

**THE UNITED STATES REFUSAL
TO BAN LANDMINES:
THE INTERSECTION BETWEEN
TACTICS, STRATEGY, POLICY,
AND INTERNATIONAL LAW**

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*I rather dislike mines, and the whole damn country is full of them. We lose officers daily, mostly with legs blown off or broken.*²

Lieutenant General George S. Patton

I. Introduction

Richard I attacked the French stronghold of Acre in 1191 using such ancient weapons as the longbow and the catapult.³ The most important weapon he used, however, remains in military arsenals today: the landmine.⁴ One ancient historian recorded that in the Battle of Acre, the most important soldiers “were the miners, making themselves a way beneath the

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2. Letter from Lieutenant General George S. Patton, Jr., II Corps Commander, to Beatrice A. Patton, wife (Mar. 15, 1943), reprinted in CARLOS D'ESTE, PATTON: A GENIUS FOR WAR 469 (1996). General Patton continues, “We have to have sand bags in the bottom of the cars. That helps some.” *Id.*

3. See JOHN HEWITT, ANCIENT ARMOUR & WEAPONS 180 (1996).

4. See *id.* See generally MIKE CROLL, THE HISTORY OF LANDMINES (1998).

ground, sapping the foundation of the walls, while soldiers bearing shields, having planted ladders, sought entrances over the ramparts.”⁵

At Acre, landmines were still a relatively new conception, having first appeared on the battlefield only slightly earlier that century.⁶ Like the soldiers at Acre, the first sappers mined underneath the wall or tower of a stronghold, supporting their tunnel with pitch-smearred timbers.⁷ They then filled the mined cavity with combustible materials and set them on fire.⁸ The fire burned away the support timbers, causing the structure above to collapse.⁹ In the fifteenth century, some enterprising soldier had the idea of filling a mine with gunpowder to blow up a wall or tower.¹⁰ The idea worked, and explosive mines were here to stay.

5. See HEWITT, *supra* note 3, at 180 (quoting the historian Devizes).

6. See A.V.B. NORMAN & DON POTTINGER, A HISTORY OF WAR AND WEAPONS, 449 TO 1660, at 54 (1966) (saying that landmines first appeared in the twelfth century); see also WARFARE 88 (Geoffrey Parker ed., 1995).

The terms “landmine,” “land mine,” and “land-mine” will be used interchangeably within quotations and titles in this article, as no standard usage currently predominates. Likewise, the terms “boobytrap,” “booby trap,” and “booby-trap” will be used interchangeably.

This article does not refer to sea mines or to the laws governing their use. See, e.g., Hague Convention VIII Relative to the Laying of Automatic Submarine Contact Mines, 18 October 1907, 36 Stat. 2332, T.S. 541. See also CHAIRMAN OF THE JOINT CHIEFS OF STAFF, JOINT PUBLICATION 3-15, JOINT DOCTRINE FOR BARRIERS, OBSTACLES, AND MINE WARFARE I-4 to I-6 (30 June 1993) [hereinafter JP 15-3] (discussing Hague Convention VIII, the Seabed Arms Control Treaty of 1971, and the 1982 United Nations (UN) Law of the Sea Convention). This article also does not refer to aerial mines or to the laws governing their use. See NORMAN POLMAR & THOMAS B. ALLEN, WORLD WAR II 554 (1996) (defining aerial mines as those mines that were suspended from barrage balloons as air defense measures in London during World War II).

7. See HEWITT, *supra* note 3, at 181; NORMAN & POTTINGER, *supra* note 6, at 54. See generally CHRISTOPHER DUFFY, SIEGE WARFARE (1996) (describing the “burnt prop” method and tracing the history of mine warfare throughout the world); WEAPONS 228-31 (Randal Grey ed. 1990).

8. See HEWITT, *supra* note 3, at 181.

9. *Id.*

10. See *id.* at 138. See also ROBERT COWLEY & GEOFFREY PARKER, MILITARY HISTORY 427 (1996) (saying that the French developed a gunpowder mine during the 15th century that “proved surprisingly long-lived”); ROBERT L. O’CONNELL, OF MEN AND ARMS 121 (1989) (claiming that rudimentary landmines were first developed in the early 16th century).

Over the next four hundred years mines changed very little.¹¹ By the dawn of the American Civil War, landmines were still quite rudimentary. Before long, however, the Confederate military managed to develop a self-contained, and hence portable, landmine.¹² Some of these mines were industrially manufactured, but many were merely converted artillery shells.¹³ Confederates would simply bury the artillery shells underground with the percussion cap facing up.¹⁴ If someone were to step on the cap or a wagon rolled over it, the shell would explode.¹⁵ Meanwhile, General Grant's soldiers were still mining tunnels underneath enemy positions like their brethren of arms from the previous seven centuries.¹⁶ The Union engineers stuffed these mine shafts with tons of explosives and then detonated the mines beneath the unsuspecting Confederates.¹⁷

Landmines, in the modern sense of the word, have only been in use since World War I.¹⁸ Yet, even in World War I, most of the mines were still improvised on the battlefield and employed to guard trenches against enemy raids.¹⁹ As warfare evolved, so did the landmine. When the first tanks arrived on the battlefield, the first anti-tank mines arrived with them.²⁰ Soon the need for mass produced mines became apparent.²¹ Research and development during World War I yielded amatol and

11. See CHRISTOPHER DUFFY, *FIRE AND STONE* 136-43 (1975) (giving a detailed examination of mining during the eighteenth century); Jack H. McCall, Jr., *Infernal Machines and Hidden Death: International Law and Limits on the Indiscriminate Use of Land Mine Warfare*, 24 GA. J. INT'L & COMP. L. 229, 232 (1994).

12. See JEAN F. BLASHFIELD, *MINES AND MINIÉ BALLS* 48, 57 (1997) (giving the credit for mine innovations to Confederate General Gabriel Rains, head of the Torpedo Bureau); see also McCall, *supra* note 11, at 232 (citing MILTON F. PERRY, *INFERNAL MACHINES* 20-27 (1985) (saying that both naval and land mines were called "torpedoes")).

13. See BLASHFIELD, *supra* note 12, at 56; McCall, *supra* note 11, at 232.

14. See BLASHFIELD, *supra* note 12, at 56

15. See *id.*

16. The most renowned of these were the mines at Petersburg and Vicksburg. See NOAH ANDRE TRUDEAU, *THE LAST CITADEL* 98-127 (1991) (giving a detailed account of the mining in Petersburg, including excerpts from Testimony before the Official Court of Inquiry on the Mine). See also GEOFFREY PERRET, *ULYSSES S. GRANT* 340-43 (1997).

17. See PERRET, *supra* note 16, at 340-43. The use of the mine at Petersburg was tactically sound, but Union forces failed to exploit the gap in the Confederate line. *Id.*

18. See U.S. DEP'T OF ARMY, *FIELD MANUAL 5-31, USE AND INSTALLATION OF BOOBYTRAPS* 6 (31 Jan. 1956) [hereinafter FM 5-31]. This manual is no longer in use. See U.S. DEP'T OF ARMY, *PAM 25-30, CONSOLIDATED INDEX OF ARMY PUBLICATIONS AND BLANK FORMS* (1 Oct. 1997). Note that to the extent that this manual or any other military manual in this article is in opposition to an international treaty or convention to which the United States is a signatory, the treaty supersedes the manual and has the force of U.S. law. U.S. CONST. art. IV, cl. 2 (calling treaties part of "the Supreme Law of the Land"); see also U.S. DEP'T OF ARMY, *FIELD MANUAL 27-10, THE LAW OF LAND WARFARE*, para. 7b (18 July 1956).

ammunal—explosives with three times the power of gunpowder.²² These explosives paved the way for the small, modern mines of today.²³

In the years between World War I and World War II, the United States did little to develop mines or to train soldiers how to use them.²⁴ Only as the United States anticipated entering World War II did the U.S. military begin to develop mines as a permanent part of their arsenal and military strategy.²⁵ In North Africa, Americans first experienced the devastating impact that mines could wreak upon a battlefield. There, minefields derailed several Allied armor attacks²⁶ and proved effective again in Europe as the German Wehrmacht used mines to halt Allied mechanized attacks.²⁷

Today,²⁸ landmines are much more complicated than their historical forebears are, but they still can be separated into two simple categories: anti-personnel and anti-tank.²⁹ Anti-personnel landmines, as defined by international law, are “mine[s] primarily designed to be exploded by the

19. See FM 5-31, *supra* note 18, at 6. Some of the mines in WW I were still of the 15th century variety. See JAY WINTER & BLAINE BAGGETT, *THE GREAT WAR* (1996). Nineteen of these mines were buried over the course of eighteen months on the Messines Ridge at Ypres, and then detonated at once. *Id.* The detonation of the Beaumont-Hamel mine under the German front line started the Battle of Somme. *Id.* The mine was simply a tunnel stuffed with almost one million pounds of amatol; the resulting explosion was heard in both Paris and London. *Id.*

20. See FM 5-31, *supra* note 18, at 6.

21. See *id.*; John Owen, *Mines*, in BRASSEY'S INFANTRY WEAPONS OF THE WORLD 1950-1975, at 242 (Major General J.I.H. Owen, O.B.E., late Royal Marines ed. 1975).

22. See Owen, *supra* note 21, at 242.

23. See *id.*

24. See FM 5-31, *supra* note 18, at 6 (“Between 1918 and 1938, U.S. armed forces showed little interest in . . . mine warfare. . .”). The British apparently developed the first successful mass produced anti-tank mine in 1935. See Owen, *supra* note 21, at 242-43.

25. See FM 5-31, *supra* note 18, at 6.

26. U.S. DEP'T OF ARMY, FIELD MANUAL 5-101, MOBILITY 4-1 (23 Jan. 1985) [hereinafter FM 5-101].

27. *Id.* (noting also the Battle of Kursk in 1943, where “the Soviet Army successfully used strong-points reinforced by minefield[s] to slow the attacking German Army and channelize it into kill zones”).

28. A landmine, from this point on in this article, will be defined as “an explosive or other material, normally encased, designed to destroy or damage ground vehicles, boats, or aircraft, or designed to wound, kill, or otherwise incapacitate personnel. It may be detonated by the action of its victim, by the passage of time, or by controlled means.” CHAIRMAN OF THE JOINT CHIEFS OF STAFF, JOINT PUBLICATION 1-02, DEPARTMENT OF DEFENSE DICTIONARY OF MILITARY AND ASSOCIATED TERMS 279 (23 Mar. 1994 (as amended through 12 Jan. 1998)) [hereinafter JP 1-02]; JP 15-3, *supra* note 6, at GL-4.

presence, proximity, or contact of a person and that will incapacitate, injure, or kill one or more persons.”³⁰ The typical anti-personnel mine is a pressure mine. They are designed to detonate whenever three to thirty-five pounds of force are applied to the mine’s trigger.³¹

Generally, anti-tank mines are larger than anti-personnel mines and require significantly more pressure to detonate.³² Because of their size and

29. Modern anti-personnel mines were first developed for the sole purpose of protecting anti-tank mines. See Janet E. Lord, *Legal Restraints in the Use of Landmines: Humanitarian and Environmental Crisis*, 25 CAL. W. INT’L L.J. 311, 313 (1995).

30. Protocol on the Prohibitions or Restriction on the Use of Mines, Booby-Traps and Other Devices (Amended Protocol II), amended May 3, 1996, art. 2, U.S. TREATY DOC. NO. 105-1, at 37, 35 I.L.M. 1206 [hereinafter Amended Protocol II]; Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and on their Destruction, art. 2, opened for signature Sept. 8, 1997, 36 I.L.M. 1507 [hereinafter Landmine Ban], available at <http://www.vvaf.org/landmine/us/updates/events97/treaty9_29.html>.

The Landmine Ban offers the following distinction: “Mines designed to be detonated by the presence, proximity, or contact of a vehicle as opposed to a person, that are equipped with anti-handling devices, are not considered anti-personnel mines as result of being so equipped.” *Id.* Also, Marian Nash notes that the definition of anti-personnel mines is “deliberately structured so as not to prevent the traditional use of the Claymore. In a command-detonated mode, the Claymore does not fall within the definition” Marian Nash (Leich), *Contemporary Practice of the United States Relating to International Law*, 91 AM. J. INT’L L. 325, 332-33 (1997). The original Protocol II made no distinction between anti-tank and anti-personnel mines. Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices, Oct. 10, 1980, 19 I.L.M. 1529 [hereinafter Protocol II].

Historically, the U.S. Army has primarily used four types of AP landmines: the M14, the M16A1, the M18A1, and the M26. U.S. DEP’T OF ARMY, FIELD MANUAL 21-75, COMBAT SKILLS OF THE SOLDIER A-1 to A-21 (3 Aug. 1984) [hereinafter FM 21-75]; see U.S. DEP’T OF ARMY, TECHNICAL MANUAL 9-1345-203-128P, OPERATOR’S AND ORGANIZATIONAL MAINTENANCE MANUAL: LAND MINES [hereinafter TM 9-1345-203-128P]; U.S. DEP’T OF THE ARMY, SOLDIER TRAINING PUBLICATION 5-12B1-SM, SOLDIER’S MANUAL, MOS 12B, COMBAT ENGINEER, SKILL LEVEL 1, 2-1 to 2-21 (describing the installation and removal of M14 and M16A1 anti-personnel mines as “combat-critical skills”); see also discussion *infra* pt. V.

31. See FM 21-75, *supra* note 30, at A-22 to A-30.

32. See *id.*; see also TM 9-1345-203-128P, *supra* note 30. Historically, the Army has primarily used the M15, M21, and M24. FM 21-75, *supra* note 30, A-22 to A-30; see also TM 9-1345-203-128P, *supra* note 30. In U.S. mixed-mine systems, anti-personnel and anti-tank mines are exactly the same size. See Letter from Lieutenant Colonel John J. Spinelli, Policy Analyst, National Security Policy Division, Plans and Policy Directorate, Office of the Deputy Chief of Staff–Operations, Headquarters, Department of the Army, to Captain Andrew C.S. Efav (Jan. 19, 1999) [hereinafter Spinelli Letter] (on file with author). Also, note most high-tech, anti-tank mines (including all U.S. anti-tank mines) are triggered by the magnetic field of a passing vehicle. *Id.*

the pressure required to detonate them, anti-tank mines are easier than anti-personnel mines to locate and to remove from the battlefield.³³

Mines can be further classified as either conventional mines or “smart” mines.³⁴ Conventional or “dumb” mines are mines that once activated, remain lethal until they detonate, decompose, or are demined.³⁵ In contrast, “smart” mines have limited lives³⁶ and contain mechanisms that cause the mine to either self-destruct,³⁷ self-deactivate,³⁸ or self-neutralize.³⁹ The technology behind these devices is both simple and fail-safe—

33. See LIEUTENANT COLONEL DONALD R. YATES, *THE LANDMINE DILEMMA AND THE ROLE OF THE U.S. GOVERNMENT* 2 (1996). The focus of activists and governments has been primarily on the more numerous and treacherous anti-personnel mines. *Id.*

34. Conventional landmines are “landmines, other than nuclear or chemical, which are not designed to self-destruct.” JP 1-02, *supra* note 28, at 100; JP 15-3, *supra* note 6, at GL-3. Conventional mines are sometimes referred to as “dumb” mines and have an average life of 30 years. See Letter from Robert Sherman, Director of Advanced Projects at the United States Arms Control and Disarmament Agency and Deputy Chief Negotiator at Convention on Conventional Weapons 1994-1996, to Andrew C.S. Efav (Dec. 25, 1997) [hereinafter Sherman Letter] (on file with author). They include both pressure mines and command detonated mines, such as the Claymore. “Smart” mines, on the other hand, are mines that either self-destruct, self-neutralize, or passively self-deactivate. ROBERT SHERMAN, *MINE LIFE LIMITATION, INFORMAL NON-PAPER* (Sept. 25, 1995) (used by the U.S. delegation at the first UN Convention on Conventional Weapons (CCW) review conference) (on file with author).

35. See Michael Renner, *Budgeting for Disarmament*, in *STATE OF THE WORLD* 1995, 150, 156 (Linda Starke ed. 1995). Mines are also sometimes “recycled” to a new location by the emplacing unit. See Spinelli Letter, *supra* note 32.

36. The average life of a smart landmine is four hours; after that time, the mine either self-destructs, self-deactivates, or self-neutralizes. See Sherman Letter, *supra* note 34. United States self-destructing mines self-destruct at either 4 hours, 48 hours, 5 days or 15 days, depending on the mine system. See Spinelli Letter, *supra* note 32. On some systems, the unit emplacing the mines can select the time setting; on others, the time is manufactured at a specific setting. See *id.* For example, the mines deployed from the United States’ Volcano and Gator systems can last up to 15 days. See G.E. Willis, *Leaders Fight Ban to Protect Defenses*, *ARMY TIMES*, June 15, 1998, at 12.

37. “‘Self-destruction mechanism’ means an incorporated or externally attached automatically-functioning mechanism which secures the destruction of the munition into which it is incorporated or to which it is attached.” Amended Protocol II, *supra* note 30, art. 1.10. In other words, a self-destruct mechanism is a device that blows up a mine. See SHERMAN, *supra* note 34. If the device fails, an active mine remains. *Id.*

38. “‘Self-deactivating mechanism’ means automatically rendering a munition inoperable by means of the irreversible exhaustion of a component, for example, a battery, that is essential to the operation of the munition.” Amended Protocol II, *supra* note 30, art. 1.12. In other words, “self-deactivation does not use a mechanism of its own, since any such mechanism can fail. Instead, through certain failure of the mine itself, passive self-deactivation invariably causes the mine to become inoperable.” SHERMAN, *supra* note 34.

they operate by battery.⁴⁰ If the battery has already failed when the mine is planted, the mine is, obviously, already inert.⁴¹ Once the mine is planted, the battery only has a fixed life.⁴² The only way that the battery will never die is if it is never drawn upon, but in that case, the mine never has been activated in the first place.⁴³ Admittedly, a battery may fail later than expected, but the battery (and, hence, the mine) nevertheless, invariably deactivates.⁴⁴

II. The Landmine Problem

A. The Big Picture

Several nations have abject landmine problems.⁴⁵ In recent years, many non-governmental organizations (NGOs) estimated that more than

39. “‘Self-neutralization mechanism’ means an incorporated automatically-functioning mechanism which renders inoperable the munitions into which it is incorporated.” Amended Protocol II, *supra* note 30, art. 1.11. In others words, a self-neutralizing mechanism is a device inside the mine that turns it off. *See* SHERMAN, *supra* note 34.

40. *See generally* SHERMAN, *supra* note 34.

41. *See* Sherman Letter, *supra* note 34.

42. *See id.* For self-destructing mines, this time is usually about four hours, but may be up to 15 days for U.S. mines (CCW permits up to 120). *See* Letter from Robert Sherman, Director of Advanced Projects at the United States Arms Control and Disarmament Agency and Deputy Chief Negotiator at Convention on Conventional Weapons 1994-1996, to Andrew C.S. Efav (Dec. 31, 1998) [hereinafter Sherman Letter] (on file with author). Self-deactivation times are usually between 14 and 40 days for U.S. mines (CCW permits up to 30). *Id.*

43. *See* Sherman Letter, *supra* note 34.

44. *See id.*

45. Former UN Secretary-General Boutros Boutros Ghali summarizes the problem, saying mines affect countries in three ways: “Individuals are the victims of inhumane weapons, developing nations are unable to go forward with economic and social programs, and families, localities and nations are compelled to bear an increasingly heavy medical and social burden.” Boutros Boutros-Ghali, *Foreword* to KEVIN M. CAHILL, M.D. & THOMAS ROMA, *SILENT WITNESSES* 11, 12 (1995).

The Landmine Ban refers to “the suffering and casualties caused by anti-personnel mines, that kill or maim hundreds of people every week, mostly innocent and defenseless civilians and especially children, obstruct economic development and reconstruction, inhibit the repatriation of refugees and internally displaced persons, and have other severe consequences for years after emplacement” Landmine Ban, *supra* note 30, pmb1.

