are torn off from the bombs, large body wounds from the cluster bombs. It is terrible.”

Between 1997 and 1999, HALO Trust, a British humanitarian agency, encountered landmines and unexploded submunitions from the conflict in Chechnya, including the AO-2.5RT bomblet. The AO-2.5RTM has been compared to the U.S. Rockeye cluster bomblet, being an antipersonnel/anti-material submunition. It weighs two-and-a-half kilograms, measures 90 millimeters by 150 millimeters, and is as “effective” as a single 81 millimeter mortar with a destructive area of 210 square meters. Two Russian aircraft reported to be used extensively in the Chechen conflict, the Su-24 and the Su-25, are both capable of carrying bomb dispensers loaded with AO-2.5RT bomblets.

In January 1995, the European Union insisted on respect for international humanitarian law in the civil war in Chechnya. The Presidency of the European Union issued a January 17, 1995 declaration stating:

The European Union is following the continuing fighting in Chechnya with the greatest concern. The promised cease-fires are not having any effect on the ground. Serious violations of human rights and international humanitarian law are continuing. The European Union strongly deplores the large number of victims and the suffering being inflicted on the civilian population.

The European Union made an additional declaration on January 23, 1995:


266. HALO Trust E-mail, supra note 30.


268. Friedman, supra note 93, at 198. The AO-2.5RT designation is used with the KMG-U dispenser, and the designation AO-2.5RTM is used with the RBK-500 dispenser. The submunition is thought to be the same. Jane’s Air Launched Weapons, Aug. 1, 1999, at 1.


It deplores the serious violations of human rights and international humanitarian law which are still occurring [in Chechnya]. It calls for an immediate cessation of the fighting and for the opening of negotiations to allow a political solution to the conflict to be found. It demands that freedom of access to Chechnya and the proper convoying of humanitarian aid to the population be guaranteed.\textsuperscript{222}

The ICTY Appeals Tribunal in the Tadic case relied on these statements in making its conclusions about the blurring of the lines between international and internal conflicts and stressed that the above statements “did not mention common Article 3 of the Geneva Conventions, but adverted to ‘international humanitarian law,’ thus clearly articulating the view that there exists a corpus of general principles and norms on internal armed conflict embracing common Article 3 but having a much greater scope.”\textsuperscript{223}

Russian military actions in Chechnya enjoyed more widespread Russian public support when the war broke out again in late 1999 than during 1994–96, with the Russian people believing that “the rationale for this war was self-defense,” in light of apartment building bombings in Moscow blamed on Chechen separatists.\textsuperscript{224} The Russian army has relied upon air power to an even greater extent than during the first war,\textsuperscript{225} possibly mimicking the air war strategy of NATO in the Kosovo crisis earlier that year. Some commentators have argued that President Putin entered a “Faustian” contract with the Russian army, giving them free rein to conduct the war in any fashion that would guarantee him a war victory.\textsuperscript{226}

While Russian military leaders initially were reluctant to use air strikes for fear of civilian casualties, Defense Minister Igor Sergeev soon authorized massive air support for ground troops following heavy initial troop losses. The Su-24M “Fencer-D” tactical strike aircraft and the Su-25 “Frogfoot” again formed the core of Russian air offensives in Chechnya.\textsuperscript{227} According to one analyst, the trend in aircraft and missile


\textsuperscript{224} McFaul, Russia Under Putin, supra note 260, at 20–21. Public support for the war during the presidential campaign of 2000 stood at 60%, even as casualties began to rise. Russian President Vladimir Putin’s public approval ratings were even higher. Id. at 21–22.

\textsuperscript{225} Id.


\textsuperscript{227} Alexey Komorav, Chechen Conflict Drives Call for Air Force Modernization, Aviation WK. & Space Tech., Feb. 14, 2000, at 80.
Footprints of Death

strikes moved from unitary high explosive bombs and warheads (for strategic targets such as bridges, roads and buildings) to wide-area antipersonnel submunitions (to attack rebel leadership and camps).\textsuperscript{278} Over 60 tactical missiles, capable of carrying cluster submunitions, had been used by mid-November 1999 in Chechnya.\textsuperscript{279} A well-respected trade journal reported in February 2000 that Russian short range ballistic missiles have poor accuracy.\textsuperscript{280}

On October 7, 1999, two Su-24 fighter bombers dropped eight cluster bombs on the village of Elistanzhi. The cluster bomb attack killed over forty people, mostly women and children, and wounded sixty. At least nine children were killed when one bomb hit the local school. According to a Western journalist, "a trail of small bomb craters 300 [yards] long and 70 wide ran through the centre of the village—a total of more than 200 detonations typical of cluster bombs designed to inflict maximum casualties."\textsuperscript{281} A nine-month-old baby lost a foot in the attack.\textsuperscript{282} According to interviews conducted by Amnesty International and Memorial (a Moscow-based human rights group), forty-eight civilians died and over one hundred were injured. Among the dead was a woman in her sixth month of pregnancy. Witnesses and victims "stated that there were no Chechen fighters or military objectives in the village prior to or at the time of the attack."\textsuperscript{283} According to an eyewitness:

At 7:30 p.m., two airplanes very high up in the sky started to bomb the village, at a time when people were gathering potatoes and maize to be able to survive. Children, old men and the infirm were killed. Now the peaceful picturesque village among the mountains is just a living grave. . . .\textsuperscript{284}

Human Rights Watch has consistently condemned indiscriminate bombing by Russian forces in Chechnya. In April 2000, it made recommendations to the U.N. Commission on Human Rights, including its own findings on bombing in Chechnya:

