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## **IN ITS OWN WORDS**

### **The U.S. Army and Antipersonnel Mines in the Korean and Vietnam Wars**

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**Human Rights Watch**  
1522 K St, NW  
Suite 910  
Washington, DC 20005  
Tel: (202) 371-6592  
Fax: (202) 371-0124  
hrwdc@hrw.org

---

**Vietnam Veterans of  
America Foundation**  
2001 S Street NW, Suite 740  
Washington, DC 20009  
Tel: (202) 483-9222  
Fax: (202) 483-9312  
banminesusa@vi.org

## I. INTRODUCTION

Most of the world is poised to ban antipersonnel landmines, the indiscriminate weapons that kill or maim an estimated 26,000 civilians each year. More than 100 governments have committed to negotiating a comprehensive ban treaty in Oslo, Norway in September, with the intention of signing the treaty in Ottawa, Canada in December. Included are major U.S. allies such as France, Germany, Italy, and the United Kingdom—all significant producers and exporters of mines in the past—as well as many of the nations in which mines have been used most extensively, such as Angola, Bosnia, Cambodia, Croatia, Mozambique, and Nicaragua.

Thus far, however, the United States has said that it will not participate in the negotiations and is not prepared to sign a ban treaty as early as December 1997, despite the fact that in a major policy announcement on May 16, 1996, President Clinton pledged that the U.S. “will seek a worldwide agreement as soon as possible to end the use of all antipersonnel landmines.”<sup>1</sup> At that time, the president said that the U.S. must insist on two broad exceptions to a total ban on use of antipersonnel mines: (1) the right to use both long-lasting “dumb” mines and self-destructing “smart” mines on the Korean peninsula “until the threat is ended or until alternatives to landmines become available;” and (2) the right to use “smart” mines anywhere else “until an international ban takes effect.”

Yet, the military necessity of these exceptions is seriously called into question by the Pentagon’s own archival documents and by the assessments of numerous former military officers. In 1972 the U.S. Army’s Engineer Agency for Resources Inventories (EARI) produced *Landmine and Countermines Warfare*, a series of documents obtained recently by the Human Rights Watch Arms Project. “To my knowledge, this is the most complete series of studies on landmine and countermines warfare available to the military community,” wrote Robert L. Thompson, chief of the EARI, in an introduction to the fifteen volumes, which consist of military histories, unit records and monthly action reports of infantry, armor and engineer units, field manuals and operational plans.<sup>2</sup>

The *Landmine and Countermines Warfare* volumes show that disagreement within the U.S. military about antipersonnel mines is more a tradition than an anomaly. As early as 1954, *Marine Corps Gazette* published a sharp critique by Captain Richard Smith about a weapon he believed was more harmful than helpful in combat. “Nobody likes mines,” he wrote. “The engineers may admire their efficiency and the commanding general may appreciate the principles of their employment, but the fact remains that those who know them best hate them with a passion. The unexpectedness of their damage, the high percentage of lost limbs, their tendency to strike at friend and foe alike, and their limiting effect on the Marines’ time-honored offensive tactics—all these add up to make it the stepchild at the family reunion.”<sup>3</sup>

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<sup>1</sup> Statement by the President, The White House, Office of the Press Secretary, May 16, 1996.

<sup>2</sup> Robert L. Thomson, Chief, Engineer Agency Resources Inventories, U.S. Army, in a letter to Brigadier General Wayne S. Nichols, Director of Military Engineering, Office of the Chief of Engineers (Washington, D.C.: June 1972), republished in Herbert L. Smith, Senior Analyst, *Landmine and Countermines Warfare, Korea, 1950-54* (Washington, D.C., Engineer Agency for Resources Inventories, 1972).

<sup>3</sup> Richard W. Smith, “Nobody’s Favorite Weapon,” *Marine Corps Gazette*, October 1954, republished by Smith, *Landmines/Korea*, p. B-1.

While mine usage in a future war in Korea will not be identical to the earlier conflict, Captain Smith's assessment of the utility of antipersonnel mines has been echoed by military experts right up to the present. In April 1996 fifteen retired U.S. military commanders, including Lieutenant General Robert G. Gard, Jr., who commanded troops in Korea and Vietnam; Lieutenant General James F. Hollingsworth, former commander of all U.S. troops in Korea; General David Jones, former chairman of the Joint Chiefs of Staff; and General H. Norman Schwarzkopf, commander, Operation Desert Storm, publicly called on President Clinton to ban all types of antipersonnel mines: "We view such a ban as not only humane, but also militarily responsible. Given the wide range of weaponry available today, antipersonnel landmines are not essential. Thus, banning them would not undermine the effectiveness or safety of our forces, nor those of other nations."<sup>4</sup>

Former Marine Corps Commandant General Alfred Gray, Jr., has said, "We kill more Americans with our own mines than we do anyone else. We never killed more enemy with mines.... I know of no situation in the Korean War, nor in the five years I served in Southeast Asia, nor in Panama, nor in Desert Storm-Desert Shield where our use of mine warfare truly channelized the enemy and brought them into a destructive pattern."<sup>5</sup>