Several commentators have surveyed the landmine problem, region by region. *See* Lord, *supra* note 29, at 314-20; McCall, *supra* note 11, at 246-50; Brian Owsley, *Landmines and Human Rights: Holding Producers Accountable*, 21 SYRACUSE J. INT’L L. & COM. 203, 210-17 (1995).

one hundred million landmines in over sixty countries lay dormant, waiting for some unsuspecting victim.⁴⁶ Current studies, however, have largely debunked these figures as vastly inflated.⁴⁷ Most of the international community now agree that the correct figures are about fifty percent of the earlier estimates.⁴⁸ Yet even with lowered estimates, the problem of landmines claiming unintended victims remains serious and tragic, “a pandemic of global proportions.”⁴⁹

Though most landmines are laid as part of military operations, their danger usually continues long after hostilities cease.⁵⁰ Of the approximately one million landmine victims during the past twenty years, eight out of ten were noncombatants.⁵¹ Many of these victims were children, who are unaware of the danger from mines.⁵² Mines seem so ubiquitous in some countries that children can be desensitized to their danger.⁵³ In Kurdistan, for example, “rural children commonly use mines as wheels for

46. Others believed the number may be as high as 200 million. See THE ARMS PROJECT OF HUMAN RIGHTS WATCH & PHYSICIAN FOR HUMAN RIGHTS, *LANDMINES: A DEADLY LEGACY* 3 n.3 (1993) [hereinafter *DEADLY LEGACY*]. According to these estimates, one hidden mine existed for every 50 people on earth, and in the 12 countries with the worst landmine problems, one mine had been laid for every three to five people. See Renner, *supra* note 35, at 156. That translated to nearly 800 people killed and 450 wounded each month. See Elizabeth Dole, Press Release, Apr. 21, 1993, reprinted in *DEADLY LEGACY*, *supra*, at 408. Some placed this number as high as 26,000 victims a year or 70 a day. See YATES, *supra* note 33, at 1; see also President's Message to the Senate Transmitting Protocols to the Chemical Weapons Convention, 33 WEEKLY COMP. PRES. DOC. 14 (Jan. 7, 1997) [hereinafter President's Message] (putting the number of casualties at 25,000 annually).

47. See OFFICE OF HUMANITARIAN DEMINING PROGRAMS, BUREAU OF POLITICAL-MILITARY AFFAIRS, U.S. DEP'T OF STATE, *HIDDEN KILLERS: THE GLOBAL LANDMINE CRISIS* ch. I (1998) available at <<http://www.state.gov/www/global/arms/>> [hereinafter *HUMANITARIAN DEMINING PROGRAMS*]. These inflated numbers appear to be based on a flawed study by the International Red Cross. See Letter from W. Hayes Parks, Law of War Branch, International Law Division, Office of the Judge Advocate General, Department of the Army, to Lieutenant Colonel Richard A. Barfield, International and Operational Law Department, The Judge Advocate General's School of the Army (22 Jan. 1999) (on file with author) [hereinafter Parks Letter]. During a one year period, a Red Cross study totaled all Afghani civilian casualties, regardless of cause, and attributed the total to landmine casualties. See *id.* The researchers then extrapolated the figure globally to arrive at total yearly landmine deaths. See *id.* Other governments and organizations then accepted this obviously flawed study as the basis for their own landmine casualty statistics. See *id.*

48. See *HUMANITARIAN DEMINING PROGRAMS*, *supra* note 47, ch. I (citing “a growing consensus in the international community that the number may be lower, in the range of 60-70 million”); Spinelli Letter, *supra* note 32 (saying that the State Department believes this number to be inflated by up to 50%).

49. *HUMANITARIAN DEMINING PROGRAMS*, *supra* note 47, ch. I. Ironically, with the vast majority of these victims are male. See SHAWN ROBERTS & JODY WILLIAMS, *AFTER THE GUNS FALL SILENT: THE ENDURING LEGACY OF LANDMINES* 9 (1995).

toy trucks and go-carts.”⁵⁴ Additionally, children are often the ones who collect firewood and herd livestock, tasks that involve high risk of exposure to hidden mines.⁵⁵

Not surprisingly, the countries most negatively affected by landmines tend to be developing Third World countries that depend on agriculture for survival.⁵⁶ Mines can affect several segments of the economy simultaneously. First, large tracts of arable land in these countries have been planted with mines, making their agrarian economies untenable.⁵⁷ Even where the land itself is not mined, the wells and irrigation systems often are.⁵⁸ When the main water supplies and the best land have been rendered unusable, farmers and ranchers often move to marginal, erosion prone

50. See JAMES F. DUNNIGAN, *HOW TO MAKE WAR* 67 (3d ed. 1993) (“Considering the dozens of people killed each year in Europe because of uncleared World War I and II mines and shells, we have to assume that major modern war will keep on killing for a century after the fighting officially stopped.”). See also Major Vaughn A. Ary, *Concluding Hostilities: Humanitarian Provisions in Cease-Fire Agreements*, 148 MIL. L. REV. 186 (1995) (asserting that in France alone, 630 deminers have been killed since 1946, as they attempted to neutralize unexploded ordnance left from WW I and WW II); Lord, *supra* note 29, at 314 n.18 (asserting that an average of 12 people per year are killed as result of WW II mines); McCall, *supra* note 11, at 236 n.27 (stating that 16 million acres around Verdun have been cordoned off because they are unsafe and asserting that in 1991, 36 farmers died from WW I and WW II era munitions).

51. See Renner, *supra* note 35, at 156. The one million landmine victims may be somewhat misleading because almost all estimates include not only mine casualties but also casualties from unexploded ordnance. See Parks Letter, *supra* note 47.

52. Some contend that not all landmines are buried and intended for enemy soldiers, many are disguised as toys to lure children. See Senator Patrick J. Leahy, *Preface to DEADLY LEGACY*, *supra* note 46, xi, xi; see also R.J. Araujo, *Anti-Personnel Mines and Peremptory Norms of International Law: Argument and Catalyst*, 30 VAND. J. TRANSNAT’L L. 1 (1997) (stating that victims are usually farmers and children); Lord, *supra* note 29, at 335 n.180 (discussing the Soviet “butterfly” mine, the PFM-1, and its legality); Stuart Maslen, *Implementation and International Bodies: Relevance of the Convention on the Rights of the Child to Children in Armed Conflict*, 6 TRANSN’L L. & CONTEMP. PROBS. 329, 339 (1996). *But cf.* ROBERTS & WILLIAMS, *supra* note 49, at 10 (“There is no evidence that landmines are designed like toys to attract children.”).

53. ROBERTS & WILLIAMS, *supra* note 49, at 10.

54. *Id.* (quoting UNICEF, *The Impact of Land-Mines on Children*, in ANTI-PERSONNEL MINES: CHILDREN AS VICTIMS (1994)).

55. See HUMAN RIGHTS WATCH/MIDDLE EAST, *HIDDEN DEATH: LAND MINES AND CIVILIAN CASUALTIES IN IRAQI KURDISTAN* 42 (1992) [hereinafter MIDDLE EAST].

56. See ROBERTS & WILLIAMS, *supra* note 49, at 6-11; see also Owsley, *supra* note 45, at 208 (saying that countries with the worst landmine crises are agrarian).

57. See Lord, *supra* note 29, at 313; ROBERTS & WILLIAMS, *supra* note 49, at 6-11.

58. See Lord, *supra* note 29, at 313; ROBERTS & WILLIAMS, *supra* note 49, at 6.

land, or they deforest valuable timberland.⁵⁹ The forests, no matter how important in the long run, inevitably yield to immediate survival needs.⁶⁰

Second, landmines destroy a nation's infrastructure. They disrupt transportation and communication systems.⁶¹ The mining of dams and electrical installations hampers the production of power needed to rebuild war-torn countries.⁶² Finally, landmines directly affect the people. The families of victims are faced with "severe financial strain due to the costs of treatment and rehabilitation, loss of the victim's earnings, and the need to support an unproductive relative."⁶³

B. Northern Iraq: A Case Study

Northern Iraq, or Kurdistan,⁶⁴ is a classic example of a region with a severe landmine problem.⁶⁵ The people of Kurdistan have sought autonomy from Iraq since the region was incorporated into Iraq after World War I.⁶⁶ Since then, the Iraqi government has repeatedly denied Kurdish attempts at independence, quelling resistance with force.⁶⁷ Because of

59. See ROBERTS & WILLIAMS, *supra* note 49, at 11.

60. See *id.* Of course, this deforestation can have dramatic catastrophic effects on the ecosystems of flora and fauna that make these forests their homes. *Id.* Landmines have already directly affected the survival of some endangered species of animals. *Id.* In Afghanistan, for instance, landmines have damaged the environment of the nearly extinct snow leopard, and in Africa, a rare silver-backed gorilla fell victim to a mine. *Id.*

61. See MIDDLE EAST, *supra* note 55, at 4-5.

62. See ROBERTS & WILLIAMS, *supra* note 49, at 6.

63. DEADLY LEGACY, *supra* note 46, at 6.

64. The area is made up of the governorates of Dohuk, Erbil, New Kirkuk and Sulaymaniyah, and is populated by some four million inhabitants. See ROBERTS & WILLIAMS, *supra* note 49, at 255.

65. See Andrew C.S. Efav, *The Landmine Ban Is No Solution*, WASH. TIMES, Dec. 23, 1997, at A15 (naming Afghanistan, Angola, Bosnia-Herzegovina, Cambodia, and Mozambique as problem countries also); Lord, *supra* note 29, at 314-20; McCall, *supra* note 11, at 246-50; Owsley, *supra* note 45, at 210-17.

66. ROBERTS & WILLIAMS, *supra* note 49, at 255. Iraq was only formed as a country following World War I. *Id.*

67. *Id.* Most recently, Kurdish rebels tried to break from Iraq when the government appeared weakened following the Gulf War in 1991. *Id.* Their uprising, however, was short lived, and about 1.5 million Kurds were forced to take refuge in Turkey and Iran. *Id.* Due to public outcry, the United States created a safe-haven for the Kurds in Northern Iraq, not allowing the Iraqi army or any Iraqi aircraft north of the 36th parallel. *Id.* The Iraqi government responded by cutting off funds, supplies, and public services to the region. *Id.* In May 1992, the Kurds held elections, creating a quasi-government. *Id.*

both this internal conflict and the eight-year Iran-Iraq War, Northern Iraq is littered with landmines.⁶⁸

The minefields left by the Iraqi military were unrecorded, unmarked,⁶⁹ and contain some three to five million mines that are neither self-destroying, self-neutralizing, nor self-deactivating.⁷⁰ Experts estimate that at least 2.5 million anti-personnel mines are in Dohuk, a region of Kurdistan.⁷¹ In the four months prior to the Gulf War, the Iraqi Army returned to Kurdistan and, using 2500 soldiers, laid even more mines.⁷² One section of twenty-one men, alone, laid 80,000-100,000 mines on Iraq's border with Syria and Turkey.⁷³ The minefields were not mapped, which leaves activities as mundane as walking risky in this region.⁷⁴ Also complicating the problem is that the region has employed more than twenty-three types of mines from ten different nations,⁷⁵ and many of these are booby-trapped to frustrate demining.⁷⁶ Finally, the civilian populace of Kurdistan is further endangered due to the “[a]bsence of, or inadequate, warning signs; absence of, inadequate, or incorrectly sighted perimeter fencing; [and] random dissemination of devices in areas regularly used by civilians.”⁷⁷

Landmines have injured thousands of civilians since the Iraqi army last withdrew in 1991.⁷⁸ From that time until August 1992, landmine casualties were occurring at a rate of twelve to twenty a month.⁷⁹ Because of the continuing strain between the Kurds and the Iraqi government, almost

68. See ROBERTS & WILLIAMS, *supra* note 49, at 256. See also MIDDLE EAST, *supra* note 55, at 1; DEADLY LEGACY, *supra* note 46, at 188 (suggesting that the Iraqi government's mining strategy was to make Kurdistan untenable forever).

69. MIDDLE EAST, *supra* note 55, at 1, 56.

70. See DEADLY LEGACY, *supra* note 46, at 188.

71. ROBERTS & WILLIAMS, *supra* note 49, at 256.

72. *Id.* at 255.

73. *Id.*

74. *Id.*; see MIDDLE EAST, *supra* note 55, at 35 (noting that despite Iraqi claims otherwise, “[i]t is clear that the Iraqi military retained no records of their mine-laying or, if they did, that it was not retained by the local military command”).

75. ROBERTS & WILLIAMS, *supra* note 49, at 253. The most common mines found by Middle East Watch in their surveys of Kurdistan were the Italian-made Valmara 69 and the VS-50. MIDDLE EAST, *supra* note 55, at 40. In 1991, seven executives from Valsella, the manufacturers of the Valmara 60 and VS-50, were convicted for illegal exportation of mines to Iraq. *Id.*

76. MIDDLE EAST, *supra* note 55, at 10.

77. *Id.*

78. See DEADLY LEGACY, *supra* note 46, at 188.

79. *Id.*

no government sponsored demining has occurred.⁸⁰ In 1991, the Iraqi army conducted limited demining operations in Dohuk by sending in three demining teams; but both lack of skill and equipment limited their efforts.⁸¹ At present, only NGOs are involved in mine clearing operations in Kurdistan.⁸²

III. The United States' Landmine Dilemma: Balancing Military Needs Against Humanitarian Considerations

Though current U.S. military doctrine still views mines as a military necessity, the policies regarding their use have tightened in recent years.⁸³ In 1992, the United States put a moratorium on the sale, transfer, and export of anti-personnel landmines.⁸⁴ Under this moratorium, the Department of State "revoked or suspended all previously issued licenses, approvals, and LOAs [letters of authorization] authorizing the export, sale, or other transfer of landmines specifically designed for anti-personnel use."⁸⁵ In May 1996, President Clinton issued a statement forbidding the military from employing "dumb" landmines.⁸⁶ Another law forbade the

80. ROBERTS & WILLIAMS, *supra* note 49, at 256-57.

81. *Id.*

82. *Id.*

83. See *Hearings Before the House Comm. On National Security Fiscal Year 1999 Defense Authorization*, 105th Cong., (Feb. 5, 1998) (testimony of General Henry H Shelton) [hereinafter Shelton]. Note, however, that U.S. forces were banned from using anti-personnel mines from 12 February 1999 to 12 February 2000. See Foreign Operations Appropriations Act of 1996 § 580, 110 Stat. 751. This ban has now been suspended. See *infra* notes 88-90 and accompanying text.

A committee of experts, meeting in 1994 for the Red Cross, determined that there was not currently an alternative to military use of landmines. See Paul J. Lightfoot, Comment, *The Landmine Review Conference: Will the Revised Landmine Protocol Protect Civilians?* 18 *FORDHAM INT'L L.J.* 1526, 1527 n.8 (1995) (citing Report of the International Committee of the Red Cross for the Review Conference of the 1980 United Nations 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, 299 *INT'L REV. RED CROSS* 123, 178 (1994)); see also Peter J. Ekberg, Note, *Remotely Delivered Mines and International Law*, 33 *COLUM. J. TRANSNAT'L L.* 149, 157 (1995) (saying "at the current level of technology, there is no substitute for landmines . . .").

84. National Defense Authorization Act for Fiscal Year 1993, Pub. L. No. 102-484, § 1365(c). See SERGEANT JON R. ALSTON ET AL., *OPERATIONAL LAW HANDBOOK* 18-6 (Major Scott R. Morris ed., 1st rev. ed. 1997). This legislation makes an exception for command detonated mines. *Id.* Prior to this legislation, "[f]rom 1983 to 1992, the United States approved only ten licenses for commercial export of mines worth \$980,000 and FMS sales of 108,852 antipersonnel mines." McCall, *supra* note 11, at 269 (quoting the National Defense Authorization Act, § 1423(c), 107 Stat. 1807 (1993)).

use of anti-personnel mines for a period of one year, beginning in February 1999.⁸⁷ As that date approached, however, military leaders sought to rescind the law because of the deleterious effect that a moratorium would have on U.S. defenses.⁸⁸ Congress and the President approved the rescission in 1998,⁸⁹ provided the United States is “aggressively” seeking to develop a viable alternative to “smart” mines.⁹⁰

85. Suspension of Transfers of Anti-Personnel Landmines Notice, 57 Fed. Reg. 55, 614 (1980) (codified pursuant to the Arms Export Control Act, 22 U.S.C. §§ 2752, 2778, 2791; the International Traffic in Arms Regulations § 126.7, 22 C.F.R. pts. 120-30; and the National Defense Authorization Act of Fiscal Year 1996 § 1365). The action includes “any manufacturing licenses, technical assistance agreement, technical data, and commercial military exports of any kind involving landmines specifically designed for anti-personnel use.” *Id.* It further precludes the “exemptions from licensing or other approval requirements included in the International Traffic in Arms Regulations (22 C.F.R. pts. 120-130).” *Id.*

86. See Shelton, *supra* note 83; ALSTON ET AL., *supra* note 84, at 18-6. This is a more restrictive than the proposed February 1999 moratorium in that it did not exempt mines in Guantanamo Bay, Cuba. Thus, the only “dumb” anti-personnel mines currently used by the United States are those on the Korean peninsula, and for training. See Willis, *supra* note 36, at 14. The mines emplaced there are the M14 “toe popper” and the M16A1 “bouncing Betty.” *Id.*

Since the Presidential order, the United States has destroyed over 2.1 million dumb landmines and aims to eliminate the remainder by the end of 1999, exempting those in Korea, of course. See Shelton, *supra* note 83. The Army hopes to have alternatives ready for the dumb mines in Korea by 2006. See Spinelli Letter, *supra* note 32. See also Willis, *supra* note 36, at 14 (saying that the Clinton Administration officials “have their hearts with ban-the-mines movement”). *But cf.* Mark Fritz, *Pentagon Seeks Funds for New Type of Landmine*, L.A. TIMES, Feb. 20, 1999 (questioning President Clinton’s commitment to a global ban as his administration requests funds for a new landmine system) available at <<http://www.latimes.com/>>.

87. Foreign Operations, Export, Financing, and Related Programs Act of Fiscal Year 1996 § 580, Pub. L. No. 104-107, 110 Stat. 751. See also ALSTON ET AL., *supra* note 84, at 18-6. Command detonated mines and mines “along internationally recognized national borders in demilitarized zones with a perimeter marked area that is monitored by military personnel and protected by adequate means to ensure the exclusion of civilians” are excepted from the legislation. *Id.* General Shelton warns that “any [anti-personnel landmine] legislation that is more restrictive than the President’s policy . . . may endanger the lives of troops.” Shelton, *supra* note 83.

88. See Willis, *supra* note 36, at 14.

89. See Department of Defense Authorization Act of Fiscal Year 1999 § 1236, reprinted in 144 CONG. REC. S7475 (daily ed. July 6, 1998); Sherman Letter, *supra* note 40; Willis, *supra* note 36, at 14. But in return for the waiver, the Clinton Administration committed to signing the Ottawa Convention in 2006, provided researchers can find an alternative for landmines. *Id.* (quoting from a May 15, 1998 letter from National Security Advisor Samuel Berger to Senator Patrick Leahy).

In 1997, then-Secretary of the Army Togo D. West, Jr. and the Chief of Staff of the Army, General Dennis J. Reimer, reaffirmed the role of landmines, stating that anti-personnel landmines remain “an integral part of Army warfighting doctrine and a key combat multiplier.”⁹¹ Commanders use mines for “security, defensive, retrograde, and offensive operations in order to reduce the enemy’s mobility.”⁹² As “combat multipliers,”⁹³ they shape the terrain,⁹⁴ and give the U.S. military the ability to channel enemy

90. Shelton, *supra* note 83 (giving the target date as 2003); *see also* Willis, *supra* note 36, at 14. (quoting from a May 15, 1998 letter from National Security Advisor Samuel Berger to Senator Patrick Leahy).

91. *Posture of the United States Army Fiscal Year 1998 Before the Comm. and Subcomm. of the United States Senate and the House of Representatives*, 105th Cong., 1st Sess. ch. 2 (1997) (statement of the Honorable Togo D. West, Jr. and General Dennis J. Reimer) [hereinafter West & Reimer], available at <<http://www.army.mil/aps/chapter2.htm>>. *See also* Captain Bryan Green, *Alternatives to Antipersonnel Mines*, ENGINEER PROF. BULL., Dec. 1996, available at <<http://www.wood.army.mil/ENGRMAG/PB59644/green.htm>> (discussing several inferior replacements for antipersonnel landmines).