\textsuperscript{278} David A. Fulghum, \textit{Air War in Chechnya Reveals Mix of Tactics}, \textit{Aviation WK.} & \textit{Space Tech.}, Feb. 14, 2000, at 76.
\textsuperscript{279} Isby, \textit{supra} note 7.
\textsuperscript{280} Fulghum, \textit{supra} note 278, at 77.
\textsuperscript{281} Matthews, \textit{Sound and Fury}, \textit{supra} note 270; Owen Matthews, \textit{A Fight for Honor?}, \textit{Newsweek}, Oct. 18, 1999, at 23.
\textsuperscript{284} Id. at 5.
Since the beginning of the conflict, Russian forces have indiscriminately and disproportionately bombed and shelled civilian areas, causing heavy civilian casualties. They have ignored their Geneva Convention obligations to focus their attacks on combatants, and appear to take few safeguards to protect civilians. The shelling of the Grozny market last autumn was but the first example. In the months that followed a carpet-bombing campaign of Grozny and many other towns and villages was responsible for the vast majority of civilian deaths in the conflict in Chechnya. It has devastated many parts of Chechnya and reduced the capital, Grozny, to a wasteland of rubble.\footnote{Human Rights Watch, \textit{Recommendations to the UNHCR: Chechnya}, http://www.hrw.org/campaigns/geneva/chechnya.htm (April 2000).}


\section*{2. The Case of Grozny: A Cluster Warhead Goes to Market}

On October 21, 1999, a Russian attack on the Grozny market killed scores of civilians. Chechen President Aslan Maskhadov claimed that the attack had been aimed at the presidential palace and that the Russians had used a tactical missile with cluster bombs. He claimed 282 people were killed, while early reports had claimed about 150 deaths.\footnote{\textit{Russian Jets Pound Downtown Grozny}, \textit{Deseret News} (Salt Lake City), Oct. 27, 1999, at A4.} According to HALO Trust, a British based humanitarian agency, 137 people were killed, and among the wounded was an International Red Cross senior local administrator. HALO confirmed that the attack was due to an “airburst device” from a SS-21 Tochka “Scarab” missile, not an internal shootout as initially claimed by some Russian authorities.\footnote{HALO Trust E-mail, \textit{supra} note 30.}

Russian officials charged that the Grozny market was an arms bazaar. Independent sources did confirm that in one area of the market, arms were sold but interviews with local residents indicated that it was a general market as well, and one of the few remaining sources for food in the area.\footnote{CHECHNYA FOR THE MOTHERLAND, \textit{supra} note 283, at 5.} HALO Trust confirmed the Amnesty International conclusions that the market was not a weapons market per se:

\begin{itemize}
  \item \footnote{CHECHNYA FOR THE MOTHERLAND, \textit{supra} note 283, at 5.} \end{itemize}
Grozny market . . . is a great sprawling area of wooden stalls laid out each morning and packed away in the evenings. It is the equivalent of all your department stores rolled into one. Thus you can buy fresh bread, a TV set, a wedding dress, a bag of nails, and an AK-47 in one open area the size of a couple of sports fields. Each section is clearly demarcated and the area where weapons are sold is very small and set right against the edge. The centre of destruction was in the central zone some 150m away from the area set aside for selling weapons. It was right over the clothes and food section. With the use of such munitions in such an area it was impossible not to have foreseen massive collateral damage. (If indeed, we believe that the arms market was the target.)

The “official” Russian story changed several times. On October 22, one Russian spokesperson on television claimed that there had been no Russian military attacks on Grozny on October 21 and suggested the explosions were caused by Chechen fighters. Also on October 22, 1999, another Russian spokesperson, on another TV channel, claimed that a Russian special operation had destroyed an arms market in Grozny, and that if any civilians had been killed, it could only have been those involved in selling arms to the “bandits.” The Prime Minister Vladimir Putin, also speaking on October 22 but in Helsinki, stated that an explosion had occurred in a weapons market and that fighting between “two warring bandit groups” might have been the cause. He did note that a Russian special operation had occurred, but that it had “no connection to the events which took place in Grozny.” The spinning continued on October 23, 1999, when the First Deputy Chief of the General Staff of the Russian Forces stated that there was a special operation by Russian forces, which provoked combat between two rival bandit groups, who then could have set off an explosion in an arms warehouse.

On October 26, 1999, General Major Vladimir Shamanov, Commander of the Russian Federal Forces “Zapad” said in a TV interview that the explosions were the result of a Russian attack ordered at the highest levels of command. On October 23, the President of Ingushetia, General Major Ruslan Aushev (a professional military officer and veteran of the Afghanistan war), dismissed the warehouse explosion explanation and said that it was “clear that this was an attack with tactical rockets” as a result of “decisions made at the very top.”

290. HALO Trust E-mail, supra note 30 (emphasis added).
291. CHECHNYA FOR THE MOTHERLAND, supra note 283, at 6–7.
292. Id. at 7.
Amnesty International documented the human face of the tragedy. Leila Migieva, aged 46, was traveling in a bus that was hit by flying shrapnel from the attack, losing her left hand and left leg. Tousari Esmurzayeva, whose daughter was wounded while selling bread in the market, shared her eyewitness account:

After the first hit, I saw a man who was sitting in a car. His head had been blown off, but his hands were still holding the wheel. Corpses were everywhere in the market. They were lying on the stalls...293

Fourteen-year-old Sulikhan Asukanova lost her right arm to amputation after being hit during an explosion during the attack. She was hit at about 5 p.m.; the impact left her arm hanging off her body. Her mother had to take her to three different hospitals before her arm was finally cut off at 10 p.m.294

The SS-21 “Scarab” Tochka ballistic missile used in the attack can “blast a seven hectare area with cluster bombs.”295 When it went on the market in 1993, the Tochka-U (“Improved Point”) had a maximum range of 120 kilometers, and claimed an accuracy of fifteen meters. It can carry fifty submunitions.296 The claimed accuracy and reliability of the Tochka-U, however, have recently come into question. The SS-21 was reported in February 2000 to have a “circular error probable” of between 100 meters and 150 meters, rather than the earlier claim of fifteen meters.297

Amnesty International criticized the attack as a possible grave breach of Article 51 of the Additional Protocol I to the Geneva Conventions as an indiscriminate attack on civilians. Even though the arms market may have been a legitimate target, the use of high explosive

293. Id. at 5.
294. Id. at 5–6.
297. Fulghum, supra note 278. A recent test shot of a Ukrainian Tochka-U with a dummy warhead hit an apartment building in a Kiev suburb on April 20, 2000 in the Ukraine. Three people were killed and five injured. This “high-precision” rocket was built at a Russian plant in 1990 and had an expected lifespan of 10 years. The commander of the Ukrainian Missile Troops and Artillery stated that it was the will of God that the missile did not hit the Chernobyl nuclear plant. Mikhail Melnik, Minister Confirms Apartment House Blast, TASS, Apr. 24, 2000; Missile Missed Chernobyl By Will of God, (Ukrainian TV Second Programme broadcast), reprinted in BBC WORLDWIDE MON. (Kiev), Apr. 25, 2000, available at LEXIS, All News, BBC Worldwide Monitoring File.
weapons in a market packed with civilians likely failed the principles of discrimination and proportionality.  