In reviewing this report, retired Lieutenant General David R. Palmer stated: "As a combat arms officer with thirty-five years in uniform either developing or teaching or implementing war-fighting doctrine, I seriously question the efficacy of antipersonnel mines. I never saw a situation where I thought the use of antipersonnel landmines would be wise militarily for American forces; nor can I envision one in theory."<sup>6</sup>

Combat experience taught these veterans that antipersonnel mines are of dubious military utility and likely to inflict a deadly "blow-back effect"—harming the very soldiers they are meant to defend. In Korea and Vietnam, for example, the main source of supply for mines for those fighting U.S. forces was captured U.S. mine stockpiles. In Korea U.S. troops were killed by their own defensive minefields. In Vietnam the U.S. Army estimated that ninety percent of the mines and booby traps used against its troops were either U.S.-made or were made with U.S. parts. One-third of all U.S. casualties in Vietnam were caused by mines and booby traps.

The Pentagon argument that antipersonnel mines serve as an important defensive weapon that safeguards American lives in combat is undermined by its own archival resources. Mines may have defended some American lives, but the Vietnam statistics also show that U.S. mine casualties were mainly caused by U.S. mines. "I have always been convinced that landmines did more harm than good in Korea, and I know a significant number of the landmines we encountered in Vietnam were of U.S. origin," remembers Lieutenant General Hank Emerson, recipient of two Distinguished Service Crosses, five Silver Stars and two Purple Hearts. "[Antipersonnel mines] are a horrible weapon, and they caused a very high proportion of our casualties in Vietnam."<sup>7</sup>

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<sup>4</sup> Full-page open letter to President Clinton, paid for by Vietnam Veterans of America Foundation, *New York Times*, April 3, 1996.

<sup>5</sup> Speech to the American Defense Preparedness Association's Mines, Countermines and Demolitions Symposium, Asheville, NC, September 7-9, 1993.

<sup>6</sup> Letter from Dave R. Palmer, LTG (Ret.), U.S. Army, President, Walden University, to Vietnam Veterans of America Foundation, June 4, 1997.

<sup>7</sup> Statement from Henry (Hank) E. Emerson, LTG (Ret.), to Vietnam Veterans of America Foundation, June 8, 1997.  
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Because of the desire of some in the U.S. military to hold on to this weapon as long as possible, President Clinton has been seeking a ban not through the fast-track "Ottawa Process" aimed at a ban treaty in December 1997, but through the notoriously slow United Nations Conference on Disarmament, a process expected to take many years, if not decades. After six months the Conference of Disarmament has been unable even to agree to put landmines on their agenda for discussion. A June 1997 *New York Times* editorial described President Clinton and Vice President Gore as "the main obstacles to American leadership on this issue. Despite ample political cover, they meekly yield to the wrongheaded opposition of the Joint Chiefs of Staff."<sup>8</sup> Yet, the Pentagon documents excerpted here show that many in the U.S. military want to see landmines banned as much as the Cambodian farmers, Afghan refugees and Rwandan genocide survivors who usually step on them.

## II. RECOMMENDATIONS

Human Rights Watch calls on the United States government:

- to drop its insistence that any ban on antipersonnel mines must include exceptions for the use of both long-lasting "dumb" mines and self-destructing "smart" mines on the Korean peninsula, and for the use of "smart" mines everywhere else. The U.S. military's own archival resources presented in this report indicate that antipersonnel mines do not play an essential role in defending Korea or protecting the lives of U.S. soldiers.
- to declare its support for the Ottawa Process, to participate in the treaty negotiations in Oslo in September, and to go to Ottawa in December 1997 to sign an antipersonnel mine ban treaty without exceptions for Korea or self-destruct mines.
- to undertake immediately unilateral steps toward a ban, including renunciation of the production of all antipersonnel mines, and development of a timetable for the destruction of both "dumb" and "smart" mines—as opposed to current policy which only calls for destruction of three-fourths of U.S. dumb mines and no smart mines.

## III. MINE WARFARE IN KOREA

The North Korean army swept across the frontier with South Korea in June 1950, triggering the Korean War that would continue for three years. "At first both sides made only limited use of landmines," wrote EARI senior analyst Herbert L. Smith in *Landmine and Countermine Warfare, Korea, 1950-54* (1972). "The North Koreans apparently had not planned to use them extensively, and the South Koreans were handicapped by shortages of all types which required improvisation, much of it ineffective."<sup>9</sup>

This relatively mine-free environment drastically changed when the U.S. entered the war in 1950 as the leading member of a United Nations coalition mandated to defend the South. "The United States was the primary source of supply for mines for the U.N. forces in the Korean War," wrote Smith.<sup>10</sup> When General Douglas MacArthur struck at Inchon in September 1950, the North Koreans slowed the U.S. advance by sowing captured U.S. mines. This was the first of several examples where U.S. mines actually frustrated its U.N. coalition field commanders and unintentionally aided their enemy.