Some former flag officers apparently disagree with the assertion that anti-personnel mines are necessary, printing an open letter to the President in the *New York Times*. *Open Letter to the President*, N.Y. TIMES, Apr. 3, 1996 at A9. *See* 142 CONG. REC. S3420-21 (daily ed. Apr. 17, 1996) (reprinting the entire letter, signed by fourteen retired generals and one retired admiral); Nick Adde, *Former Brass Support Ban*, ARMY TIMES, June 15, 1998, at A12 (speaking of the letter and the divisiveness of the letter among high ranking officers); Araujo, *supra* note 52, at 2 (reprinting the letter also). The letter notably never addresses “smart” mines and their role. *Id.* This letter was countered by an open letter to the President stating the fundamental necessity of anti-personnel landmines. *See* 144 CONG. REC. S9759 (daily ed. Sept. 1, 1998) (statement of Senator Inhofe); *Testimony on the Senate Foreign Relations Land Mine Treaty Before the Senate Foreign Relations Comm.* (1998) (statement of General Carl E. Mundy (retired)) [hereinafter Mundy]. Six former Marine Corps commandants and eighteen other generals signed this letter. *Id.*

Others argue that anti-personnel landmines are often used against American soldiers and weaken the Army’s efforts. *See* DEADLY LEGACY, *supra* note 46, at 21-2. One study showed that the casualties caused by mines and boobytraps were as follows: 3% of deaths and 4% of wounds in WW II; 4% of deaths and 4% of wounds in Korea; and 11% of deaths and 15% of wounds in Vietnam. *See* McCall, *supra* note 11, at 275 n.233 (quoting Major General Spurgeon Nee, Dep’t of Army, VIETNAM STUDIES: MEDICAL SUPPORT OF THE U.S. ARMY IN VIETNAM 54 (1973)). *See also* Adde, *supra* note 91, at 14 (quoting Lieutenant General (ret.) Gard saying that over half of American casualties in the Mekong Delta were due to land mines and boobytraps, mostly made with U.S. components).

92. FM 21-75, *supra* note 30, at A-1.

93. YATES, *supra* note 33, at 7-8; *see* DUNNIGAN, *supra* note 50, at 68 (saying that in “mobile situations, mines are used to encourage the enemy to move in another direction. . . .”); ROBERTS & WILLIAMS, *supra* note 49, at 4 (discussing the argument that mines are a “‘force multiplier’ whose effect magnifies the usefulness of other weapons”).

94. *See* Mundy, *supra* note 91 (quoting the “‘64-star’ letter opposing the Leahy landmine ban legislation: ‘Self-destructing landmines greatly enhance the ability to shape the battlefield, protect unit flanks, and maximize the effects of the other weapons systems.’”).

forces into a specific area or to scatter forces over a broad area.⁹⁵ Commanders use minefields to disrupt formations, delay movement, and interfere with command and control.⁹⁶ As defensive weapons, mines enhance a unit's ability to ward off infantry and armor attacks.⁹⁷ They can give the advantage to a numerically inferior force.⁹⁸

Historically, mine fields have also been used to protect borders as a cost-effective solution to shortages of soldiers.⁹⁹ At the first review conference of the 1980 United Nations (UN) Convention on Prohibitions and Restrictions on the Use of Certain Conventional Weapons (CCW), China, India, Pakistan, and Russia would not even consider a total ban on anti-personnel mines, because they were considered such a critical element of border defense.¹⁰⁰ The Korean government estimates that U.S. mines on the demilitarized zone (DMZ) might save hundreds of thousands of civilian casualties in the advent of a North Korean invasion.¹⁰¹

95. See Lord, *supra* note 29, at 312-13; YATES, *supra* note 33, at 7-8; see also Lieutenant Colonel Burris M. Carnahan, *The Law of Land Mine Warfare: Protocol II to the United Nations Convention on Certain Conventional Weapons*, 105 MIL. L. REV. 73, 75-76 (1984). "Militarily, minefields are similar to ditches, tank traps and concertina barbed wire in that they are obstacles to enemy movement. Their casualty-producing effects are secondary to this primary effect." *Id.*

96. See Lord, *supra* note 29, at 312-13; YATES, *supra* note 33, at 7-8.

97. See DUNNIGAN, *supra* note 50, at 67-8. Mines act almost as much as a psychological weapon as they do a physical weapon. See GERALD F. LINDERMAN, *THE WORLD WITHIN WAR* 18-19, 116-17 (1997) (speaking of the psychological horror of mines and quoting Richard Tobin as labeling mines as "Hitler's most formidable weapon"); H. NORMAN SCHWARZKOPF, *IT DOESN'T TAKE A HERO* 170 (Peter Petre ed., 1992) (describing his own terror from stumbling into a minefield during the Vietnam War); Lord, *supra* note 29, at 313 (speaking of the demoralizing effect of landmines upon troops); McCall, *supra* note 11, 232, nn. 21-22 (quoting a letter from a Union soldier who claims that landmines "attack both matter and mind").

98. See Mundy, *supra* note 91 (saying anti-personnel landmines allow "American troops to protect vulnerable positions from being overrun by numerically superior enemies").

99. See Shelton, *supra* note 83. See DUNNIGAN, *supra* note 50, at 68 ("Mines are also used to guard an area when you don't have troops available for the job."). See generally *U.S. Army Senate Foreign Relations Land Mine Treaty Before the Senate Foreign Relations Comm.* (1998) (statement of Frederick J. Kroesen, General (retired)) [hereinafter Kroesen] (discussing the indispensable "belt of minefields stretching from the Baltic Sea to Austria" during the Cold War era).

100. Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects, Oct. 10, 1980, U.S. TREATY DOC. NO. 103-25, at 6, 1342 U.N.T.S. 137, 19 I.L.M. 1523 [hereinafter CCW]. See Michael J. Matheson, *The Revision of the Mines Protocol*, 91 AM. J. INT'L. L. 158, 159 (1997).

Thus, an uneasy balance exists. Opponents on either side of the issue are reluctant to change positions. Before policy makers choose any course of action, they should carefully examine the options currently available and weigh the possible effects of choosing each.

IV. Possible Solutions

A. Demining

1. Summary

One approach to the landmine dilemma is simply to do nothing except demine after hostilities cease.¹⁰² Adequate clean-up, or demining, according to international standards means removing 99.9% of the mines from affected land.¹⁰³ At this time, however, no machine has been developed that can adequately detect landmines.¹⁰⁴

The advent of plastic has made landmine detection even more difficult.¹⁰⁵ Plastic not only preserves mines from deterioration, but also decreases the value of metal-sensing mine detectors.¹⁰⁶ With no “silver bullet” cure-all detector on the horizon, a man prodding the ground with a stick remains the detection method of choice for the near future.¹⁰⁷

101. See Sherman Letter, *supra* note 34. Chairman of the Joint Chiefs of Staff, General Shelton testified, “In Korea . . . where we stand face-to-face with one of the largest hostile armies in the world, we rely upon [dumb] anti-personnel landmines to protect our troops.” See Shelton, *supra* note 83. See also Willis, *supra* note 36, at 14 (saying that only “dumb” mines are adequate to stop a surprise attack because remotely delivered mines could not be emplaced in time).

However, “[the United States’] Army will no longer employ non-self-destructing anti-personnel land mines anywhere except along the Korean demilitarized zone.” West & Reimer, *supra* note 91, ch. 2. The United States is committed to dropping the requirement for conventional landmines by 2006. See Shelton, *supra* note 83; see also Letter from Robert Sherman, Director of Advance Projects at the United States Arms Control and Disarmament Agency and Deputy Chief Negotiator at Convention on Conventional Weapons 1994-1996, to Andrew C.S. Efav (Dec. 30, 1997) [hereinafter Sherman Letter] (on file with author). The mines used in the DMZ are the M14 and the M16A1.

102. The United States is currently the world leader in demining efforts. See Shelton, *supra* note 83. See generally *Testimony Before the House Military Procurement Subcomm. Research and Development Subcomm. Comm. On Nat’l Security*, (1996) (statement of Brigadier General Roy E. Beauchamp) [hereinafter Beauchamp] (giving a detailed description of the U.S. Army’s inventory of detection, breaching and demining equipment).

2. Analysis

Given current technology, demining is an effective impossibility. It takes too long and costs too much. Detecting and neutralizing a single

103. See Ary, *supra* note 50 (saying “preferably over 99.9%”) (quoting Patrick M. Blagden, *Summary of United Nations Demining*, in SYMPOSIUM ON ANTI-PERSONNEL MINES 117 (International Committee of the Red Cross, Montreux, Apr. 21-23, 1993)). Major Ary points out that even with a 99% clearance, a cleared minefield of 5000 mines would have 50 live mines in it. *Id.* See also DEADLY LEGACY, *supra* note 46, at 11 (saying that the 99.9% is the UN standard). The Landmine Ban requires an even higher standard—100%. Landmine Ban, *supra* note 30, art. 5(2).

2. Each State Party shall make every effort to identify all areas under its jurisdiction or control in which anti-personnel mines are known or suspected to be emplaced and shall ensure as soon as possible that all anti-personnel mines in mined areas under its jurisdiction or control are perimeter-marked, monitored and protected by fencing or other means, to ensure the effective exclusion of civilians, until all anti-personnel mines contained therein have been destroyed.

Id.

104. The United States, Germany, Canada, Israel, Sweden, and the United Kingdom all use the Schiebel AN/19-2, which has been moderately successful in detecting anti-personnel mines with low levels of metal. See Letter from George Schneider, Director, Strategic and Tactical Systems, Office of the Under Secretary of Defense, to Mark E. Gebicke, Director, Military Operations and Capabilities Issues, National Security and International Affairs Division, GAO 1-2 (Jul. 22, 1996), *reprinted in* GOA/NSIAD-96-198 Mine Detection (Aug. 1996). The U.S. Army is developing a variety of mine clearing robots. See Sergeant First Class Larry Lane, *Robots Out Front*, SOLDIERS, Apr. 1995, at 14; *Rooting Them Out*, ARMY TIMES, June 15, 1998, at A12; *Detecting Land Mines*, ARMY TIMES, June 15, 1998, at A13; Tony Capaccio, *Warfare in the Information Age*, POPULAR SCIENCE, July 1996, at 52. See also EUREL INTERNATIONAL CONFERENCE, THE DETECTION OF LAND MINES: A HUMANITARIAN IMPERATIVE SEEKING A TECHNICAL SOLUTION (1996). See HUMANITARIAN DEMINING PROGRAMS, *supra* note 47, ch. IV (discussing other nascent technological solutions).

105. YATES, *supra* note 33, at 3. See also GOA/NSIAD-96-198 Mine Detection (Aug. 1996); K. Eblagh, *Practical Problems in Demining and Their Solutions*, in EUREL INTERNATIONAL CONFERENCE, THE DETECTION OF LAND MINES: A HUMANITARIAN IMPERATIVE SEEKING A TECHNICAL SOLUTION (1996). Interestingly, in WW II the Germans used a similarly undetectable mine, made out of wood. See McCall, *supra* note 11, at 236 (discussing the Germans’ wooden Schu (“shoe”) mine). See also Lord, *supra* note 29, at 313 n.13 (listing the following countries as having produced low metal mines, Argentina, Belgium, Brazil, China, Egypt, Germany, Greece, India, Italy, the Netherlands, Pakistan, Portugal, South Africa, Spain, the United States, the former USSR, and the former Yugoslavia).

106. See McCall, *supra* note 11, at 241; YATES, *supra* note 33, at 4. Plastic mines also present an additional health hazard because their shrapnel does not show on x-rays. See Lord, *supra* note 29, at 313 n.13.

107. See DEADLY LEGACY, *supra* note 46, at 257.

landmine can take up to one hundred times longer than laying the mine.¹⁰⁸ This is largely due to the vast quantities of metal shrapnel in minefields.¹⁰⁹ In Cambodia, for example, an average of 129 fragments of metal are found for each live landmine, with each piece of metal shrapnel giving off a false alarm.¹¹⁰

The sheer number of mine varieties also increases the time required for demining.¹¹¹ Once the mine is located, the deminer must determine its configuration, and how to best defeat its triggering mechanism.¹¹² In 1995, the U.S. Department of Defense released a catalogue of over 675 different landmines then in existence;¹¹³ the number is undoubtedly larger today. Brigadier General Roy E. Beauchamp, Deputy Chief of Staff for Research, Development and Engineering, U.S. Army Materiel Command, estimates that there are about 2500 mine and fuse combinations in the world today, ranging “from the technically simple pressure fuse to the highly sophisticated [anti-tank] mines which can attack a target with top and side attack munitions up to 100 meters away.”¹¹⁴

Homemade mines only add to this problem, and several of the world’s deployed mines are homemade.¹¹⁵ For example, an estimated twenty-five percent of the two to three million mines deployed today in the former Yugoslavia are homemade.¹¹⁶ Homemade mines cannot be accurately catalogued and may be manufactured in nearly an infinite variety of ways, making detection and deactivation extremely risky.¹¹⁷

Demining is also extremely costly. Mines are easy and cheap to produce at two to ten dollars per mine; the cost of removing a mine can reach one thousand dollars.¹¹⁸ Clearing the world’s mine fields will cost billions.¹¹⁹ Of the countries with extensive mine fields, only Kuwait has the money to adequately demine.¹²⁰ At one time, most analysts felt that clear-

108. See Renner, *supra* note 35, at 157.

109. See ROBERTS & WILLIAMS, *supra* note 49, at 7.

110. *Id.*

111. See Beauchamp, *supra* note 102; YATES, *supra* note 33, at 4.

112. See Beauchamp, *supra* note 102; YATES, *supra* note 33, at 4.

113. *Id.* See also DEADLY LEGACY, *supra* note 46, at 19 (“More than 340 anti-personnel landmine models have been produced in at least 48 nations.”).

114. Beauchamp, *supra* note 102.

115. YATES, *supra* note 33, at 4.

116. *Id.*

117. Brigadier General Beauchamp notes that “it is much faster and easier to change a landmine to meet a given countermeasure than it is to develop a countermeasure.” Beauchamp, *supra* note 102.

ing the world's mines would be a several thousand-year task,¹²¹ but now many experts believe that clearance of all emplaced mines could be accomplished within the next ten to fifteen years.¹²² A Herculean effort, however, in terms of time, money, manpower, and international cooperation would have to be mounted to achieve that monumental goal.¹²³

Ill-equipped and untrained local populaces sometimes attempt mine clearing on their own, using dangerous and unsound methods, with disastrous results.¹²⁴ One such method is attempting to destroy landmines by small arms fire.¹²⁵ This method has several practical limitations. It requires a high degree of marksmanship, sufficient ammunition, and it requires that the marksman have visual contact with the mine.¹²⁶ The practice has been largely ineffective and has resulted in high casualties from firers or observers getting too close to the detonating mines.¹²⁷

A second method often used is burning:

118. See YATES, *supra* note 33, at 4; see also Araujo, *supra* note 52, at 2-3 ("They are inexpensive to manufacture . . . Their individual cost is less than a few dollars . . ."); Ary, *supra* note 50 (claiming that "anti-personnel mines can be purchased for as little as three dollars per mine," while "the detection and removal of a live mine by a demining contractor costs approximately \$1000"); Lord, *supra* note 29, at 313 n.16 (giving the low end price of an anti-personnel mine as \$3, while the price of anti-tank mines are just under \$75); Owsley, *supra* note 45, at 207, 220 (citing an advertisement for a Pakistani mine price at \$6.75).

Robert Sherman claims that the comparison of a \$2 mine to a \$1000 clearance is misleading because "it takes the low end of mine cost and compares it with the high end of demining. It also includes all personnel costs for demining but only acquisition cost for mine emplacement." Sherman Letter, *supra* note 40. A more accurate figure may be \$50 for mine costs and \$500 for clearance. *Id.* See also Spinelli Letter, *supra* note 32.

119. Some estimates have projected a price tag of \$200-300 billion, with the cost of removing mines laid during any given year at a whopping \$60 million. See YATES, *supra* note 33, at 4.

120. See *id.*

121. The International Committee of the Red Cross estimated that it would take thousands of years to rid Afghanistan of its mines, and if every citizen of Cambodia contributed his entire income to demining operations for several years, the problem would still persist. See *id.*

122. See HUMANITARIAN DEMINING PROGRAMS, *supra* note 47 (discussing international demining efforts and the United States "Demining 2010 Initiative").

123. See *id.* ch. VI (stating that "Demining 2010 Initiative" can only be accomplished with an infusion of cash and an effective international coordination). See Sherman Letter, *supra* note 40. Yet the fundamental point is still valid.

124. MIDDLE EAST, *supra* note 55, at 53.

125. See *id.*

126. See *id.*

Middle East Watch examined several minefields which had been burned and found that while some devices were detonated by heat or rendered inoperable by burning, many were either made unstable or sustained no damage at all. The obvious danger of this practice is that people may be encouraged to believe that the ground is safe for use after burning. In fact, in some instances it may actually prove more dangerous following this treatment. Burning certainly promotes increased vegetation growth, making sighting of mines more difficult.¹²⁸

A third method employed by local communities is driving herds of livestock over suspected minefields.¹²⁹ This method has been at least partially successful, but obviously results in the loss of a much needed resource—livestock.¹³⁰

At present, mines continue to be laid faster than they are destroyed.¹³¹ According to the most disturbing reports, governments manage to remove only about eighty thousand mines annually, while about two million new mines are sown in their place during the same period.¹³² In 1995, manufacturers were still producing ten to thirty million mines each year, and another one hundred million are believed to be stockpiled.¹³³

B. International Law

Another approach to the landmine dilemma is to restrict their use through international legislation. Despite extensive landmine use since World War I,¹³⁴ the international community has only recently addressed mines.¹³⁵ The changing nature of warfare created the impetus to form this body of law.¹³⁶ First, technological advances allowed landmines to be laid

127. *See id.* In World War II, Americans soldiers also used this method. D'ESTE, *supra* note 2, at 498 ("Patton devoted a great deal of time perfecting the small but important details of the forthcoming invasion [such as] determining the best means of detonating Teller mines with rifle fire . . ."). Teller mines were German mines, containing 19 pounds of TNT, first used at the battle for Tobruk in 1941. *Id.*

128. MIDDLE EAST, *supra* note 55, at 53.

129. *See id.*

130. *See id.*

131. *See* YATES, *supra* note 33, at 3. This trend appears to be reversing, and the ratio of mines laid to mines cleared is lowering. *See* Spinelli Letter, *supra* note 32.

132. *See* YATES, *supra* note 33.

133. *See id.*

134. *See supra* pts. I, II.

over large areas with great rapidity.¹³⁷ Not only could great quantities of landmines be quickly emplaced, they could be delivered from great distances by aircraft and artillery.¹³⁸ This capacity prompted fear that mines would be laid indiscriminately and, thereby, endanger civilians.¹³⁹ Second, armies began using landmines as offensive weapons.¹⁴⁰ Due to these two factors, many NGOs and the UN felt that the laws of war must correspondingly change.¹⁴¹ To date, essentially three attempts have been made to control the landmine crisis through international agreement.¹⁴²

1. *The Landmines Protocol (Protocol II)*¹⁴³

a. *Summary*

The first attempt to examine the use of landmines was in 1977 as part of the Additional Protocols to the CCW.¹⁴⁴ These protocols codified the traditional concepts of the laws of war, such as protecting civilians and conducting warfare to minimize suffering.¹⁴⁵ As the 1977 protocols were being developed, the drafters decided to set up a committee to examine certain conventional weapons.¹⁴⁶ The UN Diplomatic Conference on the

135. See Carnahan, *supra* note 95, at 73 (noting that the 1907 Hague Conventions are silent on the use of landmines); see also Hague Convention IV Respecting the Laws and Customs of War on Land and Annexed Regulations, 18 October 1907, 36 Stat. 2332, T.S. 541.

136. See DEADLY LEGACY, *supra* note 46, at 264.

137. *Id.* at 266; see Carnahan, *supra* note 95, at 75. A minefield that would have taken a company an entire day to lay could now be laid in minutes. *Id.* at 79. This caused concern because mined areas from WW II still were not adequately cleared. See *supra* pt. II.

138. Mines delivered by this technique are known as “remotely delivered mines.”

139. See Carnahan, *supra* note 95, at 79-80.

140. See DEADLY LEGACY, *supra* note 46, at 264. Lieutenant Colonel Carnahan also points out that “[p]olitically, the rise of international terrorism in the 1960s and 1970s stimulated efforts to curb some of the terrorists’ favorite weapons, booby traps and time bombs.” Carnahan, *supra* note 95, at 75.

141. See DEADLY LEGACY, *supra* note 46, at 264.

142. A fourth attempt, not discussed in this article, is the President Clinton-proposed “U.S.-U.K. Control Regime,” which called for the eventual replacement of “dumb” mines with “smart” mines. See G.E. Willis, *A Global Land Mine Time Line*, ARMY TIMES, June 15, 1998, at 15. This effort failed as poor nations balked at the expense. *Id.*

143. See Protocol II, *supra* note 30; see also ALSTON ET AL., *supra* note 84, at 18-5. The U.S. Senate gave its advice and consent to the ratification of CCW and Protocol II on March 24, 1995. See Matheson, *supra* note 100, at 160.