Specifically, Article 51(5)(b) prohibits attacks which may be expected to cause incidental loss of civilian life . . . in relation to the concrete and direct military advantage anticipated.” The attack also seems to violate the principle that means and methods that cannot be specifically targeted are not to be used. A weapon with a seven hectare footprint hardly seems appropriate for the target described in the Grozny market. Giving the Russian leaders who justified the attack the benefit of the doubt, the situation does present a classic problem of targeting in an urban setting where there is both “horizontal” proximity of civilians and a military target. International law does not relieve a combatant of its responsibility in such a situation to protect civilians to the extent possible.

These three case studies (Zagreb, Kosovo, and Chechnya) provide compelling arguments for why the international community should reconsider the indiscriminate and inhumane characteristics of cluster munitions. They demonstrate that existing legal frameworks are inadequate to address the situation. In the first case, an indicted war crimes suspect runs free; in the second, the lack of a clear norm prohibiting the use of cluster munitions in civilian areas, let alone any explicit international restrictions at all, serves as cover for NATO’s questionable use of cluster munitions; and in the third case, the lack of clear rules applying to internal armed conflict, as well as the lack of a clear international standard on the use of cluster munitions, will likely result in no action being taken against those behind the bombing of the Grozny market and other Chechen targets.

What can be done? Before suggesting a solution, perhaps we should first look at past attempts to ban or restrict cluster bombs, and then consider steps that can be taken.

V. A Proposal to Ban Cluster Bombs

A. A Look Back: Past Efforts to Ban Cluster Bombs

This Section looks back at past efforts to ban or restrict cluster bombs. Rather than merely provide a historical account, this Section will counter past arguments and claims in defense of cluster munitions with subsequently available factual information. The object is not to

298. CHECHNYA FOR THE MOTHERLAND, supra note 283, at 7.
299. See Additional Protocol I, supra note 16, art. 51(8); WAXMAN, supra note 22, at x.
hold the past to today's standards, but to demonstrate that those arguments no longer hold sway in light of subsequent battlefield experience.


The 1980 Convention on Certain Conventional Weapons (CCW) resulted from a process initiated in the early 1970s by the International Committee of the Red Cross and states like Sweden concerned about the damage done by new weapons being used in battlefields around the world.\footnote{PROKOSCH, supra note 16, at 148. A panel of Swedish military and medical experts produced a report on these weapons in 1973, and formed the technical background for the conference. \textit{Id.}} The ICRC convened a conference of experts Lucerne, Switzerland in 1975 to consider proposals to ban a number of anti-personnel weapons, including cluster bombs.\footnote{\textit{Id.} at 149–50.}

Governmental delegates opposed to a ban on cluster bombs, led by the U.S., argued (1) that cluster bomblets were not that deadly\footnote{According to an American expert at the conference, "The pellets don't have a strong penetration capability, so the [military] crews are protected. So are civilians if they take cover, as they almost always do." \textit{Id.} at 151. He also said that "even very light shelters would offer protection to any civilians near the target." \textit{Int'l Committee of the Red Cross, Conference of Government Experts on the Use of Certain Conventional Weapons (Lucerne) 54 (1975) [hereinafter ICRC, 1975 Lucerne Conf.].}} and (2) that cluster bomb footprints were not as large as claimed by Swedish experts. A Dutch military expert attempted to debunk a Swedish claim that the area coverage of a U.S. cluster bomb of the era was 300 meters by 900 meters, stating that "the size of the area is classified but it is only a fraction of that."\footnote{\textit{Id.}, at 151–52.}

Subsequent experience has shown that these efforts to debunk the critics of cluster bombs can themselves be debunked. The devastating nature of cluster bomb injuries from the Vietnam era, as well as versions in use today, seems indisputable. A U.S. Army medic had the following to say about cluster bomb injuries during the Gulf War:

The devastation [cluster bomblets] caused on explosion was unbelievable. Shrapnel flew everywhere. Limbs were severed by
the force of detonation. Massive abdominal bleeding and pulmonary pressure wounds occurred.\textsuperscript{304}

A few anecdotes of injuries caused by Vietnam-era cluster bomblets in Laos underscore the point. On November 22, 1993, four-year-old Kou Ya and his seven-year-old sister Sia Ya were killed when they were playing with a cluster bomblet.\textsuperscript{305} While tilling the family rice paddy behind a water buffalo in May 1996, fifteen-year-old Ton Kemla's plow hit a long-hidden cluster bomblet that exploded and ripped apart his genitals.\textsuperscript{306} On February 28, 1995, a Mr. Khammone was cutting bamboo when his knife struck a bomblet, causing it to explode. He died one day later. Three boys nearby suffered leg injuries.\textsuperscript{307}

While there may be some dispute as to footprint sizes of different cluster bombs, claims made by government delegates in the 1970s have been proven overly conservative. A U.K. Royal Air Force captain claimed at Lucerne in 1975, for instance, that the newly developed BL755 cluster bomb covered an area “less than one hectare,” or less than 100 meters by 100 meters.\textsuperscript{308} Twenty-five years later, NATO admitted in a meeting with British parliamentarians that each cluster bomb is considered to cover a square kilometer of area, i.e., 1000 meters by 1000 meters,\textsuperscript{309} or 100 times the area claimed in 1975. As noted above, the United Kingdom dropped over 530 RBL755 or BL755 cluster bombs in Kosovo.\textsuperscript{310}

The ongoing damage caused by unexploded cluster bomblets apparently was not discussed at the conference; indeed, the same Royal Air Force captain mentioned above virtually guaranteed that duds would not

\textsuperscript{304} Ginn, \textit{supra} note 112.