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<sup>8</sup> *New York Times*, June 21, 1997, p. 22.

<sup>9</sup> Smith, *Landmines/Korea*, p. viii.

<sup>10</sup> *Ibid.*, p. 89.

China entered the war on the side of North Korea in November 1950. On New Year's Day 1951, the U.S. reported that its defensive minefields were folding under an onslaught of human wave assaults. The historian of the Eighth Engineers recalled: "Although the U.N forces had not been surprised this time, they were hard-pressed by the 'human sea' tactics of an enemy who was capable of clearing minefields by the simple expedient of sending men ahead to be sacrificed."<sup>11</sup>

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<sup>11</sup> Ibid., p. 16.

U.S. defensive minefields folded like a latter-day Maginot Line. The decision was made to abandon Seoul, and the U.S. suffered one of its worst military defeats. The retreat led to the capture by the North of even larger stockpiles of antipersonnel mines: "When the Chinese entered the Korean War, they apparently did not anticipate fighting defensive-type warfare, for they seem to have brought no mines with them. By the spring of 1951 they were using large quantities of mines in their withdrawal, most of them captured or improvised."<sup>12</sup>

An officer who served in an Engineer Combat Battalion in Korea in 1951-52 reported his observations about how North Koreans obtained huge amounts of antipersonnel mines: "The enemy found it easy to pick up [U.S.] mines in unguarded fields and lay them behind our own lines.... A second method of losing mines was abandonment. Too many mines were moved forward. A change in the tide of battle resulted in the loss of large quantities of mines. Under pressure of hasty withdrawal, mine-laying sometimes degenerated to pitching armed mines from the back of a moving truck.... After the Eighth Army had shipped 120,000 mines to units, only 20,000 were recorded or on hand. The remaining 100,000 were either abandoned or unrecorded!"<sup>13</sup>

Many of the same mines caused casualties among U.N. troops when they regrouped and marched on Seoul in the spring of 1951. "Along the front our own mines had caused an appalling number of casualties," recalled Captain Edward R. Hindman, who described an antipersonnel mine as "a killer without a brain. It is unable to distinguish between friend and foe."<sup>14</sup> In one incident, he said, "a divisional unit of company size was moving into [an] area when one man tripped a Bouncing Betty [antipersonnel mine]. Immediately two other men rushed to his aid, and one of them tripped another mine, killing himself and wounding the other. Other personnel tried to get to the wounded men, and more mines were set off. In a ghastly debacle that lasted only a few short minutes, a total of sixteen men were killed and wounded by our own mines.... How many other incidents, possibly not as serious as this one, have occurred among our units in Korea?"<sup>15</sup>

U.S. military doctrine allowed for the laying of mines in so-called "nuisance minefields." In the Department of the Army's 1952 Training Circular entitled *Landmine Warfare*, a nuisance minefield is described as "one laid to impose delay and disorganization on the enemy and to hinder his use of an area or route which may or may not be covered by supporting ground fire." Furthermore, the document notes that in a nuisance minefield "all types of mines, booby traps, dirty trick devices, and firing devices are used. The desired effects of demoralization, confusion, and fear are quickly gained by such use of mines." In fact, nuisance minefields "may be laid to standard patterns or may be scattered. Scattered mining is preferable because of added difficulty in removal by the enemy. Marking a nuisance minefield is not required unless the minefield will endanger friendly troops before it falls into enemy hands."<sup>16</sup>

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<sup>12</sup> Ibid., p. 18.

<sup>13</sup> Ibid., p. 51.

<sup>14</sup> Edward R. Hindman, "Forgotten Killers," *Infantry School Quarterly* (July 1953), republished by Smith, *Landmines/Korea*, p. B-1.

<sup>15</sup> Ibid.

<sup>16</sup> Department of the Army, *Training Circular 34: Landmine Warfare* (Washington, D.C.: November 14, 1952), pp. 63-65.

At the same time, field commanders *anticipated* that their nuisance minefields would cause casualties among their own men. Department of the Army Field Manual 5-32 candidly assesses the cost-benefit calculation that officers had to make before ordering the laying of unmarked mines: "They are not used unless the ground is to be abandoned to the enemy or the unit can sustain the losses involved in returning to an area containing nuisance minefields."<sup>17</sup>

Army engineers puzzled over how best to clear antipersonnel mines. The Korean landscape and climate presented serious challenges for mine clearance crews. Snow and freezing temperatures caused "erratic mine performance" in the winter. In the summer, rain and fog turned roads into muddy slush and visually impeded both mine laying and detection.<sup>18</sup> The engineers tried everything from running tanks through suspected mined areas<sup>19</sup> to turning flamethrowers on minefields.<sup>20</sup> They also urged that more resources be spent on mine detection and removal technologies, mine awareness, and safety in mine laying.<sup>21</sup> Korea also presented the Pentagon with the opportunity to manufacture new types of mines. The 534th Engineer Technical Intelligence Teams experimented with what was described as a fifty-five gallon napalm mine.<sup>22</sup>