144. See DEADLY LEGACY, *supra* note 46, at 264. See generally Carnahan, *supra* note 95, at 75; Matheson, *supra* note 100, at 158.

145. See DEADLY LEGACY, *supra* note 46, at 264.

Reaffirmation and Development of International Humanitarian Law created the committee that examined, among other weapons, landmines.¹⁴⁷

The committee's findings were taken to the UN General Assembly during two preparatory conferences in 1978 and 1979.¹⁴⁸ In 1979 and 1980 in a two-session conference, the General Assembly produced the Landmines Protocol (or Protocol II) as part of the CCW.¹⁴⁹ Protocol II entered into force on 2 December 1983, with thirty-six countries as parties.¹⁵⁰

Protocol II provides specific regulation of landmines.¹⁵¹ Neither offensive, defensive, nor reprisal uses of anti-personnel mines are authorized for use against civilians.¹⁵² Any indiscriminate use of mines is also prohibited.¹⁵³ Article 3 defines "indiscriminate" broadly. It includes any use either when the mines are not targeted against a legitimate military objective,¹⁵⁴ or when the mines are delivered using a method that cannot target the military objective with a reasonable amount of accuracy.¹⁵⁵ Furthermore, the use of landmines cannot cause incidental civilian casualties to persons or property that is "excessive in relation to the concrete and direct military advantage anticipated."¹⁵⁶ The Article concludes its protec-

146. *Id.*

147. *Id.* The International Committee of the Red Cross assisted the UN effort with two conferences of their own, one in Lucerne in 1974 and the other in Lugano in 1976. *Id.* at 265.

148. *Id.* Eighty-five nations, including all major military powers, participated. *See* Carnahan, *supra* note 95, at 75.

149. DEADLY LEGACY, *supra* note 46, at 265. *See* Protocol II, *supra* note 30. Eighty-five countries, including all major military powers, participated in the conferences. DEADLY LEGACY, *supra* note 46, at 266.

150. Protocol II, *supra* note 30; *see also* DEADLY LEGACY, *supra* note 46, at 261 n.1.

151. *See* Protocol II, *supra* note 30, art. 1. The preamble to the CCW states four guiding humanitarian principles underlying the Protocol: (1) civilians should be protected; (2) combatants are limited by the laws of war; (3) weapons that cause superfluous injury or unnecessary suffering should be banned; and (4) methods of warfare causing long-term and widespread damage to the environment should be banned. *See id.* pmbl.

152. *Id.* art. 3.2. "It is prohibited in all circumstances to direct weapons to which this [a]rticle applies, either in offence, defence or by way of reprisals, against the civilian population as such or against the individual civilians." *Id.*

153. *Id.* art. 3.1. "This Article applies to: (a) mines; (b) booby-traps; and (c) other devices. *Id.*

154. *Id.* art. 3.3(a). "Indiscriminate use is any placement of such weapons: (a) Which is not on, or directed against, a military objective . . ." *Id.*

155. *Id.* art. 3.3(b). This section defines indiscriminate use as using mines in a way that "employs a method or means of delivery which cannot be directed at a specific military objective . . ." *Id.*

tions by requiring that all “feasible precautions” be taken to protect civilians from landmines.¹⁵⁷ Feasible precautions, according to the Article, “are those precautions which are practically possible taking into account all circumstances ruling at the time, including humanitarian and military considerations.”¹⁵⁸

Article 4 of the Protocol controls the use of all mines except remotely delivered mines.¹⁵⁹ Precautions to protect civilians must be taken whenever possible.¹⁶⁰ When combat is not occurring or does not appear likely to occur in the near future, Article 4¹⁶¹ prohibits opposing militaries from employing mines around any high concentration of civilians.¹⁶² Two exceptions, however, are made to this rule.¹⁶³ First, the mines can be used when they are emplaced on or near a military objective controlled by the enemy.¹⁶⁴ Second, the mines can be used when steps are taken to protect the surrounding civilian population.¹⁶⁵ Such steps include posting warning signs, issuing warnings, providing fences, or posting guards.¹⁶⁶

The Protocol also specifically regulates remotely delivered.¹⁶⁷ According to Article 5, they can only be used on a military objective itself or within an area that contains more than one military target.¹⁶⁸ The Article further requires that remotely delivered mines only be used when their

156. *Id.* art. 3.3(c). Indiscriminate here is further defined as that use of mines “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.” *Id.*

157. *Id.* art. 3.4. “All feasible precautions shall be taken to protect civilians from the effects of weapons to which this Article applies.” *Id.*

158. *Id.* art. 3.4.

159. *Id.* art. 4. Remotely delivered mines are defined as any mine “delivered by artillery, rocket, mortar or similar means or dropped by an aircraft.” *Id.* art. 2.1.

160. *See id.* arts. 3-7

161. *Id.* art. 4. “This article applies to: (a) mines other than remotely delivered mines; (b) booby-traps; and (c) other devices.” *Id.*

162. *Id.* art. 4.1. “It is prohibited to use weapons to which this Article applies in a city, town, village or other area containing a similar concentration of civilians in which combat between ground forces is not taking place or does not appear to be imminent. . . .” *Id.*

163. *Id.* art. 4.2.

164. *Id.* art. 4.2(a). The mines can be used if “they are placed on or in the close vicinity of a military objective belonging to or under the control of an adverse party” *Id.*

165. *Id.* art. 4.2(b). Mines can also be used when “measures are taken to protect civilians from their effects” *Id.*

166. *Id.* art. 4.2(b).

167. *Id.* art. 5. The Protocol defines “remotely delivered mines” as any mine “delivered by artillery, rocket, mortar or similar means or dropped from an aircraft.” *Id.* art. 2.1.

location can be accurately recorded or, alternatively, when the mines are self-neutralizing or self-destructing.¹⁶⁹ Whenever possible, the warring parties are also required to give warnings to the civilian populace before remotely delivering mines.¹⁷⁰

Article 6 forbids the warring parties from booby-trapping mines by disguising them as “harmless portable objects.”¹⁷¹ The Article specifically prohibits the booby-trapping of several objects such as Red Cross equipment, living people and bodies, living animals and carcasses, toys, religious objects, and cultural works.¹⁷²

Another important area covered by the Protocol is the mapping of minefields.¹⁷³ Parties must record the location of all pre-planned mine-

168. *Id.* art. 5.1 “The use of remotely delivered mines is prohibited unless such mines are only used within an area which is itself a military objective or which contains military objectives” *Id.*

169. *Id.* art. 5.1(a), (b). Remotely delivered mines cannot be used unless:

- (a) Their location can be accurately recorded in accordance with Article 7(1)(a); or
- (b) An effective neutralizing mechanism is used on each such mine, that is to say, a self-actuating mechanism which is designed to render a mine harmless or cause it to destroy itself when it is anticipated that the mine will no longer serve the military purpose for which it was placed in position, or a remotely-controlled mechanism which is designed to render harmless or destroy a mine when the mine no longer serves the military purpose for which it was placed in position.

Id.

The recording standard of Article 7(1)(b) is defined in the technical annex as a location “specified by relation to the co-ordinates of a single reference point and by the estimated dimensions of the area containing mines and booby traps in relation to that single reference point.” *Id.*

170. *Id.* art. 5.2. “Effective advance warning shall be given of any delivery or dropping of remotely delivered mines which may affect the civilian populations, unless circumstances do not permit.” *Id.*

171. *Id.* art. 6.1(a).

Without prejudice to the rules of international law applicable in armed conflict relating to treachery and perfidy, it is prohibited in all circumstance to use: (a) Any booby-trap in the form of an apparently harmless portable object which is specifically designed and constructed to contain explosive material and to detonate when it is disturbed or approached . . .

Id.

Tactical surprise or the safety of pilots delivering mines may be justifiable reasons not to warn civilians under Protocol II. *See* Carnahan, *supra* note 95, at 80.

fields and must record the areas where they have made “large-scale and pre-planned” use of booby traps.¹⁷⁴ The technical annex of the Protocol indicates that “records should be made in such a way as to indicate the extent of the minefield or booby-trapped area.”¹⁷⁵ The location must be depicted by providing a coordinate reference point and the estimated dimensions of the affected area in relation to the given reference point.¹⁷⁶

The Protocol also mandates that the parties attempt to map the location of all unplanned minefields, mines, or booby traps.¹⁷⁷ Once the parties establish peace, they are to take “necessary and appropriate” steps to protect civilians from leftover landmines.¹⁷⁸ This includes, at a minimum,

172. Protocol II, *supra* note 30, art. 6.1(b). Booby-traps and, therefore, booby-trapped mines can not be used under the following conditions:

(b) Booby-traps which are in any way attached to or associated with:

- (i) Internationally recognized protective emblems, signs or signal;
- (ii) Sick, wounded or dead persons;
- (iii) Burial or cremation sites or graves;
- (iv) Medical facilities, medical equipment, medical supplies or medical transportation;
- (v) Children’s toys or other portable objects or product specifically designed for the feeding, health, hygiene, clothing or education of children;
- (vi) Food or drink;
- (vii) Kitchen utensils or appliances except in military establishments, military locations or military supply depots;
- (viii) Objects clearly of a religious nature;
- (ix) Historic monuments, works of art or places of worship which constitute the cultural or spiritual heritage of peoples;
- (x) Animals or their carcasses.

Id.

173. *See id.* arts. 7.1 to 7.3.

174. *See id.* art. 7.1. “The parties to conflict shall record the location of: (a) All pre-planned minefield laid by them; and (b) all area in which they have made large-scale and pre-planned use of booby-trapped.” *Id.*

175. *See id.* technical annex.

176. *Id.*

177. *See id.* art. 7.2. “The parties shall endeavour to ensure the recording of the location of all other minefields, mines and booby-traps which they have laid or placed in position.” *Id.*

178. *See id.* art. 7.3(a)(i). “All such records shall be retained by the parties who shall: (a) Immediately after the cessation of hostilities: (i) Take all necessary and appropriate measures, including the use of such records, to protect civilians from the effects of minefields, mines and booby-traps . . .” *Id.*

providing minefield locations to both the adverse party and the UN Secretary-General.¹⁷⁹ They may also include a mutual plan for mine clearance.¹⁸⁰

The review and amendment process of Protocol II is controlled by Article 8 of the CCW preamble.¹⁸¹ Member states with proposals must submit their ideas to UN Secretary-General, who then notifies all the other member states.¹⁸² If a majority, and not less than eighteen, agree that a conference is warranted, the Secretary-General convenes one.¹⁸³ All member states are invited, and non-members can attend as observers.¹⁸⁴

179. *See id.* art. 7.3(a)(ii)-(iii).

(ii) In cases where the forces of neither party are in the territory of the adverse party, make available to each other and to the Secretary-General of the United Nations all information in their possession concerning the location of minefields, mines and booby-traps in the territory of the adverse party; or (iii) Once complete withdrawal of forces of the parties from the territory of the adverse party has taken place, make available to the adverse party and to the Secretary-General of the United Nations all information in their possession concerning the location of minefields, mines and booby traps in the territory of the adverse party

Id.

180. *See id.* art. 7.3(c). The parties to the conflict shall “[w]henever possible, by mutual agreement, provide for the release of information concerning the location of minefields, mines and booby traps, particularly in agreements governing the cessation of hostilities.” *Id.* *See also id.* art. 9.

After the cessation of active hostilities, the parties shall endeavour to reach agreement, both among themselves and, where appropriate, with other States and with international organizations, on the provision of information and technical and material assistance—including, in appropriate circumstances, joint operations necessary to remove or otherwise render ineffective minefields, mines and booby-traps placed in position during the conflict.

Id.

181. *See id.* art. 8.1(a). “At any time after the entry into force of this Convention any High Contracting Party may propose amendments to this Convention or any annexed Protocol by which it is bound.” *Id.*

182. *Id.* “Any proposal for an amendment shall be communicated to the Depository, who shall notify it to all the High Contracting Parties and shall see their views on whether a conference should be convened to consider the proposal.” *Id.*

183. *Id.* “If a majority, that shall not be less than eighteen of the High Contracting Parties so agree, he shall promptly convene a conference to which all High Contracting Parties shall be invited.” *Id.*

The conference can then vote on amendments using traditional UN procedures.¹⁸⁵

A member can denounce the Protocol by notifying the Secretary-General.¹⁸⁶ The denunciation will only take effect after one year has passed.¹⁸⁷ If the denouncing member is party to an international armed conflict or is occupied, however, the strictures of the Protocol remain in place.¹⁸⁸

b. Analysis

Protocol II has been a practical failure,¹⁸⁹ containing several weaknesses.¹⁹⁰ For example, it does not apply to civil wars—and civil wars have been the source of the most recent mine abuse.¹⁹¹ The responsibility for clearing mines is not clearly assigned.¹⁹² Instead, Article 9 uses vague

184. *Id.* “States not parties to this Convention shall be invited to the conference as observers.” *Id.*

185. *Id.* art. 8.1(b).

Such a conference may agree upon amendments which shall be adopted and shall enter into force in the same manner as this Convention and the annexed Protocols, provided that amendments to this Convention may be adopted only by the High Contracting Parties and that amendments to a specific annexed Protocol may be adopted only by the High Contracting Parties which are bound by that Protocol.

Id.

186. *Id.* art. 9.1. “Any High Contracting Party may denounce this Convention or any of its annexed Protocols by so notifying the Depositary.” *Id.*

187. *Id.* art 9.2. “Any such denunciation shall only take effect one year after receipt by the Depositary of the notification of denunciation.” *Id.*

188. *Id.*

If, however, on the expiry of that year the denouncing High Contracting Party is engaged in one of the situations referred to in Article 1, the Party shall continue to be bound by the obligations of this Convention and of the relevant annexed Protocols until the end of the armed conflict or occupation and, in any case, until the termination of operations connected with the final release, repatriation or re-establishment of the person protected by the rules of international law applicable in armed conflict, and in the case of any annexed Protocol containing provisions concerning situations in which peace-keeping, observation or similar functions are performed by United Nations forces or missions in the area concerned, until the termination of those functions.

Id.

189. Protocol II is still good law in countries that adopted it.

language such as “shall endeavor” and “where appropriate” when describing demining responsibilities.¹⁹³ The Protocol also does not prohibit plastic or other non-detectable mines.¹⁹⁴ Thus, under the Protocol, battlefields may remain littered with anti-detector mines long after hostilities cease.

Provisions for remotely delivered mines and hand-emplaced mines are also relatively weak.¹⁹⁵ For example, the Protocol allows mines to be remotely delivered without warning to civilians, if the warning is not feasible.¹⁹⁶ The elasticity of the Article’s wording—“unless circumstances do not permit”—creates an enormous loophole, possibly never actually requiring a warning. Yet the Protocol does not mandate an alert of civilians even after the fact.¹⁹⁷ Likewise, the Protocol’s wording concerning the marking of minefields is ambiguous. The Protocol requires the mapping of “pre-planned” minefields, but then never defines “pre-planned.”¹⁹⁸

Another major shortcoming of the Protocol is its failure to regulate the production, sale, exportation, or stockpiling of landmines.¹⁹⁹ Without such a provision, the Protocol is ineffective at terminating the problem at its source. Finally, the Protocol lacks teeth, having no effective implemen-

190. See Matheson, *supra* note 100, at 159 (“[T]he Mines Protocol suffered from serious substantive shortcomings, the CCW covered only international armed conflicts (those between states), and it did not provide for verification or compliance.”); Yves Sandoz, *Turning Principles into Practice: The Challenge for International Conventions and Institutions*, in *CLEARING THE MINES* (Kevin M. Cahill, M.D. ed., 1995) (providing a detailed critique of the protocol).

191. See McCall, *supra* note 11, at 264 (giving as examples, the conflicts in Angola, Afghanistan, Bosnia-Herzegovina, Cambodia, Georgia, Kurdistan, Liberia, and Rwanda); YATES, *supra* note 33, at 13.

192. See Protocol II, *supra* note 30, art. 9; see also YATES, *supra* note 33, at 14.

193. See Protocol II, *supra* note 30, art. 9.

194. See generally Protocol II, *supra* note 30.

195. See *id.* art. 5.2.

196. See *id.* (saying that a warning must be given “unless circumstances do not permit”).

197. See *id.*; see also Carnahan, *supra* note 95, at 80-1 (pointing out that Article 3’s catchall “all feasible precautions” clause would probably require this anyway).

198. See Protocol II, *supra* note 30, arts. 2, 7. See also McCall, *supra* note 11, at 160 (citing the Protocol’s “lack of clear examples and consistent examples”).

199. See generally Protocol II, *supra* note 30; see DEADLY LEGACY, *supra* note 46, at 261. Since 1992, the United States has had a moratorium on the sale, transfer, and export of antipersonnel mines, excluding command detonating mines. See The National Defense Authorization Act for Fiscal Year 1993, Pub. L. No. 102-484, § 1365(c) (creating the moratorium); The National Defense Authorization Act for Fiscal Year 1994, Pub. L. No. 103-160, § 1423 (exempting command detonating mines).

tation or monitoring mechanism, thus, leaving the member states to act on their honor.²⁰⁰

Not surprisingly, Protocol II has been largely ignored. Under the Protocol, landmines continued to be used directly against civilians or in ways that unjustifiably endangered civilians.²⁰¹ Moreover, armies and insurgent groups did a notoriously poor job keeping accurate maps of minefields.²⁰² Yet, with delivery systems that can scatter mines at rates in excess of one thousand mines per minute, accurate mapping becomes a practical difficulty.²⁰³ In short, the Protocol has been grossly ineffective in preventing abuses of human rights through landmines.²⁰⁴ Under the Protocol, landmines have continued to be used indiscriminately and have even specifically targeted civilian populaces.²⁰⁵

Retrospectively, one can easily point out the deficiencies of Protocol II. But as one commentator points out: "By even undertaking the task of codifying and developing the law of land mine warfare . . . the Conference broke important new ground. The Land Mines Protocol thus fill[ed] a major gap in existing humanitarian law."²⁰⁶ For the first time specific international laws were in place governing the use of mines, and a forum was created to further discuss and legislate restraints on landmine use.

200. See generally Protocol II, *supra* note 30; see also McCall, *supra* note 11, at 260; YATES, *supra* note 33, at 13; Matheson, *supra* note 100, at 163 ("The . . . Mines Protocol had no provisions for verification or enforcement of compliance.").

201. See DEADLY LEGACY, *supra* note 46, at 263.

202. *Id.* ("No armed force in the last decade is known to have consistently and accurately recorded the location of minefields in actual combat conditions.")

203. See generally *id.*

204. ROBERTS & WILLIAMS, *supra* note 49.

205. See DEADLY LEGACY, *supra* note 46, at 263.

206. Carnahan, *supra* note 95, at 94; see Araujo, *supra* note 52, at 7 ("In spite of its limitations, this protocol gives much needed attention to the lingering problems encountered with the use of [landmines]."); see *supra* pt. II.

2. *The Amended Protocol II*²⁰⁷

a. *Summary*

The second piece of international law that attempts to control the use of landmines is the Amended Protocol II. In May 1996, the first review conference of the CCW adopted an amended landmines protocol,²⁰⁸ an event largely ignored amidst the ballyhoo accompanying the announcement of a possible anti-personnel landmine ban.²⁰⁹ The original Protocol II provided for a periodic review conference.²¹⁰ Amended Protocol II was the result of that first meeting of the review conference. Thus, the Amended Protocol was drafted as an attempt to correct the deficiencies of the original Protocol II and to offer greater protection to innocent civilians from anti-personnel mines.²¹¹ Not surprisingly, Amended Protocol II bears strong resemblance to the original Protocol II in some respects, but it also contains a number of significant changes from the original.

Article 1 contains one of the most important “amendments” to the original Protocol II—the expansion of the law to cover internal armed conflict.²¹² This amendment satisfied one of the most virulent criticisms of the

207. Amended Protocol II, *supra* note 30. President Clinton transmitted Amended Protocol II to the Senate for ratification on 7 January 1997. *See* President’s Message, *supra* note 46; ALSTON ET AL., *supra* note 84, at 18-5.

208. *See* Matheson, *supra* note 100, at 158 (citing Mines Protocol to the CCW, as amended, May 3, 1996, Final Document of the Review Conference of the States parties to the Convention, Conf. Doc. CCW/CONF. I/16 at 14 (1996), 35 I.L.M. 1206 (1996)); *see also* CCW, *supra* note 100, pmb., art. 8 (making provisions for review conferences and the amendment process to the Protocol).