\textsuperscript{305} Kou was killed instantly. Sia died two days later. MENNONNITE CENTRAL COMMITTEE & MINES ADVISORY GROUP, SUMMARY DESCRIPTION OF UNEXPLODED ORDNANCE PROJECT, XIENG KHOUANG, LAO PEOPLE’S DEMOCRATIC REPUBLIC, undated (on file with author).


\textsuperscript{308} PROKOSCH, \textit{supra} note 16, at 154.

\textsuperscript{309} PARLIAMENTARY/NATO CLUSTER MEETING, \textit{supra} note 8, at ¶ 5.

\textsuperscript{310} The prefix RBL “relates to a variation of the BL755 equipped with a radar proximity fuze which initiates the dispenser case ejection at a pre-set height to enable deployment from medium-to-high altitude.” McGrath, \textit{supra} note 11, at 51, n. 121. In other words, the RBL755 is a BL755 which can be dropped from a higher altitude, without necessarily altering footprint size.
occur in the new British BL755 cluster bomb.\textsuperscript{311} Seven years later, the much vaunted BL755 fuzing system failed dramatically under combat conditions. According to U.K. government sources, at least 9.5\% of all BL755 cluster bomblets dropped on Argentine forces in the Falkland Islands in 1982 failed to explode on contact.\textsuperscript{312}

These arguments will not likely be repeated at upcoming conferences addressing the issue of cluster bombs. It is important, however, to understand that government and manufacturer guarantees often prove deficient in the face of actual battlefield experience. Even claims made in good faith often prove erroneous in light of the real effects. The next new and improved weapon will often fail to live up to expectations.

The Lucerne Conference was followed in 1976 by the Lugano Conference, at which thirteen countries proposed a ban on cluster weapons:

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 are prohibited for use.\textsuperscript{313}

Those supporting the ban argued that:

[Cluster warheads] had a wide area coverage and, hence, could easily affect combatants and civilians without discrimination; they also caused unnecessary suffering, ensuing \textit{inter alia} from the multiple wounds they often inflicted. Another ground advanced was the public concern which the use of these weapons had aroused.\textsuperscript{314}

\textsuperscript{311} He stated that "the fusing of the bomblets is such that \textit{detonation on impact is assured} regardless of the angle at which the bomblet strikes the target or ground, and that the incidence of in-flight bomblet detonation is extremely small, so that \textit{the effects of the weapon are contained within the designated area and at the attack time.}" ICRC, 1975 \textit{Lucerne Conf.}, supra note 302, at 54 (emphasis added).

\textsuperscript{312} U.K. government sources indicate that the dud rate for the BL755 when used in the Falklands War was at least 9.5\%. John Spellar, M.P., Minister of State, to Harry Cohen, M.P., MoD Ref: D/Min(AF)/JS PQ1886K/00/M (May 28, 2000), \textit{cited in McGrath, supra note 1l}, at 28.

\textsuperscript{313} \textit{Working Paper: Incendiary Weapons, Anti-Personnel Fragmentation Weapons, Small-Calibre Projectiles, Anti-Personnel Landmines}, No. CDDH/IV/201, reprinted in \textit{International Committee of the Red Cross, Conference of Government Experts on the Use of Certain Conventional Weapons (Lugano) 198–99} (1976) [hereinafter ICRC, 1976 \textit{Lugano Conf.}]. This paper was submitted to the CDDH by Algeria, Austria, Egypt, Lebanon, Mali, Mauritania, Mexico, Norway, Sudan, Sweden, Switzerland, Venezuela, and Yugoslavia. \textit{Id.} As evidenced in the title of the proposal, efforts were made to ban incendiary weapons and to limit other weapons, including flechettes, certain types of bullets, and air-dropped anti-personnel landmines. \textit{Id.}

\textsuperscript{314} ICRC, 1976 \textit{Lugano Conf.}, supra note 313, at 17, \textit{\textsection} 45.
As far-reaching as the proposed ban was, it did not cover bomblets designed for anti-materiel use or combined effects munitions, an exception that, in light of currently used submunitions, would have swallowed the rule.

Opponents of the ban made a number of arguments. They were "convinced that weapons of this category represented an improvement from the humanitarian point of view over weapons with random fragmentation." Others argued that there was a need for anti-personnel wide-area munitions in defensive situations. A suggestion to limit footprint size to one square kilometer met with the criticism that the result would be simply to increase the number of warheads targeted to the target area. Referring to ongoing parallel negotiations on the laws of war (that would lead eventually to Additional Protocol I of the Geneva Conventions), one expert argued there was no need to consider weapons characteristics per se, but that cluster warheads should be assessed in light of use prohibitions related to indiscriminate attacks.

These objections found response in the explanatory memorandum attached to the proposed ban:

At detonation a vast number of small fragments or pellets are dispersed evenly covering a large area with a high degree of probability of hitting any person in the area. The effect of such a detonation on unprotected persons—military or civilian—in the comparatively large target area is almost certain to be severe with multiple injuries caused by many tiny fragments. Multiple injuries considerably raise the level of pain and suffering. They often call for prolonged and difficult medical treatment and the cumulative effect of the many injuries increases the mortality risk. . . . It has been suggested that cluster bomb units may have indiscriminate effects not because of their construction but rather because of their operational use. However, when the normal weapon effect is to cover areas of several square kilometers in an attack by a single aircraft, these weapons are hardly capable of use anywhere without hitting civilians incidentally.

These conferences fed into a process resulting in the 1980 Convention on Prohibitions or Restrictions on the Use of Certain

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315. Id. at 17, 204.
316. Id. at 17, ¶46.
317. Id. at 17, ¶47.
318. Id. A central thesis of this Article is that those norms have proven ineffective in regulating cluster munitions in the subsequent twenty-five years.
319. Id. at 204.
Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects,\(^n\) known more customarily as the Conventional Weapons Treaty (CCW). The cluster bomb ban did not make it into the final treaty, nor were any restrictions on their use included.