There is some dispute about the number of U.S. troops killed and injured in mine blasts in Korea. In May 1969 the Medical Statistics Agency of the Department of the Army ruled that mine casualties in Korea were considerably less in number than casualties caused by shells and bullets. The Office of the Army Surgeon General reported that 305 men were killed in action by mines out of 18,498 killed, while 2,401 were wounded in action by mines out of 72,343 wounded in total.<sup>23</sup> Perhaps mindful that "fragmentation casualties" may have been excluded from the official count, as they were in Vietnam,<sup>24</sup> EARI senior analyst Herbert Smith commented: "Casualty figures alone, however, do not reflect the impact of mines as a weapon. The psychological effect of mines and minefields goes beyond the recording of numbers in operations delayed, plans disarranged, and objectives unachieved. These factors create an intangibility difficult to record statistically."<sup>25</sup>

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<sup>17</sup> Department of the Army, *Field Manual 5-32, Landmine Warfare* (1950), p. 41.

<sup>18</sup> Smith, *Landmines/Korea*, p. ix.

<sup>19</sup> According to one observer: "In one flat area we were really unorthodox. We exploded forty-five bounding mines by running a tank through it..." Smith, *Landmines/Korea*, p. B-5.

<sup>20</sup> Headquarters 536th Engineer Technical Intelligence Team, Department of the Army, *Use of Flame Thrower to Detonate Mines, Special Report No. 18*, Washington, D.C., May 25, 1952, published in Smith, *Landmines/Korea*, p. J-1.

<sup>21</sup> *Report of the Committee on Doctrine and Training, Annex 1*, Proceedings of Mine Warfare Panel convened at the Engineer Center, Fort Belvoir, Virginia, February 11, 1952.

<sup>22</sup> Smith, *Landmines/Korea*, p. FF-1.

<sup>23</sup> Medical Statistics Agency, Office of the Surgeon General, Department of the Army, *Effects of Type of Operation and Tactical Action on Major Unit Casualty and Mobility Experience—Korean War*, Washington, D.C., May 1969, republished by Smith, *Landmines/Korea*, p. CC-1.

<sup>24</sup> The issue of the Department of the Army's underreporting of mine casualties was broached by L. T. C. DeMaris, Chief of Mine Warfare Center, Hq, U.S.A.R.V.N. at the Mine-Countermine Conference, U.S.A.C.D.C., Fort Belvoir, Virginia, October 20-22, 1969. His comments were republished in Herbert L. Smith, Senior Analyst, Engineer Agency for Resources Inventories, *Landmine and Countermine Warfare, Vietnam, 1964-69* (Washington, D.C.: 1972), p. 28.

<sup>25</sup> Smith, *Landmines/Korea*, p. CC-1.

Smith also drew from the Surgeon General's statistics the conclusion that more U.S. mine casualties were caused by U.S. defensive minefields than were caused by mines encountered in offensive operations and pursuit operations against the enemy.<sup>26</sup> The obvious conclusion is that U.S. defensive minefields regularly ensnared their own men.

#### IV. MINE WARFARE IN VIETNAM

*Assumed you've heard what happened to me... To make matters short, I was walking point for my platoon on the 6th of August somewhere around 10 in the morning. I hit a booby trap. It was a pressure release type mine, therefore it was easily camouflaged and rough to spot. I lost most of my left leg and my left hand... I'll write when I have the chance.*

—Twenty-year-old Gordon S. Wise of Minneapolis, MN, who dictated this last letter to his family from his hospital bed in Chu Lai, Vietnam, August 11, 1970. He died two days later.<sup>27</sup>

The first U.S. soldier to die in battle in Vietnam was killed by an antipersonnel mine.<sup>28</sup> A mine awareness pamphlet distributed by the Army reminded its readers: "Mines and booby traps have been employed so often and effectively by the Viet Cong that the war has often been referred to as the 'War of Mines and Booby Traps.'"<sup>29</sup> Mines had a major influence in the way the ground war was fought, but conditions were very different from those encountered in Korea. Noted an Army official in 1967: "The biggest problem in fighting the enemy in Vietnam is finding him in order to fight him."<sup>30</sup>

In a July 1969 letter to the Army's Chief of Research and Development, the Deputy Commanding General in Vietnam summed up the scale of the problem facing his troops: "Our experience in Vietnam with mines and booby traps has not been pleasant. Mining incidents... are a major source of personnel casualties. The hardware available to detect mines or booby traps has been of limited value. Mine detectors are unacceptably slow or practically useless particularly when operating against non-metallic mines."<sup>31</sup>

The letter continued: "The increasing use of non-metallic mines, both home-made and factory produced items...has essentially thrown us back upon visual means as the primary mode of detection. The lessons we have learned here in Vietnam should not be interpreted as an isolated problem peculiar to this war only," and Vietnamese use of mines has "outstripped the capability of our counter systems to detect and destroy them. Vietnam has seen the emergence of mines as a major weapons system, used on a scale, relatively speaking, never before encountered."

