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14. ABSTRACT The adoption of the <u>Ottawa Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and on Their Destruction</u> has created limitations on the flexibility and freedom of action of the Joint Force Commander. To reduce these restrictions, the United States must work with potential coalition partners to leverage an interpretation of the Convention language that allows for continued stockpiling of U.S. anti-personnel landmines in forward staging, gain free access to ports, airfields, and airspace within nations party to the Conventions, and develop innovative methods to maintain the coalition and reduce the legal implications on those partners willing to participate with the United States when anti-personnel landmines are required. The Joint Force Commander and his staff will also need to work with U.S. leaders to prevent the restriction on cluster munitions, and aggressively pursue alternative technologies to replace the indiscriminate anti-personnel landmines. By so doing, the United States will ensure the Joint Force Commander possesses a full weapons array with which to conduct the joint fight.					
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Implications of the Ottawa Convention on the Joint Force:
What's Next?

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: _____

16 May 2003

ABSTRACT

The adoption of the Ottawa Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and on Their Destruction has created limitations on the flexibility and freedom of action of the Joint Force Commander. To reduce these restrictions, the United States must work with potential coalition partners to leverage an interpretation of the Convention language that allows for continued stockpiling of U.S. anti-personnel landmines in forward staging areas in allied territory. The United States must also work to gain free access to ports, airfields, and airspace within nations party to the Conventions in order to maintain responsive strategic mobility. Without such storage and transportation capabilities, the Joint Force Commander will not possess his full array of warfighting capabilities.

Command and control arrangements, rules of engagement, and logistic support will also challenge the Joint Force Commander when operating with coalition partners party to the Ottawa Convention. He will need to develop innovative methods to maintain the coalition and reduce the legal implications on those partners willing to participate with the United States when anti-personnel landmines are required.

The Joint Force Commander and his staff will also need to work with U.S. leaders to prevent the restriction on cluster munitions. Strong international humanitarian concerns created the conditions for success of the Ottawa Convention. Currently, these same concerns are now driving similar efforts to reduce the humanitarian dangers caused by these munitions.

Lastly, the United States must aggressively pursue alternative technologies to replace the indiscriminate anti-personnel landmines. By so doing, the United States will ensure the Joint Force Commander possesses a full weapons array with which to conduct the joint fight.

The Joint Force Commander (JFC)¹ is confronted with a myriad of issues that affect his ability to conduct joint and combined operations with his full array of weapons systems. He must ensure he retains the flexibility to accomplish his assigned objectives across the military spectrum of conflict. This flexibility will often involve the employment of mines to defend friendly forces, and interdict, disrupt, or delay those of the enemy. However, the international ban on anti-personnel landmines (APLs), as encompassed in the Ottawa Convention (OC), threatens to limit the JFC's flexibility and options in the use of these and other weapons systems when conducting military operations with coalition partners.

The challenge does not simply involve the loss of the APL capability—the United States has already stated it will continue to use them as a force multiplier to maintain freedom of action and economy of force. The real issue involves the potential restrictions and challenges to overseas APL storage and transportation, and to the conduct of combined operations with partners who are signatories to the OC. The JFC has already lost some operational flexibility in the use of APLs because there are fewer pre-positioned sites, and fewer nations will allow transit through their territory. Accordingly, the JFC's ability to shape the battlespace is degraded. Furthermore, the JFC faces further limitations if the passionate and unrelenting efforts of landmine ban advocates are successful in achieving a total ban on landmines, as well as establish a moratorium on the use of cluster munitions. Accordingly, there are potential long-term threats that can seriously impact the United States' ability to conduct warfighting. In order to combat these threats, the United States must work with coalition partners to limit further restrictions on APLs, combat all efforts to restrict other weapon systems, and aggressively pursue alternative technologies to replace current APLs.

This paper will first lay out the background of the problem. It will provide a brief review of APL utility, U.S. policy, and describe the OC and its restrictions. Secondly, it will provide an analysis of the operational impact on the stockpiling and transporting of APLs in OC signatory nations, and on the conduct of combined operations with coalition and allied partners. Additionally, the paper will address recent efforts to develop APL alternatives, and address the emerging threat to cluster munitions. The paper will close with brief recommendations for mitigating some of the challenges presented.