Protocol II of the CCW did address the issue of landmines, restricting their indiscriminate use. It was generally understood that the definition of landmines did not include cluster bombs.\(^n\) Protocol III prohibited the intentional use of incendiary weapons against civilians and also prohibited use against any military objective located in a concentration of civilians.\(^n\) While probably the most far-reaching part of the CCW, Protocol III was carefully drafted to exclude any cluster bombs that might have an incendiary side effect. According to Protocol III, incendiary weapons do not include:

Munitions designed to combine penetration, blast, or fragmentation effects with an additional incendiary effect, such as armour-piercing projectiles, fragmentation shells, explosive bombs and similar combined-effects munitions in which the incendiary effect is not specifically designed to cause burn injury to persons, but to be used against military objectives, such as armoured vehicles, aircraft and installations or facilities.\(^n\)

Combined effects munitions in the form of the BLU-97 submunition (the bomblet dispensed by the CBU-87), the star of the show in Kosovo, are therefore not covered by Protocol III of the CCW, even though they are designed to pack an incendiary punch through the zirconium component.\(^n\)

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\(^n\) Restrictions or bans on specific weapons were considered in the discussions in 1976 and 1977 of the Additional Protocols to the Geneva Conventions, but no action was taken beyond recommending that a separate treaty process be undertaken. This recommendation led to U.N. preparatory committee meetings in 1979 and 1980, and the CCW Treaty in 1980. Prokosch, supra note 16, at 160.

\(^n\) The definition of mine under Protocol II is “any munitions placed under, on, or near the ground or other surface area and designed to be detonated or exploded by the presence, proximity, or contact of a person or vehicle.” Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices (1980 Protocol II), art. 2(1), in CCW, supra note 5. The Protocol had no definition of anti-personnel landmines.

\(^n\) Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons, art. 2, in CCW, supra note 5.

\(^n\) Id. at art. 1(1)(b)(ii).

\(^n\) Walker & Stambler, supra note 9. The U.S. did not consent to be bound by Protocol III of the CCW, even with these exceptions for cluster munitions explicitly written into the text. The U.S. has taken the position that the prohibition on attacks on military targets in civilian areas eliminates the attacker’s normal considerations of proportionality, i.e., that the use of incendiaries may result in fewer civilian casualties than conventional weapons. W.
The role of the public conscience in the formation of the treaty cannot be underplayed, but this also has limits. Napalm grabbed the public conscience through the power of the iconic photo of the Vietnamese girl running naked toward the camera; the resulting outrage affected the CCW and its Protocol III on incendiary weapons. But it is difficult to gauge what constitutes the public conscience, and the public seems capable only of limited outrage at any given moment.

In sum, the cluster bombs failed to make it into the CCW for several reasons. Militaries in powerful countries were committed to justifying their continued use, and this justification often took the form of “debunking” opposing data about the extent and severity of cluster munition damage. Negative effects of cluster bombs were downplayed. Combined effects munitions with anti-personnel effects were protected “definitionally”—in the original Swedish proposal to ban cluster bombs, combined effects munitions were exempt. In Protocol III covering incendiary weapons, CEMs were again exempted. Other weapons systems, most notably napalm, grabbed the spotlight as somehow more heinous than cluster bombs. Finally, the long term effects of unexploded cluster bombs were not widely known at the time.


By the early 1990s, growing awareness of the humanitarian crisis caused by anti-personnel landmines led to a movement to ban their use. A number of states, under pressure and encouragement from the burgeoning International Campaign to Ban Landmines, called for a review of the Conventional Weapons Treaty to take up the issue of anti-personnel landmines. The provisions of the 1980 Protocol II had clearly failed to stop the widespread use of mines in the 1980s, and there was growing support for a ban on their use, production, transfer, and stockpiling. Following a series of preparatory committee meetings, the States Parties to the CCW gathered in Geneva in September 1995. An unprecedented number of non-governmental activists joined governmental

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325. Prokosh, supra note 16, at 170. At the 1974 Lucerne Conference, Hans Blix of the Swedish delegation invoked this image in exhorting delegates to action. Id.


delegates. Two issues seized the conference: anti-personnel landmines and blinding lasers.328

Cluster bombs again were on the back burner at Geneva. The issue had been raised in the ICRC expert meeting in May–June 1994. The Australian government “non-paper” pointed out the problem of unexploded cluster bomblets and suggested self-destruct mechanisms as a way to cut down on the problem. A non-governmental expert made several proposals short of a total ban: banning fragmentation cluster munitions, as well as attacks with multiple cluster munitions where area coverage is above a certain limit; requiring self-destruct or self-neutralizing mechanisms on bomblets; setting a maximum permitted delay time for time delay fuzes on bomblets; and banning cluster munitions attacks where there is a high likelihood of civilian casualties.329 In light of the extensive use of cluster weapons in the Gulf War, one might have expected even greater attention to the issue.330

The cluster bomb proposals failed to go much further. The International Campaign to Ban Landmines explicitly rejected calling for the ban on landmines to include cluster bombs, doing so first in Rome in 1995 and most recently in 1999. Some within the campaign have argued for inclusion of cluster bombs in an effects-based definition of landmines. Those opposed to the ICBL taking up the issue have argued that such an effort would require a new campaign and would detract from the efforts at universalizing and implementing the MBT.331 In September 1999, the ICBL Coordinating Committee (ICBL CC) released a position statement stating that the “ICBL as a whole must stay focused on its call for a global ban on APMs [anti-personnel mines] and should not expand it to include a ban on cluster bombs.”332 Put most bluntly, the position of the ICBL was based more on a pragmatic assessment that including cluster bombs under a landmine definition might well scuttle hopes of a landmine ban.