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<sup>26</sup> According to Smith: "casualties from mines [were] highest along defensive lines." Smith, *Landmines/Korea*, p. CC-1.

<sup>27</sup> Gordon S. Wise, *Letters From Vietnam* (Minneapolis: Mr. and Mrs. G.V. Wise, 1971), p. 125.

<sup>28</sup> Engineer School, *Viet Cong Mine Warfare* (Fort Belvoir: undated), p. 1. Republished in Smith, *Landmines/Vietnam*, p. F-7.

<sup>29</sup> *Ibid.*

<sup>30</sup> U.S. Army, 1/101 Airborne Brigade, APO, *Combat Operations After Action Report, Operation Wheeler, September 11-November 25, 1967* (San Francisco: 1967), p. 13.

<sup>31</sup> Letter from Deputy Commanding General, Vietnam, to the Chief of Research and Development, Department of the Army, July 29, 1969, as republished by Smith in *Landmines/Vietnam*, p. 36. Two years earlier the 2/34 Armor Battalion had reported: "The VC [Viet Cong] are capable of interdicting any route, regardless of size, by the use of mines. They are also capable of mining jungle areas which they desire to protect." U.S. Army, 2/34 Armor Battalion, *Operational Report: Lessons Learned For Quarterly Period Ending January 31, 1967*, San Francisco, 1967, p. 12.



The Vietnam volumes of *Landmine and Countermine Warfare* reveal that the National Liberation Front (N.L.F.) was not reliant on Hanoi, Moscow or Beijing to supply it with antipersonnel mines. If anything, the Department of Defense knew that N.L.F. supply lines were modest and unsophisticated.<sup>32</sup> In fact, as the Pentagon knew for years, the enemy depended on U.S. mines to inflict heavy damage against U.S. troops and their equipment. By 1969 the Pentagon had conceded, at least internally, that the mine problem stemmed from *the U.S. military's own* unstable supply lines: "The enemy uses a very limited number of factory produced Soviet and Chinese Communist mines. The majority are fabricated locally in village or district munition factories from U.S. duds and refuse. *Ninety percent of all mine and booby trap components are U.S. origin* [emphasis added]."<sup>33</sup>

As in Korea, the Pentagon's decision to flood a war zone with antipersonnel mines led to a devastating "blow-back" effect that cost many U.S. lives. Landmines caused thirty-three percent of all U.S. casualties in Vietnam; twenty-eight percent of U.S. deaths were officially attributed to mines.<sup>34</sup> Individual units in the field suffered even higher percentage losses. The First Marine Division reported that during the last half of 1968, "57 percent of all casualties were from mines and booby-traps with a trend toward more injuries sustained by those men newly arrived in country."<sup>35</sup> One unidentified division reported that in one clash, 89.6 percent of its casualties were caused by mines and booby traps.<sup>36</sup>

During 1967 mines and booby traps caused 4,300 U.S. casualties. The following year the casualty figure ratcheted up to 5,800.<sup>37</sup> By 1969 the Chief of the U.S. Mine Warfare Center conceded that official casualty figures were almost certainly too conservative: "We suspect that the figures attributed to mines are low. It is probable that the classification 'fragmentation casualties,' which we have not counted, contains the results of many mines and booby traps incidents. Several divisions have reported, for example, that about half of their hostile casualties are inflicted by mines and booby traps."<sup>38</sup>

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<sup>32</sup> "The enemy supply system is at best, poor, and he has many shortages. Therefore he is a scavenger and is prone to police-up everything left behind by the U.S. soldier. Just the opposite is true of the U.S. soldier who seldom wants for supplies. This unit has moved into areas vacated by other units and found Claymores, 105 mm rounds, M-79 rounds and thousands of rounds of small arms ammo plus assorted types of other equipment." U.S. Army, 3/25 Infantry Brigade Task Force, *Operational Report: Lessons Learned, Quarterly Period Ending April 30, 1967* (San Francisco: 1967), p. 27.

<sup>33</sup> H.E. Dickenson, Chief of Staff, First Marine Division (Rein), *Division Order P3820.2A, Standard Operating Procedures for the First Marine Division: Countermeasures Against Mines and Booby-Traps* (San Francisco: Department of the Army Office, Chief of Engineers, February 1, 1969), p. 1-1, as republished in Smith, *Landmines/Vietnam* (1972), p. H-39.

<sup>34</sup> Harry N. Hambric and William C. Schneck, *The Antipersonnel Mine Threat: A Historical Perspective*, Symposium on Technology and the Mine Problem, Naval Postgraduate School, Monterey, CA, November 18-22, 1996, p. 15.

<sup>35</sup> Dickenson, 1969, p. 1-1.

<sup>36</sup> Department of the Army, Vietnam, *Battlefield Reports: A Summary of Lessons Learned, Appendix I*, vol. 2 (San Francisco: 1966), p. 181.