The Military Utility of APLs

Anti-personnel landmines are defined as “mines designed to be exploded by the presence, proximity, or contact of a person and that will incapacitate, injure, or kill one or more persons.”² According to the OC, this also includes U.S. self-destructing anti-tank (AT) mines possessing anti-handling devices (AHDs) that allow for unintentional detonation by personnel.³ U.S. mines can be categorized into two groups; non-self destructing and self-destructing. U.S. self-destructing APLs are remotely delivered munitions within the family of scatterable mines (FASCAM), usually employed in a mixed array with AT mines. The mines available to the joint force (outside Korea) are the Area Denial Artillery Munition (ADAM), Remote Anti-Armor Munition (RAAM), and Gator (CBU 78/89) systems.⁴ These munitions contain mines set to self-destruct in 4 hours, 48 hours, and in the case of Gator, 15 days after delivery. These munitions also possess a self-deactivation capability whereby they deactivate in 120 days if they do not detonate as programmed.⁵

There has been much debate regarding the military utility of APLs during military operations. The debate centers on whether the military benefit gained from mines outweighs the collateral injury and death caused to noncombatants. To the landmine ban advocates,

international law prohibits the use of these weapons because they cause superfluous injury or unnecessary suffering. They argue that these mines gain little military utility as compared to the indiscriminate harm they cause to combatants and noncombatants alike.⁶ Others argue the loss of APLs will not significantly reduce the operational commander's ability to shape the battlespace. Accordingly, they claim these weapons have little or no utility in the 21st Century, where dominant maneuver and precision engagement are the latest tenets. They claim APLs are no longer relevant and useful on the fast paced battlefield of the future when considering the modern mechanized and explosive breaching capabilities, coupled with the advent of enhanced C4ISR.⁷

Conversely, the United States believes mines remain critical to the defense of its military forces, and are particularly important in providing economy of force when protecting early entry or light forces, which must be prepared to fight outnumbered during the initial stages of a deployment.⁸ U.S. doctrine identifies their operational role as restricting enemy maneuver to create friendly maneuver advantages, enabling air superiority by delaying efforts to repair damaged enemy airfields, disrupting the movement of mobile, surface-based air defenses and surface-to-surface systems, and interdicting enemy logistics operations in his rear area. U.S. forces used FASCAM during Operation DESERT STORM for exactly these purposes. U.S. forces employed approximately 118,000 scatterable mines to protect flanks, interdict airfields, and attack suspected SCUD missile launchers.⁹ These remotely delivered mines also allow for operational flexibility and surprise as the JFC can quickly deliver them across an enemy's line of operations, among his formations, or in his rear in the heat of battle. As such, they disrupt unit and formation maneuver, interrupt effective enemy C2, inflict physical damage, and add to the enemy's psychological stress.¹⁰ This can pose a considerable

dilemma for an opponent and severely degrade his morale and cohesion. APLs play a crucial role in this process by protecting AT mines from manual breaching by an adversary. The loss of these weapons potentially threatens the JFC's freedom of action and flexibility. Currently, the only method available to replace these munitions is to increase force structure and combat power. For example, one DOD study states that an additional 17,000 additional soldiers, 350 tanks, 410 Bradley fighting vehicles, and 168 more aircraft would need to defend Korea without the current NSD APLs minefields in the DMZ.¹¹

U.S. Policy

The United States believes the OC does not adequately consider legitimate U.S. national security requirements, nor does it accurately address humanitarian concerns.¹² The key to U.S. policy is the belief that these weapons serve a legitimate purpose when used appropriately by responsible militaries, and pose little threat to noncombatants when so employed. It is when used irresponsibly and indiscriminately that APLs pose a threat to noncombatants. For this reason, the United States led much of the initial effort to limit the indiscriminate use of landmines with the 1994 Protocol on Prohibition or Restriction on the Use of Mines, Booby Traps, and Other Devices (Protocol II) which amended the Conventions on Conventional Weapons (CCW).¹³ Protocol II prohibits the indiscriminate use of landmines and booby traps and prohibits the use of remotely delivered anti-personnel mines that do self-destruct and self-deactivate.¹⁴ It entered into force in 1996 and continues to undergo further refinement and acceptance through the annual status conferences.

The United States would rather see responsible APL use with restrictions placed through Protocol II, rather than a total ban on landmines through the OC. Currently, the United States is hesitant to remove a viable and useful weapon from its arsenal. DOD

leadership views the efforts to eliminate landmines with potentially far-ranging consequences for U.S. defense policy.¹⁵ They fear that this precedent could lead to further efforts to ban other systems necessary to the successful conduct of military operations.

The Ottawa Convention: The Beginning of the Dilemma.

Estimates from 1996 indicate that approximately 45-50 million landmines sewn in over 60 countries have maimed or killed approximately 26,000 people each year.¹⁶ This crisis has primarily been the result of the indiscriminate employment of APLs by undisciplined militias, insurgents, guerrillas, and ill-disciplined regular forces in the myriad of inter and intra-state conflicts over the past three decades. This has resulted in APLs looming in unmarked minefields, causing indiscriminate harm to any innocent who disturbs them. This perceived epidemic among noncombatants created an international outcry that became a powerful international movement.