329. PROKOSCH, supra note 16, at 200 n.52.
330. The fact that cluster bombs were used against a tyrant who annexed a neighboring country and visited systematic human rights violations on opponents in his own country no doubt reduced international sympathy for the victims of unexploded bomblets in Iraq. An unprecedented clearance effort also occurred in Kuwait, where ample financing resulted in record time clean-up, which also likely served to diminish the international impact. For an account of unexploded ordnance clearance efforts in Kuwait, at a cost of nearly $1 billion, see DONAVAN WEBSTER, AFTERMATH: THE REMNANTS OF WAR 218–252 (1996).
331. International Campaign to Ban Landmines, Minutes of Coordinating Committee, Sept. 11–12, 1999, Geneva, Switzerland (on file with author) [hereinafter ICBL, 1999 Minutes].
332. Id.
The September 1995 CCW review conference ended in turmoil, as government delegates could not come to agreement on a proposal to restrict anti-personnel mines. The delegates reconvened in Vienna in May 1996, and landmine ban advocates were disappointed that the agreements reached there fell short of a comprehensive landmine ban. The 1996 Amended Protocol II of the CCW instead required all anti-personnel landmines to have self-destruct or self-deactivate mechanisms, and that they be "detectable." It also defined an antipersonnel mine as "a mine primarily designed to be exploded by the presence, proximity or contact of a person and that will incapacitate, injure, or kill one or more persons."

The failure of the CCW delegates to agree to a complete ban of landmines led to the initiation of a new treaty process to call for a comprehensive ban. This treaty process, which developed out of an unprecedented cooperation between international non-governmental organizations and sympathetic states, culminated in the Ottawa Mines Ban Treaty signed in December 1997. Cluster munitions played only a minor role in the process. The proponents of a comprehensive ban worked for clarity and simplicity, opting out of a complex compliance
regime. Including cluster bombs, as noted above, would have complicated the process and threatened chances for success.

The United States did not seriously join the negotiations until the summer of 1997, late in the process. The United States expressed concern over the proposed (and eventual) MBT definition of an antipersonnel mine as "a mine designed to be exploded by the presence, proximity or contact of a person and that will incapacitate, injure or kill one or more persons," thus deleting the word "primarily" from the CCW definition. This caused some concern at the U.S. Department of Defense, because if "you took the existing land mine ban definition, without that primarily in there it could be, in fact, stretched to include th[e] high unexploded ordnance rate" of cluster bomb units found in Laos. Such fears about the definition were unfounded, as most people close to the process believe that the current definition found in the MBT does not include cluster bomblets.

While cluster bombs were excluded from both the amended CCW and the new MBT, significant advances were made in raising awareness of the issue. That unexploded cluster bomblets function as de facto landmines is now largely undisputed, a significant advance over the situation internationally 25 years ago.

B. Another Opportunity: The 2001 CCW Review Conference

The Conventional Weapons treaty comes up for a 5 year review in 2001. This event provides an opportunity for the international com-

336. MBT, supra note 3, art. 2, ¶ 1.
338. The Travaux Preparatoire for the MBT process has yet to be produced. Reportedly, the Norwegian government accepted responsibility for producing it, but has failed to do so. Author's Notes from December 1999 Annual Review Conference of the CCW (on file with author). Conversations by the author with governmental and non-governmental delegates closely involved in the negotiation of the MBT treaty, however, strongly suggest that cluster bombs were not intended to be included in the definition. See supra note 37 for a discussion of this question.
339. See e.g. WORKING PAPER SUBMITTED BY SWITZERLAND: REGULATION ON SUBMUNITIONS, FIRST PREPARATORY COMMITTEE FOR THE SECOND REVIEW CONFERENCE OF THE STATES PARTIES TO THE 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, Dec. 14, 2000 (on file with author) [hereinafter SWISS CCW WORKING PAPER].
munity to revisit the question of cluster bombs, and to account for their indiscriminate use and inherently indiscriminate characteristics.

There are clearly pitfalls. The CCW process has definite limitations. Powerful nations have expressed little interest in cluster munitions restrictions. The United States sees the CCW review as an opportunity to expand on the restrictions of Amended Protocol II concerning landmines. Pakistan and China have expressed strong opposition to any changes, arguing that the 1996 changes should be better implemented and studied. The landmines ban movement, while facing significant opposition from the world’s militaries, did not pose a significant threat to arms manufacturers as mines did not constitute a major portion of their income and thus did not provoke a counter-campaign. Cluster munitions, on the other hand, are a growing multi-billion dollar enterprise at the core of national military strategy and military-industrial research, development, and production.

But there are countervailing signs of action. Cluster bombs have the potential of becoming what napalm was in the 1970s and landmines were in the 1990s. The irony of a humanitarian campaign to stop genocide in Kosovo resulting in returning refugee children being killed and maimed by unexploded cluster bomblets has galvanized international opinion in a way that scores more deaths Laos and Chechnya have been unable to do. The International Committee for the Red Cross hosted a conference for government and non-governmental experts in September 2000 to consider “Unexploded Remnants of War,” including cluster bombs, in anticipation of the 2001 CCW Review conference. Legislators in the United States have expressed an interest in restricting cluster bombs. While falling short of calling for expansion of the mine


344. See, e.g., U.S. GAO, Antiarmor Munitions Master Plan, supra note 87. (indicating over $17 billion dollars allocated for anti-armor weapons, many of which are cluster munitions).