<sup>37</sup> Smith, *Landmines/Vietnam* (1972), p. 1.

<sup>38</sup> *Ibid.*, p. 28.

Douglas Kinnard, then commanding general of Second Field Force Artillery, had two tours of duty in Vietnam. He recalls that in late summer 1969 the New Hampshire National Guard Battalion lost five men from the town of Manchester in a mine blast on their last day of active duty. The mine, says Kinnard, was U.S.-made but relaid by the enemy: "You can imagine the effect on the unit and the people of New Hampshire."<sup>39</sup>

In one of the most audacious examples of minefield stripping recorded in Vietnam, rebels lifted 10,000 of 30,000 M-16 antipersonnel mines laid to form a protective minefield barrier in Phuoc Tuy Province. The mines were later used against the Australian troops who had laid them.<sup>40</sup> Even mines fitted with anti-handling devices were lifted for later use against U.S. troops.<sup>41</sup>

U.S. commanders constantly had to reassure their troops that antipersonnel mines, when properly employed, could be an asset in the field.<sup>42</sup> But faced with the reality that everything from dead bodies to their own discarded ration containers might be mined,<sup>43</sup> some U.S. troops even refused to use command detonated Claymore mines.<sup>44</sup> Their fears were apparently well-grounded. In December 1969 the Mine Warfare Center warned that "a review of casualty reports reveals an alarming number of incidents involving U.S. troops being injured by the untimely detonations of M18A1 Claymores or the blasting caps. An increased emphasis by small unit leaders on proper testing and handling procedures is needed to reduce unnecessary deaths and injuries."<sup>45</sup>

Several weeks before he stepped on an antipersonnel mine in Vietnam, Private Gordon S. Wise described the terror of fighting in mine-infested terrain in a letter to his family: "[Mines] are a horrible, senseless device that do nothing more than slow us down. We'd rather take on a thousand [enemy] in a firefight than have to walk through a *known* minefield."<sup>46</sup> Wise died from mine injuries received in a blast on August 11, 1970.

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<sup>39</sup> Letter from Douglas Kinnard, Brigadier General (Ret.), former commanding general of Second Field Force Artillery, Vietnam, 1969, to Vietnam Veterans of America Foundation, May 30, 1997.

<sup>40</sup> Smith, *Landmines/Vietnam*, p. 22.

<sup>41</sup> The August 1969 edition of *Mine Warfare Notes* carried a detailed account of what a captured North Vietnamese fighter told his interrogators about his experience of entering a U.S.-laid minefield of M-16 antipersonnel mines. The mines had been fitted with anti-handling M5 "mousetrap" firing devices: "I would approach the mine area on my hands and knees, palms down, fingers spread, and thumbs touching. Then I would feel carefully through the grass for the prongs of the firing device. When I located one, I dug around the mine and slipped a flat stick under the mine and on top of the 'mousetrap'. Holding the lid of the 'mousetrap' down, I removed the M-16, inserted a safety wire in the 'mousetrap', then placed a safety wire in the M-16." The Mine Warfare Center reported that "these recovery procedures provided the enemy with hundreds of mines." U.S. Mine Warfare Center, U.S. A.R.V., *Mine Warfare Notes*, vol. 1, No. 7 (August 1969), p. 3.

<sup>42</sup> In one instance mine warfare was compared by the Army to "vehicular safety. It requires continuing emphasis to insure individual awareness, alertness, mature judgement, and use of common sense." U.S. Mine Warfare Center, USAECV(P), *Mine Warfare Notes*, vol. 2, no. 2 (February 1970), p. 3.

<sup>43</sup> U.S. Army, 5/1 Special Forces (Airborne), *Operational Report: Lessons Learned For Quarterly Period Ending January 31, 1968* (San Francisco: 1968), p. 71.

<sup>44</sup> "This unit has found that individuals are afraid to detonate Claymores. They know how to set them up but they are hesitant about them because of numerous accidents that have been reported about personnel who have detonated Claymores that have been turned around by the Viet Cong, resulting in serious injuries to the friendly forces." U.S. Army, 27th Engineer Battalion (Combat), *Operational Report: Lessons Learned For Quarterly Period Ending October 31, 1967* (San Francisco: 1967), p. 22.

<sup>45</sup> Mine Warfare Center ASARV 96375, *Mine Warfare Notes*, vol. I, no. 2 (December 1969), published in Smith, *Landmines/Vietnam*, p. G-35.

<sup>46</sup> Wise, p. 114.