Many non-governmental organizations (NGOs) view Protocol II as having failed to provide acceptable restrictions on APLs. Their ultimate goal is the total elimination of these mines throughout the globe. Spurred by the humanitarian landmine crisis, efforts by numerous NGOs (led by the Vietnam Veterans' of America Foundation) initiated a series of international conferences that rapidly brought the 1997 Ottawa Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and on Their Destruction into force. The speed of this enactment is but one indicator of the growing power and influence of these NGOs—an influence that the United States cannot ignore. These organizations now play a more influential role in security policy development on the international stage, and greatly affect the direction many nations take on humanitarian issues.

Currently, 133 nations are signatories to the OC, leaving 51 nations (to include the United States) yet to accept its restrictions.¹⁷ Article 1 of the OC forbids signatory nations from: using APLs; developing, producing, acquiring, stockpiling, or transferring APLs; and assisting, encouraging, or inducing anyone to engage in activities prohibited by the OC. Articles 1 and 4 also require the destruction of all APLs under the jurisdiction and control of signatories.¹⁸

Soon after the OC entered into force in 1999, some warned there would be potential conflicts for U.S. policy as some signatories would interpret it to be illegal for them to participate alongside the United States (or any other non-signatory with the intent of using APLs) in multi-lateral operations.¹⁹ Since then, interpretation of the OC language has been the subject of much debate and frustration for the parties involved. The landmine ban groups, such as the International Campaign to Ban Landmines (ICBL) and Human Rights Watch (HRW), advocate a more uniformly understood and strictly enforced treaty language.²⁰ However, a review of the OC and related signatory declarations indicates the Convention lacks an effective enforcement mechanism and the State-Parties lack an agreed upon understanding. It appears that signatories have interpreted the language to best suit their national interests at the expense of altruistic humanitarian intentions.

Remarkably, a number of signatories still possess AT mines that threaten individuals simply by stepping on the mine. Despite complaints from landmine advocates and other signatories, these nations consider their mines legal.²¹ During the January and May 2000 meetings of the Standing Committee of Experts on the General Status of Operations of the Convention of the OC, “governments argued their AT mines were legal, both because their fuses and AHDs fulfilled the letter of the treaty, and because their ‘use’ rules for deploying

mines would fulfill the spirit of the treaty by precluding civilian casualties.”²² This appears to support a broad interpretation of Convention language, which may ultimately provide more flexibility to the JFC in the conduct of joint operations. Some countries have clearly articulated their positions on participation with non-signatories, as well as the stockpiling and transit of APLs in their territory. Unfortunately, many have not yet made such declarations.

The Impact on Strategic Mobility

In order for the JFC to be responsive to crises, he must be able to quickly deploy and employ a decisive force in support of national security objectives. This responsiveness requires credible overseas stockpiles and unrestricted transportation of resources to the theater of operations. Several planning and execution challenges face the JFC concerning his ability to pre-position APL stocks and transport them through the territory of these signatories since the majority of nations are parties to the OC.

Critical U.S. pre-positioned stocks of APLs are currently located in several allied nations who are also signatories of the OC. These include Germany, Qatar, Japan, Greece, and the United Kingdom (on Diego Garcia).²³ Articles 1 and 4 of the OC require the destruction of all stockpiles under a signatory’s jurisdiction and control. According to landmine ban advocates, allowing a non-signatory to store APLs inside a signatory nation violates the spirit and intent of the treaty.²⁴ However, there is some inconsistency regarding the meaning of "jurisdiction" and "control." Italy, Spain, and Norway have interpreted that U.S. landmine stocks on their territories do in fact fall under their jurisdiction, thereby affording them the responsibility for removal or destruction.²⁵ In these cases, the United States withdrew these mines, but lost the rapid availability of APLs from those sites as the result. The nations who still allow U.S. APL storage believe these munitions come under U.S. control, affording them

no responsibility for their destruction. This has allowed the United States to retain these forward stockpiles which provide for continued operational flexibility and responsiveness.

Strategic movement of these munitions to or within the theater of operations will also require the permission and cooperation of several signatory nations. Accordingly, there may be limitations on the strategic mobility of U.S. forces and assets. Even where existing treaties allow for port access, transit, and storage of U.S. stocks and resources, it may no longer apply for APLs, as Article 1 of the OC prohibits signatories from transferring APLs through their territory.²⁶ Some signatories have interpreted “transfer” very strictly, thereby preventing ships and aircraft carrying APLs from entering their ports and landing on their airfields. The landmine advocates support this more strict interpretation. In their view, for example, Qatar (a signatory of the OC) would be in violation of the Convention if it were to allow the transshipment of APLs by the United States. Fortunately, not all nations have yet accepted this strict interpretation of the treaty, allowing for access by U.S. strategic mobility assets.²⁷ Combatant commanders and their staffs must understand the restrictions and limitations of each nation through which strategic mobility assets will transit.