209. *See* Raymond Bonner, *21 Nations Seek to Limit the Traffic in Light Weapons*, N.Y. TIMES, July 13, 1998, at A3 (saying that the Clinton “Administration is determined to avoid a repeat of the land-mines campaign—the ‘Madison Avenue approach,’ . . . meaning a public relations blitz with images of victims”); Efav, *supra* note 65, at A15 (discussing awarding the Nobel Peace Prize to Jody Williams of the International Committee to Ban Landmines); Willis, *supra* note 36, at 12 (speaking of the emotional backing for the ban after the death of Diana, Princess of Wales).

210. *See* CCW, *supra* note 100, pmb., art. 8.

211. *See* President’s Message, *supra* note 46.

212. Amended Protocol II, *supra* note 30, art. 1.3. “In case of armed conflicts not of an international character occurring in the territory of one of the High Contracting Parties, each party to the conflict shall be bound to apply the prohibitions and restrictions of this Protocol.” *Id.* *See generally* Sherman Letter, *supra* note 34; President’s Message, *supra* note 46. But note that “situations of internal disturbances and tensions, such as riots, isolated and sporadic acts of violence and other acts of similar violence” do not rise to the level of armed conflict; therefore, the Protocol does not apply under those conditions.” Amended Protocol II, *supra* note 30, art. 1.

original Protocol—that civil wars were exempt from landmine restrictions.²¹³

Article 3 contains several general restrictions on the use of mines.²¹⁴ Mines are not permitted “to cause superfluous injury or unnecessary suffering.”²¹⁵ Anti-detector mines, which are mines designed to explode upon detection by a magnetic mine detector, are completely banned.²¹⁶ That provision has no transition period but is effective immediately. In addition, if anti-handling devices²¹⁷ are used with anti-tank mines, Article 3 requires that the devices must be designed to stop functioning at the same time that the anti-tank mine stops functioning.²¹⁸

Like the original Protocol II, the Amended Protocol II prohibits the use of landmines against civilians—offensively, defensively, or as a reprisal.²¹⁹ Also following the original Protocol II, indiscriminate use of landmines is prohibited.²²⁰

Amended Protocol II adds an important caveat: if there is a “case of doubt as to whether an object which is normally dedicated to civilian purposes, such as a place of worship, a house or other dwelling or a school, is being used to make an effective contribution to military action, it shall be presumed not to be used so.”²²¹ If targeted areas are “separate and distinct”

213. *See supra* pt. IV.B.1.b.

214. Amended Protocol II, *supra* note 30, art. 3. “This article applies to: mines, booby-traps, and other devices.” *Id.*

215. *Id.* art. 3.3. *Cf.* Protocol II, *supra* note 30, art. 3.

216. Amended Protocol II, *supra* note 30, art. 3.5. “It is prohibited to use mines, booby-traps or other devices which employ a mechanism or device specifically designed to detonate the munition by the presence of commonly available mine detectors as a result of their magnetic or other non-contact influence during normal use in detection operations.” *Id.*

217. “Anti-handling” device means a device intended to protect a mine and which is part of, linked to, attached to or placed under the mine and which activates when an attempt is made to tamper with the mine. *Id.* art. 2.14; *see also* Landmine Ban, *supra* note 30, art. 2.3 (giving the identical definition but adding “or otherwise intentionally disturb the mine”).

218. Amended Protocol II, *supra* note 30, art. 3.6. “It is prohibited to use a self-deactivating mine equipped with an anti-handling device that is designed in such a manner that the anti-handling device is capable of functioning after the mine has ceased to be capable of functioning.” *Id.*

219. *Id.* art. 3.7. “It is prohibited in all circumstances to direct weapons to which this Article applies, either in offence, defence or by way of reprisals, against the civilian population as such or against individual civilians or civilian objects.” *Id.* *Cf.* Protocol II, *supra* note 30, art. 3.2 (containing identical language except for the words “or civilian objects”).

and located near a concentration of civilians, the areas cannot be treated as one target.²²²

Echoing again the original Protocol II, the amended version requires that “[a]ll feasible precautions” be taken to guard against civilians being injured by mines.²²³ The Amended Protocol, however, gives specific guidance for an all-things-considered determination by the commander.²²⁴ Decision-makers must at least consider the following:

- (a) [T]he short- and long-term effect of mines upon the local civilian population for the duration of the minefield; (b) possible measures to protect civilians (for example, fencing, signs, warning and monitoring); the availability and feasibility of using alternatives; and (d) the short- and long-term military requirements for a minefield.²²⁵

Finally, Article 3 broadly requires that advanced warning of landmine use always be given to civilians if possible.²²⁶

220. Amended Protocol II, *supra* note 30, art. 3.8. The indiscriminate use of weapons to which this Article applies is prohibited. Indiscriminate use is any placement of such weapons:

- (a) which is not on, or directed against, a military objective. In case of doubt as to whether an object which is normally dedicated to civilian purposes, such as a place of worship, a house or other dwelling or a school, is being used to make an effective contribution to military action, it shall be presumed not to be so used; or
- (b) which employs a method or means of delivery which cannot be directed at a specific military objective; or
- (c) 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.

Id.

221. *Id.* art. 3.8(a). *Cf.* Protocol II, *supra* note 30, art. 3.3.

222. Amended Protocol II, *supra* note 30, art. 3.9. “Several clearly separated and distinct military objectives located in a city, town, village or other area containing a similar concentration of civilians or civilian objects are not to be treated as a single military objective.” *Id.*

223. *Id.* art. 3.10.

224. *Id.* “Feasible precautions are those precautions which are practicable or practically possible taking into account all circumstances ruling at the time, including humanitarian and military considerations.” *Id.*

225. *Id.* *Cf.* Protocol II, *supra* note 30, art. 3.4 (giving no specific guidance).

Article 4 requires that all landmines be rendered detectable,²²⁷ by mandating that each anti-personnel mine contain at least eight grams of iron or its equivalent.²²⁸ This minimum quantity of metal allows for humanitarian demining using “commonly available technology.”²²⁹ The protocol allows nine years for countries to transition to this standard.²³⁰

The use of conventional or “dumb” mines is restricted, but they can be used under certain conditions.²³¹ First, minefields must be perimeter marked,²³² fenced, and guarded.²³³ Then they must be cleared when the

226. Amended Protocol II, *supra* note 30, art. 3.11. “Effective advance warning shall be given of any emplacement of mines, booby-traps and other devices which may affect the civilian population, unless circumstances do not permit.” *Id.*

227. *Id.* art. 4. “It is prohibited to use anti-personnel mines which are not detectable, as specified in paragraph 2 of the [t]echnical [a]nnex.” *Id.*

228. *Id.* technical annex.

2. Specifications on detectability

(a) With respect to anti-personnel mines produced after 1 January 1997, such mines shall incorporate in their construction a material or device that enables the mine to be detected by commonly-available technical mine detection equipment and provides a response signal equivalent to a signal from 8 grammes or more of iron in a single coherent mass.

(b) With respect to anti-personnel mines produced before 1 January 1997, such mines shall either incorporate in their construction, or have attached prior to their emplacement, in a manner not easily removable, a material or device that enables the mine to be detected by commonly-available technical mine detection equipment and provides a response signal equivalent to a signal from 8 grammes or more of iron in a single coherent mass.

Id.

229. *Id.*; see President’s Message, *supra* note 46.

230. Amended Protocol II, *supra* note 30, technical annex 2.

(c) In the event that a High Contracting Party determines that it cannot immediately comply with sub-paragraph (b), it may declare at the time of its notification of consent to be bound by this Protocol that it will defer compliance with sub-paragraph (b) for a period not to exceed 9 years from the entry into force of this Protocol. In the meantime it shall, to the extent feasible, minimize the use of anti-personnel mines that do not so comply.

Id.

231. *Id.* art. 5. *Cf.* Protocol II, *supra* note 30, art. 4 (containing little guidance).

controlling state leaves the area, unless the minefields are accepted by another state that agrees to continue to comply with the Protocol.²³⁴

The Amended Protocol makes an exception to this standard if the controlling state is forced out of the controlled area by “enemy military action.”²³⁵ If, however, the state regains control of the area or to another

232. Note the requirements for the marking of minefields. Amended Protocol II, *supra* note 30, technical annex, art. 4.

Signs similar to the example attached and as specified below shall be utilized in the marking of minefields and mined areas to ensure their visibility and recognition by the civilian population: (a) size and shape: a triangle or square no smaller than 28 centimetres (11 inches) by 20 centimetres (7.9 inches) for a triangle, and 15 centimetres (6 inches) per side for a square; (b) colour: red or orange with a yellow reflecting border; (c) symbol: the symbol illustrated in the Attachment, or an alternative readily recognizable in the area in which the sign is to be displayed as identifying a dangerous area; (d) language: the sign should contain the word “mines” in one of the six official languages of the Convention (Arabic, Chinese, English, French, Russian and Spanish) and the language or languages prevalent in that area; (e) spacing: signs should be placed around the minefield or mined area at a distance sufficient to ensure their visibility at any point by a civilian approaching the area.

Id.

233. *Id.* art. 5.1-5.2.

1. This Article applies to anti-personnel mines other than remotely-delivered mines.

2. It is prohibited to use weapons to which this Article applies which are not in compliance with the provisions on self-destruction and self-deactivation in the [t]echnical [a]nnex, unless:(a) such weapons are placed within a perimeter-marked area which is monitored by military personnel and protected by fencing or other means, to ensure the effective exclusion of civilians from the area. The marking must be of a distinct and durable character and must at least be visible to a person who is about to enter the perimeter-marked area

Id.

Article 5.5 mandates that “[a]ll feasible measures shall be taken to prevent the unauthorized removal, defacement, destruction or concealment of any device, system or material used to establish the perimeter of a perimeter-marked area.” *Id.* art. 5.5.

234. *Id.* art. 5.2(b). This article states that mines must be “cleared before the area is abandoned, unless the area is turned over to the forces of another State which accept responsibility for the maintenance of the protections required by this Article and the subsequent clearance of those weapons.” *Id.*

enemy area that contains conventional anti-personnel landmines, the state must maintain or establish the standards for marking, fencing, and guarding the minefields.²³⁶ Some command-detonated mines, such as Claymores in the tripwire mode, are exempted from the above standard.²³⁷ They can be emplaced for up to seventy-two hours if: “(a) they are located in the immediate proximity of the military unit that emplaced them; and (b) the area is monitored by military personnel to ensure the effective exclusion of civilians.”²³⁸

Article 6 controls the use of remotely delivered mines.²³⁹ The estimated position of remotely delivered mines is to be recorded, usually using the coordinates of the corner points.²⁴⁰ Then as soon as feasible, those

235. *Id.* art. 5.3.

A party to a conflict is relieved from further compliance with the provisions of sub-paragraphs 2 (a) and 2 (b) of this Article only if such compliance is not feasible due to forcible loss of control of the area as a result of enemy military action, including situations where direct enemy military action makes it impossible to comply. . . .

Id.

236. *Id.* art. 5.3-5.4. The end of Article 5.3 states that “[I]f that party regains control of the area, it shall resume compliance with the provisions of sub-paragraphs 2 (a) and 2 (b) of this Article.” Article 5.4 provides that:

If the forces of a party to a conflict gain control of an area in which weapons to which this Article applies have been laid, such forces shall, to the maximum extent feasible, maintain and, if necessary, establish the protections required by this Article until such weapons have been cleared.

Id.

237. *Id.* art. 5.6. “Weapons to which this Article applies which propel fragments in a horizontal arc of less than 90 degrees and which are placed on or above the ground may be used without the measures provided for in sub-paragraph 2 (a) of this Article for a maximum period of 72 hours” *Id.*

238. *Id.*

239. *Id.* art. 6. Note the change in definition of “remotely-delivered mine.”

“Remotely-delivered mine” means a mine not directly emplaced but delivered by artillery, missile, rocket, mortar, or similar means, or dropped from an aircraft. Mines delivered from a land-based system from less than 500 metres are not considered to be “remotely delivered,” provided that they are used in accordance with Article 5 and other relevant Articles of this Protocol.

Id. art. 2.2. *Cf.* Protocol II, *supra* note 30, arts. 2, 5.

points are to be confirmed and physically marked on the ground.²⁴¹ Parties are to record the type and number of mines laid, the date and time the mines were laid, and the self-destruct time.²⁴² These records are to be “held at a level of command sufficient to guarantee their safety as far as possible.”²⁴³

If the mines used were produced after the Amended Protocol had entered force, the mines must be indelibly marked with the name of the producing nation, the month, and year of production, and the lot or serial number.²⁴⁴ Effective warning of an imminent remote delivery of mines is to be given “unless circumstance[s] do not permit.”²⁴⁵

Perhaps most important, the Amended Protocol requires that all unmarked anti-personnel mines be “smart.”²⁴⁶ The “smart” requirement stipulates that at least ninety percent of the unmarked anti-personnel mines must self-destruct within thirty days of emplacement.²⁴⁷ As an added precaution, if a mine is flawed and does not self-destruct, each mine must also be programmed to self-deactivate within 120 days of emplacement.²⁴⁸ The required reliability rate for self-deactivation is 99.9%, and this built-in

240. Amended Protocol II, *supra* note 30, technical annex 1(b). “The estimated location and area of remotely-delivered mines shall be specified by coordinates of reference points (normally corner points)” *Id.*

241. *Id.* Remotely-delivered “shall be ascertained and when feasible marked on the ground at the earliest opportunity.” *Id.*

242. *Id.* “The total number and type of mines laid, the date and time of laying and the self-destruction time periods shall also be recorded.” *Id.*

243. *Id.* technical annex 1(c).

244. *Id.* technical annex 1(d).

245. *Id.* art. 6.4.

246. *Id.* arts. 5.2, 6.2. See also *supra* notes 25-33 and accompanying text. According to President Clinton’s May 16, 1996 policy letter, all mines used by U.S. forces will be “smart.” Since then, the United States has destroyed over two million of its dumb mines and will destroy all the rest by the 2000, except those on the Korean DMZ. Shelton, *supra* note 83.

247. Amended Protocol II, *supra* note 30, technical annex 3(a). “All remotely-delivered anti-personnel mines shall be designed and constructed so that no more than 10% of activated mines will fail to self-destruct within 30 days after emplacement” *Id.* “All non-remotely delivered anti-personnel mines, used outside marked areas, as defined in Article 5 of this Protocol, shall comply with the requirements for self-destruction and self-deactivation stated in sub-paragraph (a).” *Id.* technical annex 3(b).

248. *Id.* technical annex 3(a). “[E]ach mine shall have a back-up self-deactivation feature designed and constructed so that, in combination with the self-destruction mechanism, no more than one in one thousand activated mines will function as a mine 120 days after emplacement.” *Id.*

redundancy provides a failure rate approaching zero percent.²⁴⁹ Countries that join the treaty have nine years to transition to this standard.²⁵⁰

Article 7 provides a prohibition against using anti-personnel mines to booby-trap certain common items.²⁵¹ Like the original Protocol II, the amended version forbids the booby-trapping of objects such as Red Cross equipment, living people and dead bodies, living animals and carcasses, toys, religious objects, and cultural works.²⁵² It also prohibits parties from booby-trapping mines by disguising them as “harmless portable objects.”²⁵³

Amended Protocol II, however, does allow for the narrowly tailored use of booby-trapped mines.²⁵⁴ These can be used around cities, towns, and villages where combat is occurring or appears imminent.²⁵⁵ In the absence of combat or imminent combat they may be used if: “(a) they are placed on or in the close vicinity of a military objective; or (b) measures are taken to protect civilians from their effects, for example, the posting of warning sentries, the issuing of warnings or the provision of fences.”²⁵⁶

Article 8 controls the transfer of mines.²⁵⁷ Parties are to “undertake not to transfer” mines that are the type prohibited by the Protocol.²⁵⁸ This Article also mandates that parties who are deferring compliance to certain

249. See Robert Sherman, FRIENDS’ COMMITTEE ON NAT’L LEGIS. NEWSL., Aug. 1996; see also Sherman Letter, *supra* note 34.

250. Amended Protocol II, *supra* note 30, technical annex 3(c).

(c) In the event that a High Contracting Party determines that it cannot immediately comply with sub-paragraphs (a) and/or (b), it may declare at the time of its notification of consent to be bound by this Protocol, that it will, with respect to mines produced prior to the entry into force of this Protocol defer compliance with sub-paragraphs (a) and/or (b) for a period not to exceed 9 years from the entry into force of this Protocol.

During this period of deferral, the High Contracting Party shall:

- (i) undertake to minimize, to the extent feasible, the use of anti-personnel mines that do not so comply, and
- (ii) with respect to remotely-delivered anti-personnel mines, comply with either the requirements for self-destruction or the requirements for self-deactivation and, with respect to other anti-personnel mines comply with at least the requirements for self-deactivation.

Id.

251. *Id.* art. 7. See *id.* art. 6.

articles must conform to this transfer rule.²⁵⁹ States who are about to become parties to the Protocol should “refrain from actions inconsistent” with the transfer rule.²⁶⁰ Importantly, the Article also requires parties to

252. *Id.* art. 7.1. Without prejudice to the rules of international law applicable in armed conflict relating to treachery and perfidy, it is prohibited in all circumstances to use booby-traps and other devices which are in any way attached to or associated with:

- (i) Internationally recognized protective emblems, signs or signal;
- (ii) Sick, wounded or dead persons;
- (iii) Burial or cremation sites or graves;
- (iv) Medical facilities, medical equipment, medical supplies or medical transportation;
- (v) Children’s toys or other portable objects or product specifically designed for the feeding, health, hygiene, clothing or education of children;
- (vi) Food or drink;
- (vii) Kitchen utensils or appliances except in military establishments, military locations or military supply depots;
- (viii) Objects clearly of a religious nature;
- (ix) Historic monuments, works of art or places of worship which constitute the cultural or spiritual heritage of peoples;
- (x) Animals or their carcasses.

Id.

A new member can only get this nine year transition exemption if it claims the transition at the time ratification. *See* Sherman Letter, *supra* note 40. So far, only China has claimed them, but Pakistan is expected to claim the exception too. *Id.* Russia is expected to claim the exception for self-destruction. *Id.* India is expected to claim the transition period for detectability. *Id.*

253. Amended Protocol II, *supra* note 30, art. 7.2.

254. *Id.* art. 7.3.

255. *Id.*

Without prejudice to the provisions of Article 3, it is prohibited to use weapons to which this Article applies in any city, town, village or other area containing a similar concentration of civilians in which combat between ground forces is not taking place or does not appear to be imminent, unless either . . .

Id.

256. *Id.*

257. *Id.* art. 8.

258. *Id.* art. 8.1(a). This has been interpreted to mean that the transfer of non-detectable anti-personnel mines is banned totally and immediately. *See* Sherman, *supra* note 40.

259. Amended Protocol II, *supra* note 30, art. 8.2. “In the event that a High Contracting Party declares that it will defer compliance with specific provisions on the use of certain mines, as provided for in the [t]echnical [a]nnex, sub-paragraph 1(a) of this Article shall however apply to such mines.” *Id.*

“undertake[] not to transfer any anti-personnel mines” to states not bound by the Amended Protocol II, unless those states agree to comply with the Protocol.²⁶¹

The Protocol also sets enhanced guidelines for recording mines,²⁶² other than remotely delivered mines.²⁶³ Mined areas must be described by giving the grid coordinates to a minimum of two reference points and then providing the estimated size and shape of the area in relation to the reference points.²⁶⁴ Mines and minefields must also be recorded on maps and military diagrams to show “perimeters and extent.”²⁶⁵ Finally, each record must show “type, number, emplacing method, type of fuse and life time, date and time of laying, anti-handling devices (if any) and other relevant information on all . . .” mines used.²⁶⁶ When feasible, the exact location of each individual mine should be noted.²⁶⁷

260. *Id.* art. 8.3. “All High Contracting Parties, pending the entry into force of this Protocol, will refrain from any actions which would be inconsistent with sub-paragraph 1(a) of this Article.” *Id.*

261. *Id.* art. 8.1(c). Each High Contracting Party “undertakes to exercise restraint in the transfer of any mine the use of which is restricted by this Protocol. In particular, each High Contracting Party undertakes not to transfer any anti-personnel mines to States which are not bound by this Protocol, unless the recipient State agrees to apply this Protocol . . .” *Id.* The transfer of mines to sub-state entities, like factions or rebels, is also banned. *See* Sherman Letter, *supra* note 40.

262. Amended Protocol II, *supra* note 30, art. 9, technical annex 1(a). *Cf.* Protocol II, *supra* note 30, art. 7.

263. Remotely-delivered mines are controlled by Article 6 and technical annex 1(b). *See* Amended Protocol II, *supra* note 30, art. 6, technical annex 1(b).