“Minefields should only be planted after careful consideration. They often do more damage to friends than to enemies,” cautioned Colonel Sidney Berry, commanding officer of a brigade of the 4th Infantry Division.<sup>47</sup> “The Division does not normally employ any type of mine. Mines constitute an obstacle and to be effective must be covered by fire and/or observation. Without cover, innocent civilians may be injured in minefields and an uncovered minefield will provide the enemy a source of mine supply. Mine warfare as envisioned in FM 20-32, *Land Mine Warfare*, is directed toward the conventional war and is not meant for the mobile, fast changing situations encountered by the 4th Infantry Division in the Central Highlands.”<sup>48</sup>

As in Korea, frustrated engineers experimented with a variety of mine clearance techniques, even copying the Korean examples of using tanks and napalm to explode mines.<sup>49</sup> And as in Korea, war conditions encouraged the manufacture of new types of antipersonnel mines, specifically a ‘flame mine’, and the M23 chemical mine, an antipersonnel mine that dispersed a nerve agent. Although the EARI did not cite specific instances where chemical mines were used in Vietnam, it is important to note what the Department of the Army’s Field Manual 20-32 said on the subject of nuisance minefields in that conflict: “All types of antitank and antipersonnel mines are used where appropriate, and when authorized, chemical mines may be laid.”<sup>50</sup>

The 18th Engineer Brigade acknowledged in January 1970 that: “The enemy deploys such a large variety of mines with such a variety of techniques that it is almost impossible to reach any worthwhile conclusion. An intensive study of local enemy techniques could be helpful but not significant to the point where it would reduce man-power requirements presently spent on mine-sweeping or radically improve the present mine detection rate.”<sup>51</sup>

## V. EPILOGUE: “SMART” MINES ARE A DUMB SOLUTION

While acknowledging the humanitarian crisis engendered by antipersonnel mines, many in the U.S. military continue to insist that the solution lies in the new generation of so-called “smart” mines. Advocates of smart mines say that these weapons pose little to no risk to civilians because they are designed to self-destruct (blow up) or self-deactivate (go inert) after a period of time—usually from one day to two weeks. Yet, just like dumb mines, smart mines are indiscriminate weapons that cannot differentiate between soldiers and civilians. They are “scattered” or “remotely delivered” by the thousands, usually by air or artillery, and blanket the ground.

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<sup>47</sup> Col. Sidney Berry, *Observations of a Brigade Commander, Lessons Learned Report 1966-67*, (Washington, D.C.: Office of the Adjutant General, 1967), published in Smith, *Landmines/Vietnam*, p. 54.

<sup>48</sup> *Ibid.*

<sup>49</sup> Said Col. Berry: “The Armor School probably disapproves of using tanks in this manner, but tanks and their crews survive mine explosions far better than bulldozers and their operators.” *Ibid.*, p. 50.

<sup>50</sup> Department of the Army, *Field Manual 20-32: Landmine Warfare* (Washington, D.C.: August 12, 1966), pp. 2-8.

<sup>51</sup> *Minesweep Operation SOP, Appendix 3, U.S.A.R.V. Mine Warfare Center, November 1970.*

In 1996 the International Committee of the Red Cross (I.C.R.C.) published a report by a military Group of Experts that called for an end to the use of antipersonnel mines, including smart mines.<sup>52</sup> The Group of Experts, all experienced combat veterans, studied antipersonnel mine use in twenty-six modern conflicts and concluded: "No case was found in which the use of antipersonnel mines played a major role in determining the outcome of a conflict.... The [strategic] effects of antipersonnel mines are very limited and may even be counterproductive [to those deploying them]."<sup>53</sup>

The Group of Experts voiced concern at the inevitability of civilians being trapped in aerially/remotely delivered smart minefields and concluded that smart mine technology was too unreliable and indiscriminate to be deployed: "Because of the vast numbers [of mines] involved, and the complete absence of any [mine] marking, it is likely that the number of civilian casualties resulting from a large-scale strike with remotely delivered mines will greatly exceed the casualty rates seen with conventional minefields. Although the mines may lie on the surface, they will not be visible in any depth of vegetation. Trained military units will be able to cope with the situation, but civilian populations will not. Even the doubtful benefit of self-destruction and self-deactivation at a later date will not prevent widespread casualties in the initial days after the strike. There is little doubt that the development of remotely delivered mines has increased the probability of a major rise in post-conflict mine casualties."<sup>54</sup>

Many military commanders are just as opposed to the use of smart mines as they are to dumb mines, in large part because of the risk of U.S. troops becoming ensnared in their own minefields. Former Marine Commandant General Alfred Gray has said, "What the hell is the use of sowing all this [scatterable smart mines] if you're going to move through it next week or month?... We have many examples of our own young warriors trapped by their own minefields or by the [old] French minefields [in Southeast Asia]. We had examples even in Desert Storm."<sup>55</sup>

The reliability of smart mine technology is a sensitive subject in the U.S. armed forces. Simply put, many commanders and soldiers do not trust smart mine technology.<sup>56</sup> Timothy Connolly, a Gulf War veteran and former Clinton Administration official, has told Human Rights Watch that during his tenure as Principal Deputy Assistant Secretary of Defense for Special Operations/Low Intensity Conflict he was privately informed by many officers that "they would never employ scatterables in their area of operations, even if those scatterables were designed to self-

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<sup>52</sup> International Committee of the Red Cross, *Military Use and Effectiveness of Antipersonnel Mines* (Geneva: I.C.R.C. Publications, 1996), p. 7. The Group of Experts consisted of retired military officers from Canada, India, Philippines, Netherlands, South Africa, Switzerland, United Kingdom, Zimbabwe.