Much of the international debate over the transfer of APLs has primarily focused on signatories’ land and sea territory, with little discussion involving airspace. This is one area that may certainly have significant bearing and influence on the future U.S. ability to deploy. Potentially, restrictive interpretation of the OC language could prevent overflight rights for aircraft carrying APLs, regardless if they land at an airfield in the signatory’s territory. This could result in delays and complications similar to those experienced when France refused overflight rights to U.S. aircraft conducting strikes from the United Kingdom into Libya during Operation EL DORADO CANYON in 1986. An even greater danger to U.S. strategic

mobility could be the prevention of overflight by aircraft simply carrying personnel destined to employ APLs in the theater.²⁸ This begs the question how restrictively nations will interpret the treaty in the future, or how far nations will let NGOs influence their national policies. This eventuality could negatively affect the ability to deploy the units and resources necessary to accomplish operational objectives. The joint force could face delays similar to those experienced when the Turkish Parliament rejected permission for U.S. forces to deploy through Turkish ports during Operation IRAQI FREEDOM. As a result, the Fourth Infantry Division was unavailable for the preponderance of combat action in Iraq. Though it appears these forces did not directly affect the outcome of the war, it could certainly have been significant had the Iraqis been a more worthy adversary.

Thus far, the U.S. possesses sufficient allies and potential coalition partners to allow for adequate pre-positioning and transport of APLs. However, U.S. national and operational leadership must monitor this situation very closely to prevent further degradation of U.S. strategic and operational flexibility. If the Italian, Spanish, and French interpretations (coupled with continued pressure from the landmine ban advocates) influence the remaining signatories to alter their positions, the United States could lose all forward pre-positioned APL stocks. This would require transportation from the United States or for them to come from pre-positioning assets afloat. The result would be a dramatic increase in the time necessary to make these munitions available to the joint force.

Impact on Combined Operations

When planning for combined operations, JFCs must consider the limitations placed on coalition partners since the OC will prohibit many from engaging in activities associated with the planning or employment of APLs.²⁹ Article 1 of the OC prohibits nations from using,

assisting, encouraging, or inducing others to use APLs. As previously mentioned, signatories have produced their own interpretations of the OC that determine the limits of their participation in multinational operations.

Fortunately for the JFC, it appears many potential partners are balancing military necessity with altruism and political pressures (in some cases from both international and domestic sources). Various countries have felt compelled to clarify their positions concerning the interpretation “use” as either “direct” or “indirect.” For example, Australia, the Czech Republic, New Zealand, Sweden, Zimbabwe, and the United Kingdom have no significant restrictions on operating with nations that desire to employ APLs, as long as they do not actively or directly participate in the planning or physical employment of these munitions.³⁰

Conversely, strict interpretation of this language prevents signatories from participating with any military force who employ APLs. Landmine ban advocates claim participation “would go against the spirit of a treaty aimed at an end to all possession and use of anti-personnel mines.”³¹ Supporting this view, the French declared they will not participate in any operations in which APLs employment occurs, and have made strong efforts to eliminate the use of APLs in any future NATO operations.³² Accordingly, the OC may affect the conduct of operations with long standing allied partners as well. Though NATO has not publicly released a precedent for APL restrictions, several NATO allies have voiced strong opinions that NATO operations should not involve APLs. These allies further indicate that they will not participate in NATO operations where APL employment is considered.³³

Tempered by partner interpretations, the OC will certainly place restrictions on coalition command relationships. Command and control of coalition forces will be very difficult in instances where mines are required. If the United States is the lead nation, it cannot

expect signatory nations to participate in the planning and employment of APLs. This may put U.S. forces at risk unless the JFC has the authority to employ APLs regardless of coalition rules of engagement (ROE) and command arrangements. Additionally, there is a danger that a coalition commander from a signatory nation be held legally liable if U.S. forces under his command employ APLs. In situations where APL employment is necessary, it is in the United State's best interests to assume leadership of the coalition; or at least retain operational control of its forces. This will reduce the possibility of putting a coalition partner at political and legal risk, while also ensuring U.S. security and freedom of action.

The OC will also certainly affect coalition ROE. Consensus on ROE will be significantly more difficult as several nations have declared they will most likely reject any ROE involving the use of APLs.³⁴ Those that do not reject the ROE outright may not follow direction to employ APLs. For example, a Dutch commander will not execute an order to use APLs when under non-signatory command. Instead, he will attempt to find an alternate means to accomplish the task.³⁵

The OC may also affect the level of assistance provided from a coalition partner while the U.S. force conducts mine warfare. Strict interpretation of "assistance" in Article 1 may significantly restrict coalition logistics support to non-signatories employing APLs. Though not yet fully debated, the impact of national policies may prevent coalition partners who are parties to the OC from providing fuel, water, subsistence, or medical care to U.S. forces. Unfortunately, this issue has not been tested and nations have not yet declared their interpretations on this subject. A more extreme interpretation could prevent signatory warships from escorting U.S. flagged ships containing APLs, or may prevent a signatory from

allowing a U.S. joint task force to base its headquarters in their territory while APLs are employed elsewhere in the theater.