264. *Id.* technical annex 1(a)(i). Parties are to provide “the location of the minefields, mined areas and areas of booby-traps and other devices shall be specified accurately by relation to the coordinates of at least two reference points and the estimated dimensions of the area containing these weapons in relation to those reference points.” *Id.* *Cf.* Protocol II, *supra* note 30, technical annex.

265. Amended Protocol II, *supra* note 30, technical annex 1(a)(ii). “[M]aps, diagrams or other records shall be made in such a way as to indicate the location of minefields, mined areas, booby-traps and other devices in relation to reference points, and these records shall also indicate their perimeters and extent . . .” *Id.*

266. *Id.* technical annex 1(a)(iii).

[F]or purposes of detection and clearance of mines, booby-traps and other devices, maps, diagrams or other records shall contain complete information on the type, number, emplacing method, type of fuse and life time, date and time of laying, anti-handling devices (*if any*) and other relevant information on all these weapons laid.

Id. (emphasis added).

At the end of hostilities, parties are to take “all necessary and appropriate measures” to protect civilians, including, but not limited to, the use of the information discussed above.²⁶⁸ Part of these measures include providing this recorded information to the other parties to the conflict and to the UN Secretary-General.²⁶⁹ Either party may withhold this information if an adverse party remains in the territory of the other party and “security interest[s] require such withholding.”²⁷⁰

Each party has responsibility for the mines remaining in areas under their control after hostilities cease.²⁷¹ Parties are to “endeavour to reach agreement, both among themselves and, where appropriate, with other States and with international organizations, on the provision of technical

267. *Id.* technical annex 1(a)(iii). “Whenever feasible the minefield record shall show the exact location of every mine, except in row minefields where the row location is sufficient. The precise location and operating mechanism of each booby-trap laid shall be individually recorded.” *Id.*

268. *Id.* art. 9.2.

All such records shall be retained by the parties to a conflict, who shall, without delay after the cessation of active hostilities, take all necessary and appropriate measures, including the use of such information, to protect civilians from the effects of minefields, mined areas, mines, booby-traps and other devices in areas under their control.

Id.

269. *Id.* arts. 9.2, 10.3.

At the same time, they shall also make available to the other party or parties to the conflict and to the Secretary-General of the United Nations all such information in their possession concerning minefields, mined areas, mines, booby-traps and other devices laid by them in areas no longer under their control

Id. art. 9.2.

With respect to minefields, mined areas, mines, booby-traps and other devices laid by a party in areas over which it no longer exercises control, such party shall provide to the party in control of the area pursuant to paragraph 2 of this Article, to the extent permitted by such party, technical and material assistance necessary to fulfill such responsibility.

Id. art. 10.3

270. *Id.* art. 9.2.

271. *Id.* art. 10.2. “High Contracting Parties and parties to a conflict bear such responsibility with respect to minefields, mined areas, mines, booby-traps and other devices in areas under their control.” *Id.*

and material assistance, including, in appropriate circumstances, the undertaking of joint operations necessary to fulfill such responsibilities.”²⁷²

Article 11 expands this idea, providing each party entitlement to technological cooperation and assistance with landmine issues.²⁷³ Each party has the right to get information, material, and equipment from other parties for complying with the Protocol.²⁷⁴ Article 11 also provides for the creation of an international database on mine clearance.²⁷⁵ Each party may request assistance with mine clearing through the UN, and each party has “the right to . . . receive technical assistance, where appropriate, from another High Contracting Party on specific relevant technology,” if that technology transfer will allow the other party to reduce “any period of deferral for which provision is made in the [t]echnical [a]nnex.”²⁷⁶

Each year the parties to the Protocol must submit an annual report.²⁷⁷ These reports can concern any of the following topics:

- (a) dissemination of information on this Protocol to their armed forces and to the civilian population;
- (b) mine clearance and rehabilitation programmes;
- (c) steps taken to meet technical requirements of this Protocol and any other relevant information pertaining thereto;
- (d) legislation related to this Protocol;

272. *Id.* art. 10.4. *Cf.* Protocol II, *supra* note 30, art. 9.

273. Amended Protocol II, *supra* note 30, art. 11. *Cf.* Protocol II, *supra* note 30, art. 9.

274. Amended Protocol II, *supra* note 30, art. 11.1.

Each High Contracting Party undertakes to facilitate and shall have the right to participate in the fullest possible exchange of equipment, material and scientific and technological information concerning the implementation of this Protocol and means of mine clearance. In particular, High Contracting Parties shall not impose undue restrictions on the provision of mine clearance equipment and related technological information for humanitarian purposes.

Id.

275. *Id.* art. 11.2 “Each High Contracting Party undertakes to provide information to the database on mine clearance established within the United Nations System, especially information concerning various means and technologies of mine clearance, and lists of experts, expert agencies or national points of contact on mine clearance.” *Id.*

276. *Id.* art. 11.7.

277. *Id.* art. 13.4.

- (e) measures taken on international technical information exchange, on international cooperation on mine clearance, and on technical cooperation and assistance; and
- (f) other relevant matters.²⁷⁸

The parties also meet annually “to consult and cooperate with each other on issues related to the operation” of the Protocol.²⁷⁹ At the conference, parties discuss the success of the Protocol, plan for review conferences, consider technological developments to protect civilians, and discuss any other issues raised by the annual reports.²⁸⁰

Compliance with the Protocol is addressed in Article 14.²⁸¹ This Article affirmatively obligates member states to incorporate the standards of the Protocol into each nation’s laws and regulations.²⁸² These laws should include penal sanctions for anyone whose willful actions in violation of the Protocol causes serious injury or death to someone else.²⁸³ Each party must also issue appropriate instructions and adjust the operating procedures of its armed forces to the extent necessary to conform the military to the Protocol.²⁸⁴ This includes ensuring that military leaders receive training on the Protocol that is commensurate with their duties and responsibilities.²⁸⁵ Any questions that arise regarding interpreting and applying the Protocol are to be resolved through consulting with other member states

278. *Id.* art. 13.4. “The High Contracting Parties shall provide annual reports to the Depositary, who shall circulate them to all High Contracting Parties in advance of the Conference” *Id.*

279. *Id.* art. 13.1. “The High Contracting Parties undertake to consult and cooperate with each other on all issues related to the operation of this Protocol. For this purpose, a conference of High Contracting Parties shall be held annually.” *Id.*

280. *Id.* art. 13.3.

The work of the conference shall include: (a) review of the operation and status of this Protocol; (b) consideration of matters arising from reports by High Contracting Parties according to paragraph 4 of this Article; (c) preparation for review conferences; and (d) consideration of the development of technologies to protect civilians against indiscriminate effects of mines.

Id. There is also a review conference schedule for 2001, five years from the date of adoption. *See* Sherman, *supra* note 40.

281. Amended Protocol II, *supra* note 30, art. 14.

282. *Id.* art. 14.1. “Each High Contracting Party shall take all appropriate steps, including legislative and other measures, to prevent and suppress violations of this Protocol by persons or on territory under its jurisdiction or control.” *Id.*

and the UN Secretary-General.²⁸⁶ Withdrawal provisions in the Amended Protocol remain the same as in the original Protocol.²⁸⁷

283. *Id.* art. 14.2.

The measures envisaged in paragraph 1 of this Article include appropriate measures to ensure the imposition of penal sanctions against persons who, in relation to an armed conflict and contrary to the provisions of this Protocol, willfully kill or cause serious injury to civilians and to bring such persons to justice.

Id.

284. *Id.* art. 14.3. “Each High Contracting Party shall also require that its armed forces issue relevant military instructions and operating procedures . . .” *Id.*

285. *Id.* “[A]rmed forces personnel [must] receive training commensurate with their duties and responsibilities to comply with the provisions of this Protocol.” *Id.*

286. *Id.* art. 14.4. “The High Contracting Parties undertake to consult each other and to cooperate with each other bilaterally, through the Secretary-General of the United Nations or through other appropriate international procedures, to resolve any problems that may arise with regard to the interpretation and application of the provisions of this Protocol.” *Id.*

287. *See* CCW, *supra* note 100, pmb., art. 9.

b. Analysis

Amended Protocol II is a vast improvement over the original Protocol II. Building on thirteen years of experience with the original Protocol II, every subject that was covered under the original is covered in the amended version too, but with greater detail and specificity. The drafters of Amended Protocol II also addressed and attempted to rectify nearly every deficiency of the original.²⁸⁸ The law now applies to internal armed conflict (for example, civil wars and insurgencies), where previously it had only applied to conflicts between nations.²⁸⁹ Furthermore, all anti-personnel mines are required to be detectable, greatly increasing the safety of mine clearers.²⁹⁰

Amended Protocol II also clearly assigns responsibility for demining. It imposes the additional requirement that all mines must either self-destruct, self-neutralize, or self-deactivate, thereby drastically reducing danger to civilians from minefields after hostilities end.²⁹¹ Transfers of mines are regulated, reducing the access of non-compliant groups.²⁹² A minimum standard for the marking of minefields is established.²⁹³ For the first time, verifiable compliance measures are emplaced, helping member states assess if nations actually intend to be bound by the Protocols or are merely seeking to curry the favor of the international community.²⁹⁴

Nevertheless, Amended Protocol II does have its shortcomings.²⁹⁵ Most notably, the provisions to verify and to enforce compliance are weak.²⁹⁶ While member states are required to pass legislation that mandates the standards set forth in the Protocol, no provision was made for transparency inspections²⁹⁷ or mandatory reports. These would provide some physical proof that nations are actually complying with the Protocol.

288. *See id.* pt. IV.B.1.b. Parties laying mines are now required to “assume responsibility for them to ensure against their irresponsible and indiscriminate use.” *See* President’s Message, *supra* note 46.

289. *See supra* pt. IV.B.2.a.

290. *See id.*

291. *See id.* Note that the self-destruct/self-deactivate requirement only applies to unmarked anti-personnel mines. *See* Sherman Letter, *supra* note 30.

292. *See supra* pt. IV.B.2.a.

293. *See id.*

294. *See id.*

295. The weaknesses of the Amended Protocol II can be addressed in the periodic review sessions that are required under the law. *See* CCW, *supra* note 100, pmb., art. 8; *see also* President’s Message, *supra* note 46.

296. *See* pt. IV.B.2.a.; *see also* President’s Message, *supra* note 46.

For instance, a member state could transfer mines or not retrofit plastic mines with metal, and other member states may never find out. Another deficiency is the Protocol's failure to address production. Under the current verbiage, a member state could continue to manufacture "dumb" anti-personnel landmines with impunity.²⁹⁸ Finally, the transition window given for signing countries to transition from noncompliant mines to acceptable mines seems unnecessarily long.²⁹⁹

1. The Landmine Ban

a. Summary

A more radical approach to legislatively curbing the landmine problem is a total ban on landmine possession and use.³⁰⁰ Until recently, the UN had never seriously considered a ban on landmines under international law because UN procedure allows measures to be easily defeated by member states who disagree with the measure; thus, every nation effectively holds a veto.³⁰¹ Even as late as 1995, most analysts felt that an actual international treaty to ban landmines would be years away, perhaps by 2010, and then only accomplished by the UN.³⁰²

A number of NGOs, however, banded together calling themselves the International Campaign for a Landmine Ban. They managed to bring the issue to the forefront of international politics in 1996.³⁰³ In October of 1996, an unprecedented seventy-four nations attended a conference, in Ottawa, to discuss the ban.³⁰⁴ By that time, the number of countries supporting the ban in some form had grown from fourteen to forty-seven.³⁰⁵

297. Transparency measures include inspections, reports, and mandatory national laws that allow nations to ensure that a signing nation is not hiding anything (e.g., anti-personnel landmines), hence the measure renders the nation "transparent."

298. These mines can also be transferred since their use is permitted in marked areas. See Sherman Letter, *supra* note 40. One possible solution would be to completely ban use or transfer of "dumb" mines.

299. See pt. IV.B.2.a.; see also President's Message, *supra* note 46.

300. See McCall, *supra* note 11, at 271-72 (calling the movement for a complete ban "the farthest extreme" of the efforts to restrict landmines).

301. Craig Turner, *70 Nations Meet To Consider Ban on Land Mines*, L.A. TIMES, Oct. 5, 1996, A6.

302. Jessica Mathews, *The New, Private Order*, WASH. POST, Jan. 21, 1997, at A11.

303. *Id.* This movement is also known as the Ottawa Convention or Ottawa Process, which reflects Canada hosting the first major ban conference in Ottawa.

304. *Id.*

A final text was decided on in September 1997 with 125 nations signing the document. Several major producers, like China and Russia, have refused to sign.³⁰⁶ Their refusal has prompted other world powers to decline signing the ban.³⁰⁷

Article 1 of the Landmine Ban lays out the basic tenets of the treaty:
General obligations:

1. Each State Party undertakes never under any circumstances:
 - (a) To use anti-personnel mines;
 - (b) To develop, produce, otherwise acquire, stockpile, retain or transfer to anyone, directly or indirectly, anti-personnel mines;
 - (c) To assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Convention.

2. Each State Party undertakes to destroy or ensure the destruction of all anti-personnel mines in accordance with the provisions of this Convention.³⁰⁸

According to Article 4 of the Landmine Ban, each party has a maximum of four years to destroy all stockpiled anti-personnel landmines.³⁰⁹

305. Turner, *supra* note 301, at A6.

306. Jim Mannion, *U.S. Wants Talks on Land Mine Ban Held in Geneva*, AGENCE FRANCE PRESSE, Jan. 18, 1997. Russia and China own most of the world's anti-personnel mines. See Sherman Letter, *supra* note 101. "The vast majority of [anti-personnel landmine] casualties are caused by mines produced, exported, and/or used by Russia and China." Sherman, *supra* note 249. In fact, Russia and China possess more landmines than the rest of the world combined. See Sherman, *supra* note 40. The United States favors an eventual ban on anti-personnel landmines, but not the one resulting from the Ottawa Process. See President's Message, *supra* note 46 (calling Amended Protocol II "an important precursor to the total prohibition that the United States seeks").

307. *Id.* Despite these countries' refusal to sign, the ban could eventually apply to them through customary international practice if their actions and future non-policy statements reflect adherence to the ban. See Major Timothy P. Bulman, *A Dangerous Guessing Game Disguised as Enlightened Policy: United States Law of War Obligations During Military Operations Other Than War*, 159 MIL. L. REV. 151 (1999); W. MICHAEL REISMAN & CHRIS T. ANTONIOU, *THE LAWS OF WAR XX* (1994) (saying that the limitations of treaties often make both scholars and nations eager to "contend that rules that have commenced in a treaty have subsequently been transformed into custom because of the widespread practice of states"). However, as Reisman and Antoniou point out, "This may be very subjective, for the evidence of transformation into custom is often sparse and ambiguous." *Id.*

308. Landmine Ban, *supra* note 30, art. 1.

Article 5 allows a maximum of ten years for a country to rid itself of all anti-personnel mines that are emplaced in minefields under that country's control.³¹⁰ The only mines that are excepted from this standard are mines that are retained or transferred "for the development of and training in mine detection, mine clearance, and mine destruction"³¹¹

If any member nation cannot comply with the standards, the country can request an extension of up to ten years.³¹² The nation submits the request to a review conference or a meeting of states parties. The request must include the duration of the extension; a detailed explanation of reasons for the delay; and the humanitarian, social, economic, and environmental impact that an extension may have on the country.³¹³ The meeting of the states parties or review conference, then considering all the above factors, decides by majority vote whether to grant the extension.³¹⁴ A non-complying party can request extensions as many times as necessary.³¹⁵

309. *Id.* art. 4.

Except as provided for in Article 3, each State Party undertakes to destroy or ensure the destruction of all stockpiled anti-personnel mines it owns or possesses, or that are under its jurisdiction or control, as soon as possible but not later than four years after the entry into force of this Convention for that State Party.

Id. Cf. Amended Protocol II, *supra* note 30, art. 4, technical annex 2.c. (giving nine years for compliance). Destroying mines, however, is easier and faster than retrofitting mines with metal and self-destruct, self-neutralizing, or self-deactivating capabilities.

310. Landmine Ban, *supra* note 30, art. 5.1. "Each State Party undertakes to destroy or ensure the destruction of all anti-personnel mines in mined areas under its jurisdiction or control, as soon as possible but not later than ten years after the entry into force of this Convention for that State Party." *Id.* Note that member states can gain another 10-year extension under Articles 5.3-5.4, if a majority of members approve. Cf. Protocol II, *supra* note 30, art. 9; Amended Protocol II, *supra* note 30, art. 10 (saying that minefields must be destroyed "without delay" but with no real deadline).

311. Landmine Ban, *supra* note 30, art. 3. The article conditions this exception saying that "[t]he amount of such mines shall not exceed the minimum number absolutely necessary for the above-mentioned purposes." *Id.*

312. *Id.* art. 5.3.

3. If a State Party believes that it will be unable to destroy or ensure the destruction of all anti-personnel mines referred to in paragraph 1 within that time period, it may submit a request to a Meeting of the States Parties or a Review Conference for an extension of the deadline for completing the destruction of such anti-personnel mines, for a period of up to ten years.

Id.

Article 6 of the Landmine Ban provides for international cooperation and assistance among the member states.³¹⁶ Each signing country is obligated to give and entitled to receive “the fullest possible exchange of equipment, material, and scientific and technological information concerning the implementation” of the Ban.³¹⁷ Countries in a position to do so must “provide assistance for the care and rehabilitation, and social and economic reintegration, of mine victims and for mine awareness programs.”³¹⁸ These countries must also assist in mine clearing and destruction of stockpiled anti-personnel mines when possible.³¹⁹ Article 6 also provides for creating an international database, listing mine clearance experts, and consolidating information about mine clearance means and technologies.³²⁰

313. *Id.* arts. 5.3-5.4

4. Each request shall contain:

- (a) The duration of the proposed extension;
- (b) A detailed explanation of the reasons for the proposed extension, including:
 - (i) The preparation and status of work conducted under national demining programs;
 - (ii) The financial and technical means available to the State Party for the destruction of all the anti-personnel mines; and
 - (iii) Circumstances which impede the ability of the State Party to destroy all the anti-personnel mines in mined areas;
- (c) The humanitarian, social, economic, and environmental implications of the extension; and
- (d) Any other information relevant to the request for the proposed extension.

Id.

314. *Id.* art. 5.5. “The Meeting of the States Parties or the Review Conference shall, taking into consideration the factors contained in paragraph 4, assess the request and decide by a majority of votes of States Parties present and voting whether to grant the request for an extension period.” *Id.*

315. *Id.* art. 5.6.

Such an extension may be renewed upon the submission of a new request in accordance with paragraphs 3, 4 and 5 of this Article. In requesting a further extension period a State Party shall submit relevant additional information on what has been undertaken in the previous extension period pursuant to this Article.

Id.

316. *Id.* art. 6. “In fulfilling its obligations under this Convention each State Party has the right to seek and receive assistance, where feasible, from other States Parties to the extent possible.” *Id.* art. 6.1. *Cf.* Amended Protocol II, *supra* note 30, art. 11.7.

In Article 7, the Landmine Ban mandates transparency measures.³²¹ Each signing nation must make an extensive report to the UN Secretary-General not later than 180 days after the entry into force of the Ban for the nation.³²² The report must include national implementation measures

317. *Id.* art. 6.2.

Each State Party undertakes to facilitate and shall have the right to participate in the fullest possible exchange of equipment, material and scientific and technological information concerning the implementation of this Convention. The States Parties shall not impose undue restrictions on the provision of mine clearance equipment and related technological information for humanitarian purposes.

Id. Cf. Amended Protocol, *supra* note 30, art. 11.1.

318. Landmine Ban, *supra* note 30, art. 6.3.

Each State Party in a position to do so shall provide assistance for the care and rehabilitation, and social and economic reintegration, of mine victims and for mine awareness programs. Such assistance may be provided, *inter alia*, through the United Nations system, international, regional or national organizations or institutions, the International Committee of the Red Cross, national Red Cross and Red Crescent societies and their International Federation, non-governmental organizations, or on a bilateral basis.

Id.

319. *Id.* art. 6.4-6.5.

4. Each State Party in a position to do so shall provide assistance for mine clearance and related activities. Such assistance may be provided, *inter alia*, through the United Nations system, international or regional organizations or institutions, non-governmental organizations or institutions, or on a bilateral basis, or by contributing to the United Nations Voluntary Trust Fund for Assistance in Mine Clearance, or other regional funds that deal with demining.

5. Each State Party in a position to do so shall provide assistance for the destruction of stockpiled anti-personnel mines.

Id. Cf. Amended Protocol II, *supra* note 30, art. 11.5.