<sup>53</sup> *Ibid.*, p. 8.

<sup>54</sup> *Ibid.*, p. 56.

<sup>55</sup> Speech to the American Defense Preparedness Association's Mines, Countermines and Demolitions Symposium, Asheville, NC, September 7-9, 1993.

<sup>56</sup> In 1996 Human Rights Watch determined that at least one U.S. antipersonnel smart mine system contained technological glitches that may yet threaten the lives of U.S. service personnel handling the devices. Only fifty thousand of a projected 183,000 Modular Pack Mine System (MOPMS) mines were ever manufactured. By the time production ended in 1993 amid lawsuits and allegations of defense contractor fraud and Pentagon incompetence, total costs had soared to \$209 million over fourteen years, or \$4,180 per mine. Scientists concluded that they were unable to produce a device that tested the self-destruct devices in each mine to one hundred percent accuracy. Court documents reveal that forty percent of MOPMS antipersonnel mines were hazardous, and potentially lethal, duds. See, Andrew Cooper, "Army Smart Mine System: Saga of Waste and Overruns," *Defense Week* (August 5, 1996), p. 6. Also see: Human Rights Watch Arms Project, "Exposing the Source: U.S. Companies and the Production of Antipersonnel Mines," *A Human Rights Watch Short Report*, vol. 9, no. 2 (G), April 1997.

destruct after a short period of time. Why? They were simply not prepared to risk the lives of their soldiers on the promise that the technology would work as designed."<sup>57</sup>

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<sup>57</sup> E-mail from Timothy Connolly to Human Rights Watch Arms Project, March 3, 1997.

Antipersonnel mines, regardless of their self-destruct ability, have never been popular with U.S. officers and commanders. "That they are a serious hazard to one's own troops is perhaps reason enough to do away with them, but there is another aspect that any thinking commander must consider—they are a hindrance to friendly maneuver every bit as much as to hostile movement," says Lieutenant General Palmer. "Our Army's battle doctrine is predicated on maneuver, on the very ability of units to shift rapidly on a fluid battlefield. And even mines sown by friendly forces get in the way of that freedom to maneuver—not to mention the debilitating effect of taking casualties from your own weapons."<sup>58</sup>

Palmer's observations are endorsed by Connolly: "A commander who uses antipersonnel mines—except in the most exigent, Alamo-like situation—is deliberately reducing his or her battlefield advantage of speed and flexibility." Connolly, while serving with the 82nd Airborne Division in the Gulf, ventured beyond Kuwait City after the fighting only to find miles of land riddled with unexploded scatterable smart mines. "I was also struck by the fact that U.S. minefields were unmarked; that no minefield maps were available; that the U.S. could not even provide a general area description of where the mines were supposed to have landed, let alone where they actually did."<sup>59</sup>

Recently declassified U.S. Army documents only hint at the problems U.S. scatterable mines caused in 1991 when U.S. troops stormed Iraqi defenses so rapidly that they inadvertently penetrated their own "live" minefields. One U.S. Army memorandum states: "The purpose of this message is to remind all XVIII ABN Corps soldiers to leave unexploded mines alone.... XVIII ABN Corps has suffered several severe injuries as a result of unexploded munitions being disturbed.... Coalition aircraft and enemy AAA have littered the Corps area of operations with dangerous unexploded ammunition.... Due to rapid Allied advance, activated Gator minefields could be encountered. Gator mines are box shaped. Four pound anti-armor and anti-personnel mines. They have been used to mine airfields, MSRS, approaches and bridges, and assembly areas. They extend trip wires, have magnetic influence fuses, and self-destruct at pre-set times. Extreme caution must be exercised in moving/maneuvering through areas where air strikes have been conducted."<sup>60</sup>

After surviving the liberation of Kuwait City on February 27, 1991, U.S. Sergeant Candelario Montalvo Jr. died from multiple fragmentation wounds in a mine blast.<sup>61</sup> Thirty-four percent of U.S. casualties in that conflict were caused by landmines—a statistic that makes smart landmines appear to be a dumb solution.<sup>62</sup>

## VI. ACKNOWLEDGMENTS

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<sup>58</sup> Palmer letter, June 4, 1997.

<sup>59</sup> E-mail from Timothy Connolly to Human Rights Watch Arms Project, March 3, 1997.

<sup>60</sup> Message Information Update, Subject: Unexploded Munitions, ARCENT, XVIII Corp February 28, 1991.

<sup>61</sup> Freedom of Information Act Request from Human Rights Watch to B.L. Thompson, Head, Freedom of Information and Privacy Acts Section, Administration and Resource Management, By Direction of the Commandant of the Marine Corps, March 6, 1997.

<sup>62</sup> Hambric and Schneck (1996).

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**APPENDIX**  
**AN OPEN LETTER TO PRESIDENT CLINTON**