APL Alternatives:

In order to resolve many of these issues, President Clinton declared that the United States would sign the OC by 2006 if “suitable alternatives to anti-personnel landmines and ‘mixed munitions’ can be identified.”³⁶ Developmental efforts in this area have involved both existing and emerging technologies, to include mixes of sensors, tasers, UAVs, robotics, man-in-the-loop systems, acoustics, chemical, electric, electromagnetic, mechanical, optical, and other non-lethal means.³⁷

Unfortunately, however, according to the National Research Council, it appears unlikely that the United States will field APL alternatives by the 2006 deadline established by President Clinton. They concluded, “Alternative technologies could one day effectively replace APLs without endangering U.S. forces or noncombatants, but that only concerted effort to increase expenditures and resources would produce some alternatives by 2006.”³⁸ Furthermore, some programs that demonstrate promise focus primarily on hand-emplaced, close-in force protection systems employed at the tactical level.³⁹ Therefore, they fail to achieve the desired influence across the breadth and depth of the operational battlespace.

A further challenge is the current reduction in spending on these efforts. Currently, DOD is only seriously pursuing two APL alternative programs; the Non-Self-Destruct Anti-Personnel Landmine Alternative and the Self-Healing Minefield.⁴⁰ The ongoing Bush Administration review of mine policy has placed some of the research and development efforts on hold,⁴¹ while cost/schedule performance deficiencies have delayed or canceled others. Two such programs, the Bounding Non-Lethal Munition (BNLM) and the Canister Launched Area

Denial System (CLADS), were terminated in FY 2001 because they did not produce desired results by established milestones.⁴² The added technical challenge consists of a lack of current technologies that can replace the full capability APLs provide in one package.

Additionally, there are legal and ethical challenges associated with developing APL alternatives. These systems and concepts will face intense scrutiny to determine if they violate other treaties and conventions, such as the Chemical and Biological Weapons Conventions. Those that cause neuro-physiological disorders and those that cause superfluous injury or unnecessary suffering, for example, could violate Protocol I of the Geneva Convention of 1977, and face similar efforts to restrict their use.⁴³

The Pressure Continues

The landmine ban advocates believe that use of APLs in combined military operations with NATO and other coalitions will undermine the global movement toward a complete ban and possibly put those nations at legal risk.⁴⁴ Accordingly, they are relentless in their efforts to convince non-signatories to sign the Conventions, as well in their pressure on signatories to establish restrictive policies. The landmine ban advocates' passion in this endeavor is unbridled. The lead advocates (HRW, ICBL, Mine Action Canada, etc.) continue to attend and drive agendas at the semi-annual meeting of the Standing Committee of Experts on the General Status of Operations of the Convention of the OC, as well as other forums. Both the JFC and U.S. leaders must remain wary of the advocates' ability to influence political agendas.

The Next Battle: Cluster Munitions

The United States relies heavily on cluster munitions in a myriad of roles on the modern battlefield. They are effective against air defense radar sites, armor forces, artillery, and infantry, as well as against enemy airfields. These munitions consist of various sub-munitions,

such as the BLU-97, dispensed by aircraft, Tomahawk Land Attack Missile, or the Army's Multiple Launch Rocket System (MLRS).

Despite their utility, however, these munitions experience an estimated five percent unexploded ordnance hazard caused by malfunction (dud rate). Knowing this, joint forces must consider the risk of collateral damage when planning the use of these munitions.⁴⁵ These duds may cause political implications on the conduct of combined operations. For example, because of the potential political fallout and possible danger to noncombatants, the Commander, United States European Command halted the employment of these munitions in Kosovo during Operation ALLIED FORCE after a technical failure killed 14 and wounded 28 civilians in the initial weeks of the air operation.⁴⁶

Recently there have been instances where these duds inflicted injury and death to noncombatants in Iraq and Afghanistan. NGOs estimate that approximately 12,400 submunitions failed to detonate in Afghanistan, posing a significant threat to noncombatants.⁴⁷ Though not officially outlawed by international treaties or conventions, the landmine ban advocates have begun to question the legitimacy of cluster munitions based on the noncombatant casualties. These organizations claim the five percent dud rate is excessive and, when found in dud-fields, pose the same danger to noncombatants as do APLs. Accordingly, these champions of the OC are now pursuing a moratorium against the use of cluster munitions.⁴⁸ Should they experience the same success as with the landmine ban, this could put the use of cluster munitions at grave risk; or at least create similar restrictions now facing the employment of U.S. mine inventories. This effort by the NGOs has caused great concern within DOD. Accordingly, the dud rate on cluster munitions is being looked at critically with the aim of sheltering these weapons from further scrutiny.⁴⁹

Recommendations

The first order of business for the JFC must be to retain the use of APLs and cluster munitions by limiting further restrictions on the stockpiling and transportation of these munitions. Combatant commanders must work with the Pentagon, State Department, and White House to aggressively battle the efforts of the landmine ban advocates. The combatant commanders can assist in this effort by working with nations in their area of operations to encourage a broad interpretation of the OC. Efforts through the Theater Security Cooperation Plan and military-to-military contacts can influence and convince partners that a flexible interpretation of OC language remains in the best interests of all involved.