345. ICRC, NYON SUMMARY REPORT, supra note 22.

ban to include cluster bombs, the Coordinating Committee of the International Campaign to Ban Landmines (ICBL) has recognized "the grave danger posed to civilians by cluster bomb "duds." These duds do function as de facto antipersonnel landmines. The ICBL condemns the use of cluster bombs and all indiscriminate weapons with antipersonnel mine effect."347 A growing number of international non-governmental organizations have been calling for a moratorium on the use of cluster bombs or for other restrictions.348

Governmental actions have indicated a move in this direction as well. At the annual review of the Amended Protocol II of the CCW in December 1999, Switzerland called for consideration of a cluster bomb protocol,349 and renewed its concerns about unexploded cluster submunitions at the first preparatory committee ("prepcom") for the 2001 CCW review held in December 2001.350 Other states, including Norway, Sweden, Canada, the Netherlands, and New Zealand have expressed


347. ICBL, 1999 Minutes, supra note 331.

348. McGrath, supra note 11, at 54 (describing the August 2000 call for a moratorium and post-use clearance and damages by the U.K. Working Group on Landmines (now known as Landmine Action UK), a consortium of 55 British non-governmental organizations); Elisabeth Reusee-Decrey, Coordinator of the Swiss Campaign to Ban Landmines, Preamble to 1998 Annual Report (on file with author) (calling for efforts to combat arms that carry a different name, but produce the same effects as anti-personnel landmines); HRW, Cluster Bombs, supra note 203 (calling for a moratorium on use of cluster bombs in late 1999); Mines Action Canada, Statement on Use of Mines & Similar Weapons in Yugoslavia/Kosovo, May 10, 1999 (expressing concern about cluster bomb use in Kosovo in May, 1999), available at http://www.minesactioncanada.com/documents/letter.htm; New Zealand Campaign Against Landmines (CALM), The Curse of Cluster Bombs, CALM NEWSLETTER, Sept. 1999, at 5 (calling for a ban on "defective" cluster bombs and a 99.5% reliability rate). The Mennonite Central Committee, a long proponent of a comprehensive ban on cluster bombs, has also issued a call for a moratorium on the use, production, sale, and transfer of cluster bombs; some 40 international NGO's have signed onto this call as of late January 2001. See Mennonite Central Committee Cluster Bomb website, at http://www.mcc.org/clusterbomb; E-mail from Titus Peachey, Peace Education Director, MCC to Virgil Wiebe, Center for Applies Legal Studies, Georgetown University Law Center (Feb. 14, 2001) (on file with author).


interest in joining such an effort.\textsuperscript{351} The U.K. consideration to end use of air-dropped cluster bombs “can be seen as a technical response to the ‘growing clamour’ in the U.K.” about the humanitarian impact of cluster bombs.\textsuperscript{352} At the December 2000 CCW prepcom, a proposal presented by the Netherlands and co-sponsored by 25 other countries called upon the CCW to set aside time in the 2001 CCW agenda to discuss “the humanitarian impact of various unexploded remnants of war” passed without opposition.\textsuperscript{353}

1. Technical Fixes, Use Restrictions and Post Conflict Accountability Measures: Too Little, Too Late?

A smorgasbord of options are under consideration, with specific proposals being floated. These fall into the categories of technical fixes, restrictions on use, and accountability measures following the use of submunitions. Specific provisions have been suggested by the International Committee for the Red Cross (ICRC) and the Swiss government. At the Nyon Experts meeting it hosted in September 2000, the ICRC presented papers on the global effects of cluster munitions and presented proposals to address the issue of unexploded remnants of war. Rather than addressing the problem only weapon by weapon, the ICRC urged a comprehensive approach. As part of that approach, the ICRC made the following recommendations:

1. The use of cluster bombs and other types of submunitions against military objectives in populated areas should be prohibited (as is the case with incendiary weapons under Protocol III of the CCW).

2. Responsibility for the clearance of all unexploded ordnance should be assigned to those who have used them (as is the

\textsuperscript{351} Author’s Notes from CCW Review Conference (December 1999) (on file with author). As with the landmines ban movement, one motivation for medium-size powers may be to see such an effort as a “counterweight to the political hegemony of the United States.” Anderson, \textit{supra} note 343, at 107. In their November 2000 response to a parliamentary inquiry about cluster bomb use in Kosovo, the Dutch Defence and Foreign Ministries expressed an interest in developing a legal framework to address the issue. \textit{Dutch Cluster Bomb Memorandum, supra} note 37.

\textsuperscript{352} \textit{PARLIAMENTARY/NATO CLUSTER MEETING, supra} note 8, at ¶ 11. Such a decision shows the direct impact of public conscience and the Martens Clause on governmental decision making.

\textsuperscript{353} \textit{Non-paper on Explosive Remnants of War}, presented by the Netherlands and co-sponsored by Argentina, Austria, Belgium, Bulgaria, Canada, Cambodia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Luxembourg, New Zealand, Norway, Peru, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States, undated (on file with author). \textit{See also} E-mail from Peter Herby to Virgil Wiebe, Center for Applied Legal Studies, Georgetown University Law Center (Jan. 23, 2001) (on file with author).
case for landmines under Amended Protocol II of the CCW).

3. Technical information concerning the location, dangers, detection and destruction should be made available to the UN and demining bodies immediately after the end of hostilities.

4. Warning of the threat posed by UXO should be given to civilians immediately after their use (as is the case for remotely delivered landmines in Amended Protocol II of the CCW).

5. Cluster bomblets and other submunitions should be fitted with mechanisms which will ensure their self-destruction immediately after the device fails to explode upon impact as designed.

6. The use of cluster bomblets should be suspended until an agreement on their use and clearance has been achieved.\(^{354}\)

A representative of Human Rights Watch (HRW) also presented at the meeting, and supported the call for a moratorium on the use of cluster munitions while the issues are being studied. HRW also supported exploring the possibility of self-destruct mechanisms and the prohibition of use in populated areas. HRW also called for the need for accurate mapping, user responsibility regarding clearance, and warnings to civilians.\(^{355}\) A representative from Landmine Action UK also presented, supporting the position of the ICRC and also calling for additional training of military personnel in the effects of submunitions. Landmine Action UK also called for compensation to civilian victims for death, injury, and economic disadvantage for the inability to use land.\(^{356}\)

At the December 2000 prepcom of the CCW treaty, the Swiss delegation submitted a working paper addressing the issue of unexploded submunitions. The proposal calls for technical fixes and stockpile decommissioning. Specifically, it calls for all future production of submunitions to include a fuze mechanism which ensures deactivation and self-destruction of all explosives to at least 98%. Such requirements would go into force three years after entry into force. Use of stockpiled submunitions not meeting those technical standards would be limited to


\(^{355}\) Id. 22, at 8–9.