320. Landmine Ban, *supra* note 30, art. 6.6. "Each State Party undertakes to provide information to the database on mine clearance established within the United Nations system, especially information concerning various means and technologies of mine clearance, and lists of experts, expert agencies or national points of contact on mine clearance." *Id.*

321. *Id.* art. 7. Cf. Amended Protocol II, *supra* note 30, art. 13.4.

322. Landmine Ban, *supra* note 30, art. 7.1. "Each State Party shall report to the Secretary-General of the United Nations as soon as practicable, and in any event not later than 180 days after the entry into force of this Convention for that State Party . . ." *Id.*

taken,³²³ information on stockpiled anti-personnel mines,³²⁴ the location of minefields within the country's control,³²⁵ information on the types of mines retained by parties for training purposes,³²⁶ the status of the closing of landmine factories,³²⁷ information concerning the plan for destroying mines,³²⁸ the number and type of mines destroyed since entry into force of the Ban,³²⁹ the technical characteristics of mines produced by or possessed by a party,³³⁰ and measures taken to provide warning to civilians in mined

323. *Id.* art. 7.1.a. "The national implementation measures referred to in Article 9" *Id.*

324. *Id.* art. 7.1.b. "The total of all stockpiled anti-personnel mines owned or possessed by it, or under its jurisdiction or control, to include a breakdown of the type, quantity and, if possible, lot numbers of each type of anti-personnel mine stockpiled. . . ." *Id.*

325. *Id.* art. 7.1.c.

To the extent possible, the location of all mined areas that contain, or are suspected to contain, anti-personnel mines under its jurisdiction or control, to include as much detail as possible regarding the type and quantity of each type of anti-personnel mine in each mined area and when they were emplaced

Id.

326. *Id.* art. 7.1.d.

The types, quantities and, if possible, lot numbers of all anti-personnel mines retained or transferred for the development of and training in mine detection, mine clearance or mine destruction techniques, or transferred for the purpose of destruction, as well as the institutions authorized by a State Party to retain or transfer anti-personnel mines, in accordance with Article 3.

Id.

327. *Id.* art. 7.1.e. "The status of programs for the conversion or de-commissioning of anti-personnel mine production facilities" *Id.*

328. *Id.* art. 7.1.f. "The status of programs for the destruction of anti-personnel mines in accordance with Articles 4 and 5, including details of the methods which will be used in destruction, the location of all destruction sites and the applicable safety and environmental standards to be observed" *Id.*

329. *Id.* art. 7.1.g.

The types and quantities of all anti-personnel mines destroyed after the entry into force of this Convention for that State Party, to include a breakdown of the quantity of each type of anti-personnel mine destroyed, in accordance with Articles 4 and 5, respectively, along with, if possible, the lot numbers of each type of anti-personnel mine in the case of destruction in accordance with Article 4;

Id.

areas.³³¹ After the initial report, this information must be updated each calendar year by 30 April.³³² The UN Secretary-General then disseminates the information to all the member states.³³³

Article 8 allows parties to clarify ambiguities in the Landmine Ban.³³⁴ If any party has a legitimate question relating to compliance with the Ban, that nation can request clarification through the UN Secretary-General.³³⁵ If the party does not receive a response within twenty-eight days or is dissatisfied with the Secretary-General's response,³³⁶ the party can require the issue be raised at the next meeting of the states parties.³³⁷ Alternatively, the requesting state may propose a special meeting of the states parties.³³⁸ The Secretary-General is then required to forward all information relating to the issue to all member states.³³⁹ If within fourteen days, one third of

330. *Id.* art. 7.1.h.

The technical characteristics of each type of anti-personnel mine produced, to the extent known, and those currently owned or possessed by a State Party, giving, where reasonably possible, such categories of information as may facilitate identification and clearance of anti-personnel mines; at a minimum, this information shall include the dimensions, fusing, explosive content, metallic content, colour photographs and other information which may facilitate mine clearance

Id.

331. *Id.* art. 7.1.i. "The measures taken to provide an immediate and effective warning to the population in relation to all areas identified under paragraph 2 of Article 5." *Id.*

332. *Id.* art. 7.2. "The information provided in accordance with this Article shall be updated by the States Parties annually, covering the last calendar year, and reported to the Secretary-General of the United Nations not later than 30 April of each year." *Id.*

333. *Id.* art. 7.3. "3. The Secretary-General of the United Nations shall transmit all such reports received to the States Parties." *Id.*

334. *Id.* art. 8.1. "The States Parties agree to consult and cooperate with each other regarding the implementation of the provisions of this Convention, and to work together in a spirit of cooperation to facilitate compliance by States Parties with their obligations under this Convention." *Id.* Cf. Amended Protocol II, *supra* note 30, art. 13.

335. Landmine Ban, *supra* note 30, art. 8.2.

If one or more States Parties wish to clarify and seek to resolve questions relating to compliance with the provisions of this Convention by another State Party, it may submit, through the Secretary-General of the United Nations a Request for Clarification of that matter to that State Party. Such a request shall be accompanied by all appropriate information. Each State Party shall refrain from unfounded requests for Clarification, care being taken to avoid abuse.

Id.

the states parties expresses the desire to hold a special meeting, a special meeting, consisting of a majority of member states, will convene within another fourteen days.³⁴⁰

When the meeting of the states or a special meeting convenes, the states try to resolve the problem by consensus.³⁴¹ If this fails, the states then decide by majority vote whether to take the issue further.³⁴² If the vote returns in favor of further clarification, the states form a fact-finding mission and decide on its mandate by majority vote.³⁴³ Once the fact-finding mission returns its report, the meeting of the states parties or special meeting of the states parties reconvenes and considers all the relevant information to include the fact finding mission's report.³⁴⁴ The states then

336. *Id.* arts. 8.2-8.3.

A State Party that receives a Request for Clarification shall provide, through the Secretary-General of the United Nations, within 28 days to the requesting State Party all information which would assist in clarifying this matter.

If the requesting State Party does not receive a response through the Secretary-General of the United Nations within that time period, or deems the response to the Request for Clarification to be unsatisfactory, it may submit the matter through the Secretary-General of the United Nations to the next Meeting of the States Parties.

Id.

337. *Id.* art. 8.3. "The Secretary-General of the United Nations shall transmit the submission, accompanied by all appropriate information pertaining to the Request for Clarification, to all States Parties. All such information shall be presented to the requested State Party which shall have the right to respond." *Id.*

338. *Id.* art. 8.5. "The requesting States parties may propose through the Secretary-General of the United Nations the convening of a Special meeting of the States parties to consider the matter." *Id.*

339. *Id.* "The Secretary-General of the United Nations shall thereupon communicate this proposal and all information submitted by the States Parties concerned, to all States Parties with a request that they indicate whether they favour a Special Meeting of the States Parties, for the purpose of considering the matter." *Id.*

340. *Id.* art. 8.5.

In the event that within 14 days from the date of such communication, at least one third of the States Parties favours such a Special Meeting, the Secretary-General of the United Nations shall convene this Special Meeting of the States Parties within a further 14 days. A quorum for this Meeting shall consist of a majority of States Parties.

Id.

again try to reach a decision by consensus.³⁴⁵ If a consensus decision again fails, a decision can only be reached by a two-thirds majority of the states present and voting.³⁴⁶

341. *Id.* art. 8.6.

The Meeting of the State or the Special Meeting of the States Parties, as the case may be, shall first determine whether to consider the matter further, taking into account all information submitted by the States Parties concerned. The Meeting of the States Parties or the Special Meeting of the States Parties shall make every effort to reach a decision by consensus.

Id.

342. *Id.* art. 8.6. “If despite all efforts to that end no agreement has been reached, it shall take this decision by a majority of States Parties present and voting.” *Id.*

343. *Id.* art. 8.8. “If further clarification is required, the Meeting of the States Parties or the Special Meeting of the States Parties shall authorize a fact-finding mission and decide on its mandate by a majority of States Parties present and voting.” *Id.*

344. *Id.* arts. 8.18-8.20.

The Meeting of the States Parties or the Special Meeting of the States Parties shall consider all relevant information, including the report submitted by the fact-finding mission, and may request the requested State Party to take measures to address the compliance issue within a specified period of time. The requested State Party shall report on all measures taken in response to this request.

The Meeting of the States Parties or the Special Meeting of the States Parties may suggest to the States Parties concerned ways and means to further clarify or resolve the matter under consideration, including the initiation of appropriate procedures in conformity with international law. In circumstances where the issue at hand is determined to be due to circumstances beyond the control of the requested State Party, the Meeting of the States Parties or the Special Meeting of the States Parties may recommend appropriate measures, including the use of cooperative measures referred to in Article 6.

Id.

345. *Id.* art. 8.20. “The Meeting of the States Parties or the Special Meeting of the States Parties shall make every effort to reach its decisions referred to in paragraphs 18 and 19 by consensus . . .” *Id.*

346. *Id.* (saying that if not by consensus then “by a two-thirds majority of States Parties present and voting”).

The Ban also has an article controlling the settlement of disputes, but it is very brief and contains no specific procedures. *See id.* art. 10; *cf.* Amended Protocol II, *supra* note 30, art. 14.4. It is likely that member states will follow the procedure in Article 8 to settle disputes.

The ban officially came into effect on 1 March 1999, six months after the 40th nation ratified it.³⁴⁷ As of March 1999, sixty-five of the 133 signing nations have actually ratified the document.³⁴⁸ The state parties are required to meet annually to discuss any issue relevant to the Ban.³⁴⁹ Five years after the Ban enters into force, the parties will have the first review conference to discuss and decide any relevant issues.³⁵⁰ Importantly, only after entry into force can a party propose amendments to the Ban.³⁵¹

Article 20 allows each signing party “in exercising its national sovereignty” to withdraw from the Convention.³⁵² The withdrawal, however,

347. Landmine Ban, *supra* note 30, art. 17.1. “This Convention shall enter into force on the first day of the sixth month after the month in which the 40th instrument of ratification, acceptance, approval or accession has been deposited.” *Id.* See also Clare Nullies, *U.N. Land-Mine Treaty Takes Effects*, WASH. POST, Mar. 1, 1999, available at <<http://www.washingtonpost.com/wp-svr/digest/intoo5.htm>>.

348. To track the progress of the ban access <<http://www.icbl.org>>; see 144 CONG. REC. S10,576 (daily ed. Sept. 18, 1998) (statement of Sen. Leahy) (memorializing the fortieth ratification of the Landmine Ban).

349. Landmine Ban, *supra* note 30, art. 11.

1. The States Parties shall meet regularly in order to consider any matter with regard to the application or implementation of this Convention, including:
 - a. The operation and status of this Convention;
 - b. Matters arising from the reports submitted under the provisions of this Convention;
 - c. International cooperation and assistance in accordance with Article 6;
 - d. The development of technologies to clear anti-personnel mines;
 - e. Submissions of States Parties under Article 8; and
 - f. Decisions relating to submissions of States Parties as provided for in Article 5.
2. The First Meeting of the States Parties shall be convened by the Secretary-General of the United Nations within one year after the entry into force of this Convention. The subsequent meeting shall be convened by the Secretary-General of the United Nations annually until the first Review Conference.
3. Under the conditions set out in Article 8, the Secretary-General of the United Nations shall convene a Special Meeting of the States Parties.
4. States not party to this Convention, as well as the United Nations, other relevant international organizations or institutions, regional organizations, the International Committee of the Red Cross and relevant non-governmental organizations may be invited to attend these meetings as observers in accordance with the agreed Rules of Procedure.

Id. Cf. Amended Protocol II, *supra* note 30, art. 13.

will not take effect until six months after submitting an instrument of withdrawal. If the withdrawing nation is involved in an armed conflict within this six-month waiting period, the withdrawal is of no effect.³⁵³

350. Landmine Ban, *supra* note 30, art. 12.

1. A Review Conference shall be convened by the Secretary-General of the United Nations five years after the entry into force of this Convention. Further Review Conferences shall be convened by the Secretary-General of the United Nations if so requested by one or more of the States Parties, provided that the interval between Review Conferences shall in no case be less than five years. All States Parties to this Convention shall be invited to each Review Conference.
2. The purpose of the Review Conference shall be:
 - a. To review the operation and status of this Convention;
 - b. To consider the need for the interval between further Meetings of the States Parties referred to in paragraph 2 of Article 11;
 - c. To make decisions on submissions of States Parties as provided for in Article 5; and
 - d. To adopt, if necessary in its final report, conclusions related to the implementation of this Convention.
3. States not party to this Convention, as well as the United Nations, other relevant international organizations or institutions, regional organizations, the International Committee of the Red Cross and relevant non-governmental organizations may be invited to attend each Review Conference as observers in accordance with agreed Rules of Procedure.

Id. Cf. CCW, *supra* note 100, pmb., art. 8.

351. Landmine Ban, *supra* note 30, art. 13. "At any time after the entry into force of this Convention any State Party may propose amendments to this Convention." *Id.*

352. *Id.* art. 20.2.

Each State Party shall, in exercising its national sovereignty, have the right to withdraw from this Convention. It shall give notice of such withdrawal to all other States Parties, to the Depositary and to the United Nations Security Council. Such instrument of withdrawal shall include a full explanation of the reasons motivating this withdrawal.

Id.

353. *Id.* art. 20.3.

Such withdrawal shall only take effect six months after the receipt of the instrument of withdrawal by the Depositary. If, however, on the expiry of that six-month period, the withdrawing State Party is engaged in an armed conflict, the withdrawal shall not take effect before the end of the armed conflict.

Id. Cf. CCW, *supra* note 100, pmb., art. 9.

b. Analysis

Much of what is good about the Landmine Ban is borrowed from Amended Protocol II. The drafters of the Ban recognized and acknowledged the legitimacy of Amended Protocol II, endorsing the Protocol in the Ban's preamble.³⁵⁴ Moreover, the Ban's drafters capitalized on the improved-Amended Protocol II by adopting wholesale many of the Protocol's provisions. For example, several of the definitions in the Ban are identical to those within the Protocol.³⁵⁵ Much of the Ban's Article 6, international cooperation and assistance, is taken verbatim from Amended Protocol II's Article 11, technological cooperation and assistance.³⁵⁶ Articles 9 and 10 of the Ban borrow heavily from the Protocol's Article 14. Directly referencing Amended Protocol II,³⁵⁷ the Ban has identical requirements for the marking, monitoring, and cordoning off anti-personnel mines from civilians.³⁵⁸

In other areas the Ban expands upon Amended Protocol II. Several of these expansions are improvements on the Protocol. Most significant among these are the administrative controls that are contained within the

354. See Landmine Ban, *supra* note 30, pmbl. ("Calling for the early ratification of this Protocol by all countries which have not yet done so . . .").

355. Compare the Ban's definitions in Article 2 with the Amended Protocol's definitions in Article 2. The Ban has far fewer definitions. Both have identical definitions, however, for "mine" and "anti-handling," while the definitions for "anti-personnel mine" and "transfer" are nearly identical. *But see* Spinelli Letter, *supra* note 32 (calling the use of the word "primarily" in Amended Protocol II "a world of substantive difference").

356. See *supra* notes 274-277, 316-320 and accompanying text.

357. See *supra* notes 282-287 and accompanying text.

358. Landmine Ban, *supra* note 30, art. 5(2).

2. Each State Party shall make every effort to identify all areas under its jurisdiction or control in which anti-personnel mines are known or suspected to be emplaced and shall ensure as soon as possible that all anti-personnel mines in mined areas under its jurisdiction or control are perimeter-marked, monitored, and protected by fencing or other means, to ensure the effective exclusion of civilians, until all anti-personnel mines contained therein have been destroyed. The marking shall at least be to the standards set out in the Protocol on Prohibitions or Restrictions on the Use of Mines, Booby Traps and Other Devices, as amended on 3 May 1996, annexed 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.

Id. Cf. Amended Protocol II, *supra* note 30, technical annex, art. 4.

Ban. For instance, Article 5's provisions for gaining an extension to clear minefields mandates a detailed set of steps that member states must complete.³⁵⁹ Article 10 in Amended Protocol II has no such extension provision, largely because the Protocol contains no deadline for clearing minefields.³⁶⁰ Theoretically, the clearing could continue forever. The Ban also possesses extremely detailed transparency measures in Article 7, while Amended Protocol II is silent on the subject.³⁶¹ Likewise, the Ban's Article 8, facilitation and clarification of compliance, is without analogy in the Protocol.³⁶² By requiring these additional hoops, the drafters of the Ban close possible loopholes in Amended Protocol II and facilitate the ability of nations to monitor each other's compliance.

The Landmine Ban, however, suffers from two fundamental flaws: (1) the Ban's scope is over inclusive in that it takes "smart" mines, legitimate weapons,³⁶³ from the responsible users;³⁶⁴ and (2) as a practical matter, the Ban's scope is under inclusive in that it will fail to remove the "dumb" mines from rogue nations and insurgents who are the current abusers of the weapon.

First, the Ban will remove anti-personnel landmines from non-abusers like the United States. The current United States landmine policy offers a classic example of responsible mine use.³⁶⁵ The United States uses "smart" mines everywhere except the Korean DMZ.³⁶⁶ In the DMZ and in other similar areas, such as the former border between Eastern and Western Europe during the Cold War, landmines have a legitimate long-term role justifying continued use of "dumb" mines.³⁶⁷ The remainder and bulk of

359. See *supra* note 314 and accompanying text.

360. See *supra* notes 272-273 and accompanying text.

361. See *supra* notes 321-333 and accompanying text; see generally Amended Protocol II, *supra* note 30.

362. See *supra* notes 334-346 and accompanying text; see generally Amended Protocol II, *supra* note 30.

363. The argument being that to the degree that anti-personnel landmines are necessary, they are also legitimate. See *supra* pt. III.

364. See *infra* note 365-378 and accompanying text, pt. V.

365. Professor R.J. Araujo concedes that one may justify the use of landmines relying on the principles of *jus in bello*, but he argues that once that the justification disappears "at the conclusion of the conflict (or its relocation to a different theater of operation)." Araujo, *supra* note 52, at 4. His argument has little relevance when applied to the United States use of mines, which self-destruct or self-neutralize after a short time. See *infra* notes 367-375 and accompanying text.

366. See Shelton, *supra* note 83. United States forces also used to have "dumb" mines surrounding the base at Guantanamo Bay, Cuba. They were removed to comply with President Clinton's 16 May 1996 policy statement concerning landmines.

U.S. landmines are laid en masse and in plain sight above ground by air forces, artillery, or combat engineer assets.³⁶⁸

United States mines are programmed to self-neutralize, self-destruct, or self-deactivate within hours,³⁶⁹ and they accurately perform that task over 99.99% of the time,³⁷⁰ making the advent of a hazardous dud extremely rare.³⁷¹ If the rest of the world modeled their use of anti-personnel mines after the United States, then mines would only claim one civilian casualty every three years.³⁷² Obviously, the unmarked and invisible “killing fields,” responsible for the death of thousands of innocents, are not the result of this type of mining.³⁷³

367. ROBERTS & WILLIAMS, *supra* note 49. These mines have been called the silent sentinels, protecting the boundaries between the free and the oppressed. To ignore this reality is to be shortsighted and without historical perspective. See Matheson, *supra* note 100, at 159 (“Russia, China, India, and Pakistan refused to even consider a total ban because they depend heavily on [anti-personnel mines], particularly [for] the defense of borders areas.”). Because these mines are confined to narrow strips of “No Man’s Land,” they pose little danger to civilians. See Efaw, *supra* note 65, at A15. *But see* McCall, *supra* note 11, at 279 (saying that mines are not “silent sentries” when used in terrorizing manner against civilians). The United States has expressed an interest in doing away with the mines if “alternative technologies” can be devised and an adequate amount of time is given for a transition after the technologies are developed. Shelton, *supra* note 83.

368. See U.S. DEP’T OF ARMY, FIELD MANUAL 5-102, COUNTERMOBILITY (14 Mar. 1985); *see also* McCall, *supra* note 11, at 240. Many of these mines are remotely delivered by necessity. See Ekberg, *supra* note 83, at 156-57 (“During hostilities, the ability to deploy rapidly and to position a considerable obstacle to enemy movement can only be accomplished through the use of remotely delivered mines.”); Willis, *supra* note 36, at 12 (“Any potential threat to civilians posed by . . . mines is further reduced . . . by the fact that the mines are dropped by aircraft or artillery and sit on the surface of the ground.”).

369. Anti-personnel mines, used by the United States, are designed to self-destruct within four hours. Sherman Letter, *supra* note 101.