Conversely, JFCs and their staffs must also plan for potential delays in strategic mobility should further restrictions come into force due to the landmine ban movement. The JFC must factor this in early in the planning in order to mitigate the effect to the greatest extent possible.

To avoid conflicts in C2 arrangements JFCs must understand the specific OC limitations placed on coalition armed forces. To avoid exposing partners to legal challenges and to avoid disagreements in ROE, the JFC can establish or recommend mission assignment and lines of operations based on partner OC status. For example, the coalition commander can assign signatory forces those missions and lines of operations that avoid placing them at risk of receiving benefit from or providing support to U.S. APL use. Review of the battlefield geometry in Operation IRAQI FREEDOM indicates that U.S. forces would have been free to employ FASCAM in their two zones of action (had it been necessary) while UK forces operated in Southern Iraq.

When planning for the employment of APLs and cluster munitions, JFCs must also consider the potential for civilian casualties. The JFC and his staff must understand the political impact associated with such collateral damage, both to overall coalition maintenance, and to world opinion. Casualties among noncombatants from these munitions can further strengthen the landmine ban argument. One solution to avoid such casualties is for the joint force to provide warning and education on APLs and dud cluster munitions to the population through continuous use of radio, TV, and leaflets.

The second order of business is to aggressively pursue alternatives to replace current APL capabilities (both for non-self-destructing and self-destructing mines). The combatant commander can influence the long-term solution by continually including the need for APL alternatives in his Combatant Commander's Integrated Priority List, and by working through his component headquarters to leverage Services to reenergize the development, funding, and procurement of alternative technologies.

Conclusions

In order to shape the battlespace, defend the force, and retain freedom of action, the JFC requires the capabilities APLs provide. Any further restrictions or loss of these and other weapons systems will degrade the JFC's ability to shape the battlespace, maneuver to a positional advantage over the enemy, and protect the force. This in turn may result in increased U.S. casualties and failure to achieve assigned objectives. Fortunately for the United States, diverse interpretation of OC restrictions has retained a certain level of flexibility for the JFC. However, as the ICBL and others continue their pressure to establish more restrictive and narrow interpretation of treaty definitions and language, these allies may face considerable internal and international pressures to change their policies.

The United States, therefore, must monitor the potential impact on future operations with greater scrutiny. In the long-term, the United States may face more restrictions, not only for the use of APLs, but on other weapons systems, such as cluster munitions. It is incumbent upon the United States to work with potential coalition partners to reduce further limitations caused by the landmine ban advocates. The United States must also reenergize its research and development programs to aggressively pursue feasible and effective alternatives to the current landmines. If the United States fails to gain the initiative in this battle, it will become reactive to the landmine ban groups, who will then drive the agenda. This we cannot allow.

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NOTES

¹ The term JFC refers to both geographic combatant commanders and joint task force commanders. Where specific reference is warranted to only one of these, the term JFC will not be used.

² Adam Roberts and Richard Guelff, eds., Documents on the Law of War, 3d ed. (New York: Black Shoe Books, 2000), 663.

³ Only those AT mines with AHDs that detonate by unintentional disturbances fall in this category. Those that detonate as a result of intentional actions to disarm the mine are not covered by the OC. The BLU-97 AT mines included in U.S. Gator possess AHDs that can detonate with unintentional actions by persons.

⁴ ADAM and RAAM are artillery delivered munitions. ADAM consists of SD APLs and RAAM contains SD AT mines. Gator is the air delivered dispensing munition that contains a mix of AT and AP mines.

⁵ Department of the Army, Mine/Countermine Operations, FM 20-32 (Washington, DC: 29 May 1998), 3-11. For the sake of this paper, the APLs and AT mines contained in MOPMS and VOLCANO are not discussed since they are essentially only used for tactical purposes.

⁶ Human Rights Watch, Clinton's Landmine Legacy (New York: 2000), 6.

⁷ Ibid.

⁸ Mary Cooper, "Banning Land Mines: Should the U.S. Support a Total Global Ban?" CQ Researcher (8 August 1997), 713.