\(^{356}\) Id. at 9–10; see also MCGRATH, supra note 11, at 54.
"an absolute minimum" during an as yet unspecified period of time ("xy" years), and such submunitions would be decommissioned some time after that (in "xy + z" years). 357

These proposals are commendable. The ICRC approach relies on reference to existing norms of international humanitarian law to address both the problems associated with immediate use of cluster bombs and the humanitarian crises associated with unexploded ordnance. The prohibition on use in populated areas, drawing on a similar prohibition on incendiary weapons, addresses some of the problems associated with poor targeting and wide-area coverage. The definition of "concentrations of civilians" found in Protocol III, however, focuses on cities, towns, villages, and refugee camps, and does little to protect populations in rural areas. 358 One of the lessons of the bombing of Laos is that much of the immediate and ongoing damage from cluster bombs occurred in the countryside. While laudable for restricting the use of cluster munitions in populated areas, the ICRC proposal does not fully address the wide-area nature of cluster bomb footprints, namely that multiple munitions that spread death and destruction inherently cannot be directed at point targets.

The proposals to reduce failure rates seem the ideal technical fix—cutting down on UXO cuts down on post-conflict casualties. Such claims should, however, be viewed with considerable skepticism. Industry spokespersons have for decades been promising lower dud rates on cluster bombs, only to be proven wrong in actual combat usage. 359 Self-destruct and self-deactivate systems in the Gulf War often failed to function, leaving behind live UXO. 360 The Swiss proposal of 98% fails even to reach the reliability level of 99.9% mandated by Amended Protocol II of the CCW for anti-personnel landmines. 361

Stockpile destruction of high failure rate munitions should occur rapidly. The cost of retrofitting existing stocks in prohibitive. The Swiss proposal does not go far enough in addressing the problems associated with massive stockpiles of submunitions. The calls for clearance accountability, post-conflict information sharing, and victim compensation

357. SWISS CCW WORKING PAPER, supra note 339.
358. The term "concentration of civilians" is defined as "any concentration of civilians, be it permanent or temporary, such as in inhabited parts of cities, or inhabited towns or villages, or as in camps or columns of refugees or evacuees, or groups of nomads." CCW, supra note 5, Protocol III, art. 1(2).
360. ICRC, SUBMUNITIONS, supra note 11, at 18.
361. CCW, supra note 5, Amended Protocol II, Tech. Annex, art. 3(a).
deserve serious consideration and support.\textsuperscript{362} In the end, however, these measures do not go far enough. The restraints of international humanitarian law have proven insufficient to limit the immediate danger of cluster munitions in the past. The promises of manufacturers and militaries as to reductions in dud rates have proven hollow.

2. Ban the Bomblets: A Call for a Comprehensive Ban on Explosive Cluster Submunitions

A comprehensive ban on the use, production, stockpiling, and transfer of cluster munitions should be effectuated. Cluster bombs are difficult to target, their footprints are very large, their use in populated areas hazardous, and their dud rates unacceptably high. Unexploded cluster bombs are "super landmines": when hidden, they function like mines, but with a more deadly explosive charge,\textsuperscript{363} and when visible, they attract the unsuspecting to pick them up. Each of these arguments has been made at different points in the historical efforts to restrict cluster bomb use; rarely have they been made together. The use of cluster bombs over the past thirty years has given the international community ample evidence to support a ban on these weapons.\textsuperscript{364}

A moratorium on use, production, and transfer of cluster bombs should be immediately instituted as the first step on the way to a comprehensive ban. The United States should take the lead in this endeavor by implementing a complete moratorium on the use of cluster munitions. It has the opportunity to retake leadership in the area of conventional weapons in the wake of its decision not to join the Ottawa Mines Treaty. There are available alternatives to cluster bomb use in the U.S. arsenal. The humanitarian crisis caused by cluster bombs in countries unable to bear the burden should be of concern to the United States, particularly when, as in Kosovo, bombs meant to serve a humanitarian purpose end up killing the very people they were intended to save.

\textsuperscript{362} It is encouraging that the U.S. has acknowledged the need for quick and aggressive post-conflict clearance efforts for unexploded cluster munitions, but discouraging that it failed to live up to this standard in Kosovo. See discussion supra notes 240–241 and accompanying text.

\textsuperscript{363} ICRC, \textit{REMNANTS OF WAR}, supra note 113.

\textsuperscript{364} The International Criminal Court also holds promise for the enforcement of an agreement, whether it include a ban or restrictions. Article 8(2)(b)(xx) of the ICC Statute makes it a war crime to employ weapons restricted under international humanitarian law. New restrictions can be added to the list of actionable offenses. ICTY Statute, \textit{supra} note 150, Art. 8(2)(b)(xx).
Vladimir Jovanovic, a seventy-two-year-old Serb, was injured in a 1999 cluster bomb attack on his home city of Nis, Serbia. He died on April 4, 2000, some eleven months later, while working in his yard with a shovel. His shovel accidentally hit a buried cluster bomb that blew up and killed him.\textsuperscript{365} His initial injury and subsequent death serve as a microcosm of the insoluble problems that surround the use and aftermath of cluster bombs. He was injured in an errant cluster bomb attack in a civilian area, when a bomblet exploded on contact near him. Months later, an unexploded cluster bomblet from the same attack took his life. The injury and death of civilians, in immediate use and subsequently from unexploded bomblets, were foreseeable.

For the past three decades, efforts to ban cluster bombs have been thwarted by a combination of military utility, misinformation, and lack of information. The record has increasingly shown that the immediate and long term humanitarian impacts of cluster bombs outweigh their military utility. Alternatives in the form of precision guided munitions exist. Public awareness and concern over their use has grown in light of ongoing deaths of civilians long after conflicts in which they have been used are over. The time has come to ban cluster bombs. The international community should not miss the chance.

\textsuperscript{365} Man Killed in Explosion of Cluster Bomb, \textit{Associated Press}, Apr. 4, 2000; E-mail from Bojovic Nikola, Nis, Serbia to Titus Peachey, Peace Education Director, Mennonite Central Committee (MCC April 7, 2000 (on file with author).