370. Robert Sherman observes: “Our actual self-destruct rate in test[ing] is zero, if you allow a one-hour margin for error. We had one test in more than 32K that was one hour late.” Sherman, *supra* note 101. “The self-deactivation failure rate, both in theory and practice, is zero.” *Id.* See also Spinelli Letter, *supra* note 32. These mines do an internal circuitry test upon deployment; if the mine is not functioning correctly, it immediately self-destructs. See *id.*

Others claim that smart mines do not always work, pointing specifically to the Area Denial Anti-personnel Mines (ADAM) that deliver 36 mines at a time by artillery. See McCall, *supra* note 11, at 240. John Ryle notes that “even a one-per-cent failure rate will leave tens of thousands of unexploded munitions . . .” *Id.* at n.55 (quoting John Ryle, *The Invisible Enemy*, THE NEW YORKER, Nov. 29, 1993, at 130). Nevertheless, McCall admits that mines may remain a viable weapon if the neutralization rate is higher or they are manufactured with enough metal for easy detection. See McCall, *supra* note 11, at 272.

Second, the Landmine Ban leaves anti-personnel mines in the hands of rogue nations and terrorists. The anti-personnel mines that are killing and wounding thousands of civilians each year are not mines deployed by the United States.³⁷⁴ Rather, they are the mines planted during conflicts such as the ones in Afghanistan, Angola, Bosnia-Herzegovina, Cambodia, Iraq, and Mozambique.³⁷⁵ Interestingly, none of these nations, or the warring factions within them, is a signatory to Protocol II or the Amended Protocol II, and each has blatantly disregarded the humanitarian spirit behind the Protocol.³⁷⁶ Instead, the conflicts involving these countries have often been characterized by the intentional targeting of civilians with buried and booby-trapped mines.³⁷⁷ Therefore, little reason exists to believe that they will honor an outright ban, even if one is implemented.³⁷⁸

371. Critics, such as James Dunnigan, point out that “a large number of self-destruct mines did not work when first used on a wide scale in Kuwait. About 10% of mines stayed active beyond their self-destruct deadline, causing casualties long after the fighting has been successfully concluded.” DUNNIGAN, *supra* note 50, at 68. But Robert Sherman responds that though about 1700 FASCAM “smart” mines failed to self-destruct in Desert Storm, they either passively self-deactivated or failed to arm. SHERMAN, *supra* note 34. Either way, the mines were rendered harmless. He points out, however, that, theoretically, the danger is never completely gone. *Id.* A remote chance exists that a mine that failed to arm may, at some unpredictable point, arm and become lethal for the “design laid life.” *Id.* This could occur “only if the glass acid vial neither broke nor remained intact when the mine was laid, but rather cracked upon laying and broke at a later time.” *Id.* This remote possibility has been dubbed the “La Traviata Effect” after the Italian opera in which the heroine, seemingly dead, revives for one last aria. *Id.* Mr. Sherman knows of no instance of this occurring. *Id.*

Companies who produce “smart” landmines that malfunction seemingly have little incentive to improve their product, short of international law. *See* Ekberg, *supra* note 83, at 164. If a company produces defective mines, soldiers can successfully sue neither the military nor the manufacturer. *See Feres v. United States*, 340 U.S. 135 (1950) (stating the *Feres* doctrine that service members cannot sue the military); *McKay v. Rockwell Int’l Corp.*, 704 F.2d 444 (9th Cir. 1983) (stating that the “government contract defense” extends immunity to contractors who manufacture defective products); Ekberg, *supra* note 83, at 164.

372. *See* Sherman Letter, *supra* note 34; *see also* Matheson, *supra* note 100, at 166 (“If widely observed, the revised Protocol will limit that exposure to a few months at most—in effect, a reduction of more than 99%.”). Others contend that the “smart” mine will never be a viable option for poorer nations (and insurgent groups) because scatterable “smart” mines cost up to 10 times more than the cost of a hand emplaced “dumb” mine. *See* McCall, *supra* note 11, at 241 n.57. “Smart” mines are not so cheap. A scatterable mine with a self-destruct mechanism was reported to be \$296. *See* Ekberg, *supra* note 83, at 166 n.72. The Italian company Valsella Meccanotecnica S.p.A., however, has sold scatterable mines for as little as \$3 to \$17. *Id.*

373. *See* West & Reimer, *supra* note 91, ch. 2 (saying that the United States’ “legitimate use of APLs does not contribute to post-combat civilian casualties, which result from the indiscriminate use of [non-self-destructing anti-personnel landmines].”).

374. Some statistics, however, suggest that just fewer than 15% of uncleared “dumb” mines were manufactured by the United States. See HUMANITARIAN DEMINING PROGRAMS, *supra* note 47, at 178. Some of these “dumb” mines, however, actually may be copies of American models. See DEADLY LEGACY, *supra* note 46, at 54; see also Owsley, *supra* note 45, at 218 (casting a “significant burden” on the United States for the landmine crisis). The United States apparently sold over 7.5 million landmines between 1969 and 1992, but between 1983 and 1992, the number of mines sold was only 150,000. *Id.* at 221. As stated earlier, a moratorium has forbade all sales and transfers of mines from the United States since 1992. See *supra* pt. III. Today, all new landmines are “smart.” See Willis, *supra* note 36, at 12. Though 10% of the mines in the U.S. inventory are “dumb,” these are only used in the Korean DMZ. *Id.*

375. See ALSTON ET AL., *supra* note 84, at 18-6 (mentioning “the indiscriminate use of anti-personnel landmines in internal conflicts in places such as Cambodia, Afghanistan, Angola, Mozambique, and the former Yugoslavia”); see also Efav, *supra* note 65, at A15.

376. Many of the nations that do have landmine problems are perennial international law “bad boys,” not holding even to the agreements that they sign. See Mundy, *supra* note 91 (“There is . . . no reason to believe that there will be fewer anti-personnel landmines employed in future conflicts by nations that do not adhere to the treaties they sign.”).

377. According to some reports, Angola, Guinea-Bissau, and Senegal continue to use anti-personnel mines, despite their signing of the Landmine Ban. See Sherman Letter, *supra* note 40; Barbara Crossette, *Security Council Seeks Talks with Angola Over U.N. Mission*, N.Y. TIMES, Jan. 22, 1999 available at <<http://www.nytimes.com/library/review/archive>> (reporting the widespread use of landmines in Angola). See also McCall, *supra* note 11, at 278 (pointing out that the world’s customary use of anti-personnel mines “partly dictates against any absolute bar being placed on their use”).

378. “CCW allows for the continued military use of [anti-personnel mines], while eliminating humanitarian drawbacks. Ergo, it’s more likely to be observed by major landmine states.” Sherman Letter, *supra* note 34. See also McCall, *supra* note 11, at 278 (“Because of the relative cheapness of mines as a weapon, “have-not” nations or rogue regimes may also choose to accept the risk of sanctions, rather than give up land mine usage altogether.”).

V. Conclusion

Amended Protocol II provides the most practical solution to the landmine crisis to date. The Protocol strikes a balance between meeting military needs and protecting civilians,³⁷⁹ recognizing that correct employment of anti-personnel landmines, rather than a wholesale ban,³⁸⁰ strikes that balance.³⁸¹ Mine expert, Robert Sherman, points out that “[t]he root of the [anti-personnel landmine] problem is the fact that most mines, by design, function for decades after emplacement.”³⁸² By contrast, the U.S. armed forces’ current policy on the use of landmines conforms to the mandates of the Amended Protocol,³⁸³ allowing the employment of anti-personnel mines, but only for valid purposes and only using mines that self-neutralize, self-destruct, or self-deactivate.³⁸⁴ Thus, mines remain a valuable and legitimate part of the United States’ military arsenal.³⁸⁵

While President Clinton claims that a global ban on anti-personnel mines is one of his administration’s “top arms control priorities,” his steadfast refusal to sign the Landmine Ban is a recognition “that the United

379. See Ary, *supra* note 50 (claiming that “[t]he balance between the military effectiveness of mines and the environmental and humanitarian damage that they cause will continue to shape the debate” in the future). *But see* McCall, *supra* note 11, at 259-60 (claiming the rule of proportionality and against excessiveness points to the illegality of anti-personnel landmines).

380. Despite current military policy, the 1996 Foreign Operations Appropriation Act, bans any United States use of anti-personnel landmines from February 1999 to February 2000. See Pub. L. No. 104-107.

381. For discussion of this balance, see ROBERTS & WILLIAMS, *supra* note 49, at 3-4.

382. Sherman, *supra* note 249 (emphasis added).

383. Under the War Crimes Act of 1996, a war crime is specifically defined to include conduct contrary to the provisions of the Amended Protocol II when that conduct results in the willful killing or serious injury of a civilian. 18 U.S.C. § 2401(c) (1994) (as amended by 105 Pub. L. No. 118-583, 111 Stat. 2386). See also Owsley, *supra* note 45, at 223-27 (presenting the historical precedent for holding civilian landmine manufacturers liable for war crimes under certain conditions).

384. YATES, *supra* note 33, at 7-8. See Richard H. Johnson, *Why Mines? A Military Perspective*, in CLEARING THE FIELDS (Kevin M. Cahill, M.D. ed., 1995). *But cf.* ROBERTS & WILLIAMS, *supra* note 49 (arguing against legitimate use of landmines); DEADLY LEGACY, *supra* note 46, at 21-22 (quoting Deborah Shapley’s *Promise and Power: The Life and Times of Robert McNamara*, and suggesting that one-fifth to one-third of all U.S. deaths in Vietnam were caused by U.S. landmines); Richard Falk, *Walking the Tightrope of International Humanitarian Law: Meeting the Challenge of Land Mines*, in CLEARING THE FIELDS (Kevin M. Cahill, M.D. ed. 1995); JAMES F. DUNNIGAN & ALBERT A. NOFL, SHOOTING BLANKS 120 (1993) (making the bold assertion that “[m]ost American casualties [in Vietnam] were from booby traps and mines”).

385. See Nash, *supra* note 30, at 327.

States has international commitments and responsibilities that must be taken into account” before such a ban could be realized.³⁸⁶ Amended Protocol II recognizes that as long as the militaries of the world see landmines as an integral part of their arsenals, a complete ban of landmines will be unachievable.³⁸⁷ As Robert Sherman writes: “At the end of the day, the issue will not be the purity of the positions taken by many nations who are *not* the problem. The issue will be the future humanitarian practices of the few nations who *have* been the problem.”³⁸⁸

The Landmine Ban is also doomed to failure by economics—anti-personnel mines are low technology and easy to manufacture.³⁸⁹ This ease of production makes verifying a ban virtually impossible.³⁹⁰ At an average cost of five dollars each,³⁹¹ mines are the exact kind of weapon that impoverished nations or guerrillas resort to as tools of terror and attrition.³⁹² Mines are the poor man’s weapon—“a high return, low cost investment.”³⁹³

Abusers realize that the cost of mine victims is far more extensive than just putting a soldier in a body bag and shipping him home.³⁹⁴ If not

386. President’s Message, *supra* note 46.

387. *See* Sherman, *supra* note 249.

388. *Id.* (emphasis added). This, of course, obviates a positive aspect of Amended Protocol II, namely that “the broad participation of states—some directly linked to the ‘problems’ APL.” Spinelli Letter, *supra* note 32. *See* McCall, *supra* note 11, at 275 (“Ultimately, however, the final test as to whether or not such measures [such as a ban] will be effective is primarily one of the custom of nations.”).

[B]ecause different antagonist may have quite different conceptions of the objective of war and politics and the relationships between them or they may live by different codes of chivalry or “fair play,” and because, since the Industrial Revolution, the technology of weapons has changed rapidly and competitively, key expectations about the “right way to fight” have often been unstable or uncertain for certain weapons or certain types of tactics. . . . Throughout history, nations who feel that particular legal arrangements favor the enemy and discriminate against them in some current of prospective conflict have struggled to replace them with more advantageous arrangements.

REISMAN & ANTONIOU, *supra* note 307, at xvii; (1994); Lord, *supra* note 29, at 322 (discussing the 1868 St. Petersburg declaration prohibiting the use of dum dum bullets); McCall, *supra* note 11, at 230 n.5, 277 (citing other instances of proscribed or restricted weapons); Captain J. Ashley Roach, *Certain Conventional Weapons Convention: Arms Control Or Humanitarian Law?*, 105 MIL. L. REV. 3 (1984) (arguing that the meaning of international law is ultimately determined by the practices of nations); Captain Paul A. Robblee, Jr., *The Legitimacy of Modern Conventional Weaponry*, 71 MIL. L. REV. 95 (1976) (detailing historical efforts to ban or restrict certain weapons).

killed, mine victims are usually maimed for life, thereby, draining the opposition of money, manpower, and public sentiment.³⁹⁵ Consequently, mines have become the weapons of choice for rogue nations and insurgents—one they will continue to use even in the face of an international ban.³⁹⁶ As former Marine Commandant retired General Carl E. Mundy claims, “It is fatuous to believe that an international accord, to say nothing of unilateral U.S. restraint in fielding self-destructing [anti-personnel landmines], will prevent such predations in the future.”³⁹⁷ Thus, one can see that if the United States signed the ban, it would not result in greater lives saved, but rather in more lives lost, with American soldiers absorbing many of the casualties.³⁹⁸

United States minefields usually consist of anti-tank mines surrounded by anti-personnel mines.³⁹⁹ The anti-tank mines are crucial to

389. As evidenced by the estimated 500,000 to 750,000 homemade mines currently deployed in the Balkans. *See supra* notes 115-117 and accompanying text. Most third world countries can easily mass-produce mines. *See Owsley, supra* note 45, at 207.

The huge existing stockpiles of mines in the arsenals of the world’s armies almost certainly guarantee that mines will be available somewhere for use by somebody (and some mines will undoubtedly be used, despite the threat of international bans and sanctions) well into the twentyfirst [sic] century, even if their production were to be completely shut off today.

McCall, *supra* note 11, at 278.

390. *See* Mundy, *supra* note 91 (saying that “there is not a way to verify a ban on production and stockpiling of something as easily and inexpensively manufactured as landmines”). *But see* Lightfoot, *supra* note 83, at 1561-62 (arguing that a total ban is the only solution because it is more easily enforced than the Protocols).

391. Lightfoot, *supra* note 83, at 1561-62.

392. *Id.* at 3-4. *See also* ROBERTS & WILLIAMS, *supra* note 49.

393. *See* Andrew C.S. Efav, *Land Mines Have Strategic Value . . .*, L.A. TIMES, Sept. 11, 1997, at B9.

394. *See* Andrew C.S. Efav, *Land Mines Should Be Limited, Not Banned*, THE SUN (Balt.), Sept. 9, 1997, 17A.

395. ROBERTS & WILLIAMS, *supra* note 49, at 5 (“Many kinds of anti-personnel landmines are designed specifically to maim, a tactic that is deliberately designed to overload an enemy’s logistical system.”); *see* DEADLY LEGACY, *supra* note 46, at 95 (quoting a landmine advertisement as saying that “operating research has shown that it is better to disable the enemy than to kill him”).

396. *See* Ary, *supra* note 50 (saying that landmines’ “continued use and the failure of the international community to impose effective restrictions is an indication of their military usefulness . . .”).

397. *See* Mundy, *supra* note 91. *See also* Willis, *supra* note 36, at 12 (calling the ban “not elegantly simple, but simply naïve”).

U.S. success on the modern day battlefield.⁴⁰⁰ They accounted for over one-third of all tank casualties during World War II and over two-thirds of all vehicle casualties in Vietnam.⁴⁰¹ But because anti-tank mines require several hundred pounds of pressure or exposure to a large magnetic field to detonate, they are worthless without anti-personnel mines in the same minefield.⁴⁰²

Without anti-personnel mines to “protect” the anti-tank mines, the enemy could simply walk in, pick up the anti-tank mines (possibly to use against U.S. forces later) and roll right through.⁴⁰³ Critics say that anti-handling devices,⁴⁰⁴ which the Landmine Ban allows, could do this job just as effectively.⁴⁰⁵ Yet anti-handling devices may prevent sappers from simply picking up anti-tank mines, but these devices will not stop a dismounted breach of the minefield.⁴⁰⁶ The breachers only have to use explosives to quickly clear a lane through the field.⁴⁰⁷

The United States current landmine policy has not and will not result in mass civilian casualties.⁴⁰⁸ The U.S. policy saves lives, the lives of U.S.

398. Some Vietnam veterans and scholars argue that American mines were used more effectively by the Viet Cong against the United States than by the United States against the Viet Cong. See Kroesen, *supra* note 99. But retired General Kroesen maintains that the mines used against Americans using American material were most often booby trapped hand grenades and artillery shells. *Id.*; see also 142 CONG. REC. S3420-21 (daily ed. Apr. 17, 1996) (statement of Senator Leahy that 7400 American soldiers were killed by landmines in Vietnam).

399. See Willis, *supra* note 36, at 12-14; Efaw, *supra* note 65, at A15

400. See Efaw, *supra* note 65, at A15.

401. See DUNNIGAN & NOFL, *supra* note 384, at 76; see also DUNNIGAN, *supra* note 50, at 80 (saying that anti-tank mines are cheap, the most feared anti-tank weapon and accounted for over 20% of tank losses in WW II).

402. See Shelton, *supra* note 83 (stating that the ban would “deny use of our mixed anti-tank munitions, which are critical to defeat enemy armored offensives . . .”); see also DUNNIGAN, *supra* note 50, at 68, 82 (saying anti-tank mines are commonly placed above ground and used in conjunction with anti-personnel mines).

403. See Efaw, *supra* note 65, at A15; Willis, *supra* note 36, at 14.

404. An anti-handling device is “a device intended to protect a mine and which is part of, linked to, attached to, or placed under the mine and which activates when an attempt is made to tamper with or otherwise intentionally disturb the mine.” Landmine Ban, *supra* note 30, art. 2.3.

405. United States studies have found anti-handling devices to be three to ten times less effective in that role than anti-personnel landmines. See Sherman Letter, *supra* note 34. GEN Mundy says the extension of the Ban to anti-personnel landmines that are being used as anti-handling devices is “[o]ne of the most troubling aspects of the Ottawa landmine ban.” Mundy, *supra* note 91.

406. See Spinelli Letter, *supra* note 32.

service members.⁴⁰⁹ Most recently, mines saved lives during Operation Desert Storm.⁴¹⁰ The Air Force hastily laid a large minefield in the face of two advancing Iraqi divisions.⁴¹¹ The minefield halted the Iraqis and protected the vulnerable left flank of the U.S. VII Corps.⁴¹² The Landmine Ban would significantly degrade the armed forces' ability to defend themselves in similar situations in the future.⁴¹³ Ultimately, a ban leaves mines in the hands of the "bad guys" and our soldiers defenseless.⁴¹⁴

407. *See id.* ("AHD's [anti-handling devices] prevent RE-USE of AT mines. . . . [while] AP [anti-personnel] mines prevent RAPID DISMOUNTED BREACH of AT [anti-tank] mines."). Anti-personnel mines are similarly used to protect concrete anti-tank barriers. *See* Steven Lee Myers, *One Step at a Time: Why Washington Likes Land Mines*, N.Y. TIMES, Aug. 24, 1994 available at <<http://www.nytimes.com/library/review/archive>>.

408. *See* Efaw, *supra* note 65, at A15.

409. *See* Shelton, *supra* note 83 (saying any policy more restrictive than President Clinton's present policy "may endanger the lives of [U.S.] troops. . . ."); *see also* Mundy, *supra* note 91 (1998) (saying that the landmine ban would "be extremely harmful to our military personnel and their ability to perform their missions").

410. *See* YATES, *supra* note 33, at 7-8; Myers, *supra* note 407.

411. *See* YATES, *supra* note 33, at 7-8; Myers, *supra* note 407.

412. *See* YATES, *supra* note 33, at 7-8; Myers, *supra* note 407.

413. *See* Efaw, *supra* note 65, at A15; Willis, *supra* note 36, at 14. General Shelton writes, "It is unwise to take this force protection tool from field commanders while the threat exists but alternatives do not." *Id.* Some legislators have suggested that a landmine proscription could be lifted if the United States gets involved in a war. *Id.* General Shelton responds:

It makes little sense to have a law on the books if we would rescind it as soon as the consequences become real. And unless or until it was rescinded, U.S. commanders in the field could face an absurd choice: Accept additional deaths and injuries to men and women of their command, or break the law.

Id.

414. *See* Lord, *supra* note 29, at 355 (saying that proscribing the use of landmines will not work "[u]ntil the military usefulness of landmine warfare subsides"); McCall, *supra* note 11, at 275. "Given current practices, the likelihood of successfully imposing a total ban on the use of such weapons currently appears to be very low, pending changes in custom, clear rejection of the antipersonnel mine as legitimate weapon of war by conventional military forces, and strict international enforcement of anti-mine moratoria." *Id.*