⁹ General Accounting Office, Military Operations: Information on U.S. Use of Land Mines in the Persian Gulf War, Report to the Honorable Lane Evans, House of Representatives, Washington DC: September 2002, 8.

¹⁰ C.E.E. Sloan, Mine Warfare on Land (London: Brassey's Defense, 1986), 114.

¹¹ Department of Defense, "Cohen, Shelton Ask Relief From Land Mine Ban," DOD News Release, 11 May 1998. <http://www.defenselink.mil/news/May1998/n05111998_9805119.html> [29 April 2003]

¹² U.S. Department of State, "Ending the Tragedy of Landmines Through Innovations and Cooperation," Conference notes, Rotary International Conference, Seattle, WA: 30 September 2002.

¹³ The long title for the CCW is the Convention on Prohibition of Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects.

¹⁴ Roberts and Guelff, 540.

¹⁵ Dupuy Institute, Military Consequences of Landmine Restrictions (Washington DC: VVAF, Spring 2000), 5. <<http://vvaf.org/about/dupuy.pdf>> [14 April 2003].

¹⁶ Department of State, Hidden Killers (Washington, DC: May 1998), 2. The author was unable to ascertain current estimates or figures. However, if the international demining efforts are as successful as advertised, these numbers are likely to be reduced from the 1996 estimate.

¹⁷ Canadian Department of Foreign Affairs, "The Ottawa Convention Status Report," 15 March 2003. <<http://www.mines.gc.ca/convention-en.asp>> [2 April 2003].

¹⁸ Maxwell A. Cameron, To Walk in Fear: Solutions to the Global Movement to Ban Landmines, (New York: Oxford University Press, 1998): Appendix B.

¹⁹ Christian Capece, "The Ottawa Treaty and Its Impact on U.S. Military Policy and Planning," Brooklyn Journal of International Law (1999): 185.

²⁰ International Campaign to Ban Landmines (ICBL), Landmine Monitor Report 2002: Toward a Mine-Free World, (New York: Human Rights Watch, August 2002), 1. <<http://www.icbl.org/lm/2002/>> [21 April 2003].

²¹ Caleb Rossiter, Winning in Korea Without Landmines: Alternatives to Speed Victory and Reduce Allied Casualties, (Washington, DC: VVAF, Summer 2000), 9.

²² ICBL, Landmine Monitor Report 2002, 10. The Australian delegate declared that "if an anti-handling device is attached and it is independently triggered by tampering, it is legal."

²³ ICBL, 14; Human Rights Watch, Clinton's Landmine Legacy, 6.

²⁴ ICBL, 14; Human Rights Watch, Clinton's Landmine Legacy, 6.

²⁵ Scott C. Johnson, "Strategic Mobility, the Force Projection Army, and the Ottawa Landmine Treaty: Can the Army Get There?" (Unpublished Research Paper, U.S. Army Command and General Staff College, Ft Leavenworth, KS: 12 February 2001), 21; ICBL, 14.

²⁶ Scott C. Johnson, 20.

²⁷ Human Rights Watch, "Landmine Monitor Fact Sheet: Joint Operations, Foreign Stockpiling, and Transit," 7 February 2003. <http://www.icbl.org/lm/factsheets/pdf/joint_op_feb_2003.pdf> [31 April 2003]. Austria, Brazil, Croatia, the Czech Republic, Denmark, France, Guinea, Hungary, Italy, Namibia, New Zealand, Portugal, Samoa, South Africa, Spain, Sweden, and Switzerland each prohibit the transfer through, stockpiling,, or authorizing APLs on national territory. Canada, Germany, Japan, and Norway authorize transit of APLs through national territory, as long as host nation personnel or resources are not employed to assist in the movement or handling of APLs. All other signatories have not yet declared their official position.

²⁸ Scott C. Johnson, 2.

²⁹ Joint Chiefs of Staff, II-2.

³⁰ Roberts and Guelff, 665-666; Human Rights Watch, "Landmine Monitor Fact Sheet: Joint Operations, Foreign Stockpiling, and Transit." Australia has interpreted the term "use" to mean the actual physical emplacement of APLs, and does not include receiving indirect or incidental benefit from APL by another state or person as violating the treaty. Most signatories will not participate in planning and implementation of the activities related to APL use in combined operations. Brazil will reject operations if its military derive direct benefit from APL use. Norway requires obtaining written preconditions for placing forces under the command of a non-signatory.

³¹ ICBL, 12.

³² Ibid, 13.

³³ Ibid, 12-13. In June 1998, the French Defense Minister stated that France would prohibit the planned or actual use of APLs in any military operations by its military personnel. In March 1999, the Dutch Foreign Minister strongly declared that none of the NATO partners will assist the United States or Turkey with the use of APLs, and that APLs no longer play a role in NATO operations.

³⁴ Ibid, 12; Human Rights Watch, "Landmine Monitor Fact Sheet." Canada, France, Germany, Italy, Sweden, and the UK have declared they will reject rules of engagement permitting APL use or order to use APLs.

³⁵ Ibid, 13.

³⁶ William J. Clinton, "Humanitarian Demining," Presidential Decision Directive 64, May 1998. <<http://www.fas.org/irp/off-docs/pdd-64.htm>> [7 April 2003], 1.

³⁷ Terry Williams. "Filling an Operational Requirement: The Nonlethal Approach," (Unpublished Research Paper, U.S. Naval War College, Newport, RI: 13 Feb 1998), 13.

³⁸ National Research Council, Alternative Technologies for Anti-Personnel Landmines (Washington, DC: 21 March 2001), 45.

³⁹ Ken Swenson, Joint Non-Lethal Weapons Directorate, telephonic interview by author, 6 April 2003. According to the Joint Non-Lethal Weapons Directorate in Quantico, Virginia, the non-lethal weapons systems being developed demonstrate some application as alternates to APLs, but are limited and predominately focused at the tactical level of war. They require hand emplacement and cover small areas of terrain—too small to have an operational impact.

⁴⁰ Marc Cheek, Office of the Under-Secretary of Defense for Policy. <Marc.Cheek@osd.mil> "Response to Questions on Landmines." [E-mail to Peter S. Vercruysse <vercruyp@nwc.navy.mil>] 12 April 2003; Keith Feigenbaum, "Alternatives to Anti-Personnel Landmines," VVAF, <<http://maic.jmu.edu/journal/4.3/features/alternatives/alternatives.htm>> [31 March 2003]. The Anti-Personnel Landmine Alternative (APL-A) is a three-track program to develop APL alternatives. Track I efforts consist of man-in-the-loop (MITL) systems to replace SD and NSD landmines at the tactical level. Track I also includes the development of the RADAM, which is a combination of ADAM and RAAM mines in the same artillery shell. Since it contains APLs and AT mines with AHDs, this program violates the Ottawa Convention. Track II seeks longer-term solutions to include the Self-Healing Minefield concept. This concept involves remotely delivered "smart" mines networked with communications to sense a gap or breach in the field. They then can adjust their positions to fill in the gap. Track III involves technologies that will allow for AP and AT mines that detonate by a MITL or be debilitating without an individual activating the mine. The Track III effort is the most long-term program.

⁴¹ Marc Cheek. The Bush Administration review has been ongoing since 2001.

⁴² Ken Swenson, Joint Non-Lethal Weapons Directorate, telephonic interview by author, 9 April 2003; John H. Cline, "Presentation to the Joint Concepts and Integration Group for the Joint Non-Lethal Weapons Program" "Army Recommendation After Independent Assessment of the CLADs and BNLM Programs. 10 February 2000. Assessment indicates these programs are too immature technologically, possess little evidence of service budgetary commitment to procure, and question the unit cost versus military worth.

⁴³ Dennis B. Herbert, "Non-Lethal Weaponry: From Tactical to Strategic Applications," Joint Forces Quarterly, 21 (Spring 1999): 90.

⁴⁴ Human Rights Watch, Clinton's Landmine Legacy, 2.

⁴⁵ William S. Cohen and Henry H. Shelton, Report to Congress: Kosovo/Operation Allied Force After Action Report, Washington, DC: The Pentagon, 31 January 2000, page 90.

⁴⁶ Wesley Clark, Waging Modern War (New York: PublicAffairs, 2001), 296. The weapons in question malfunctioned, scattering 1,500 cluster sub-munitions short of the intended target.

⁴⁷ Jim Lobe, "U.S. Cluster Bombs Still Claim Lives in Afghanistan," Global News Bank, (18 December 2002). <<http://www.infoweb/newsbank.com/iw-search/we/>> [7 May 2003]. The author was unable to verify this statistic through official DOD sources. However, DOD has verified there is an estimated five percent dud rate with these munitions. This report is also consistent with others in the U.S. and foreign press.

⁴⁸ Paul Knox, "Dumping the Child-Killing Weapons is a Good Place to Start," The Globe and Mail (7 May 2003): A17; "Call for a Moratorium on Cluster Bomb Use, Production, and Transfer," Mennonite Central Committee <<http://www.mcc.org/clusterbomb/moratorium/>> [22 April 2003]; Mine Action Canada. "Call for Use of Cluster Munitions to Halt." Press Release, 3 April 2003. <<http://www.minesactioncanada.org/documents/iraq%20clusters.pr.pdf>> [22 April 2003]; Peter Slevin and Vernon Loeb, "Bush Urged to Limit Weapons in Iraq: Human Rights Groups Warn of Harm to Civilians From Land Mines, Cluster Bombs," Washington Post, 21 December 2002, sec. A, p. A12.

⁴⁹ Marc Cheek.