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ANTI-VEHICLE LANDMINE RESTRICTIONS: FAILURE IN ARMS CONTROL

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JCSP 43

Exercise Solo Flight

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EXERCISE *SOLO FLIGHT* – EXERCICE *SOLO FLIGHT*

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Maj D.T. Clarke

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“In essence, what we really should be arguing for is an Ottawa Process II. That would be a clear signal that there is will to continue working towards a global security order based on cooperative, democratic principles.”¹

INTRODUCTION

On an afternoon in November 2010, after a day of toiling in the chilli fields of rural Cambodia, a group of 14 men, women, and children piled onto a vehicle to return to their village. Less than an hour later, the 13 passengers had all been killed and the driver was seriously injured after the weight of the vehicle detonated an anti-vehicle mine, a legacy of decades of conflict in the region.² An entire community was instantly devastated and young children were left orphaned.³ Such indiscriminate killing by legacy landmines has led them to be called “weapons of mass destruction in slow motion” by former United Nations (UN) Secretary General Boutros Boutros Ghali, among others.⁴ As these types of tragedies have continued to be commonplace in the world,⁵ there have been ongoing calls for a ban on or the increased restriction of anti-vehicle mines.

When a committee of six non-governmental organisations (NGOs) launched the International Campaign to Ban Landmines (ICBL) in October 1992,⁶ they initiated a unique and dynamic movement that quickly achieved remarkable success. Only five years later, 122 nations gathered in Ottawa to sign the Mine Ban Treaty (MBT),⁷ and

¹ Lloyd Axworthy in Richard A. Matthew *et al*, *Landmines and Human Security: International Politics and War's Hidden Legacy* (Albany: State University of New York Press, 2004), xvii.

² Mines Advisory Group International, “Carnage” after anti-tank mine explodes, killing 13,” accessed 4 May 2017, <http://archive.maginternational.org/news/cambodia-carnage-after-antitank-mine-explodes-killing-13/>.

³ *Ibid.*

⁴ United Nations Meetings Coverage and Press Releases, “Press Release SG/SM/5968 DC/2548,” accessed 3 May 2017, <http://www.un.org/press/en/1996/19960422.sgsm5968.html>.

⁵ The Monitor, “Landmine Monitor 2016,” accessed 2 May 2017, <http://www.the-monitor.org/media/2386748/Landmine-Monitor-2016-web.pdf>.

⁶ Leon Sigal, *Negotiating Minefields* (Taylor and Francis, 2013), 1.

⁷ United Nations Treaty Collection, “Chapter XXVI Disarmament,” accessed 5 May 2017, https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVI-

committed to never again using or distributing anti-personnel landmines.⁸ In the years that followed, the movement continued to gather steam as nations rushed to be amongst the first to ratify the treaty,⁹ and the employment of antipersonnel mines has since been significantly reduced.¹⁰ Today, the use of antipersonnel mines is taboo and is largely limited to non-state actors.¹¹ Conversely, the less-famous initiatives to restrict the use of anti-vehicle mines¹² have largely faltered. Most notably, the recent attempts to restrict anti-vehicle mines through the protocols of the 1980 Convention on Prohibitions and Restrictions on the Use of Certain Conventional Weapons which may be Deemed to have Indiscriminate Effects (CCW) have failed to achieve consensus.¹³ Unlike the previous work with respect to antipersonnel mines, this initiative did not attempt to ban anti-vehicle mines, but only sought modest international restrictions on their use and transfer. Despite these relatively reduced goals, the proposed restrictions have been continually unable to achieve acceptance by the international community.

This paper is intended to analyse the factors that have impacted the international efforts to restrict the use of anti-vehicle mines. The surprising success of the ICBL and the resulting MBT will be used as a contrasting example in order to define the hindrances to a successful anti-vehicle mine negotiation. The paper will demonstrate that proposed

5&chapter=26&clang=_en. The official title of this treaty is the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction.

⁸ Jody Williams, Stephen D. Goose, and Mary Wareham, *Banning Landmines: Disarmament, Citizen Diplomacy, and Human Security* (Lanham: Rowman & Littlefield, 2008), 1.

⁹ *Ibid.*, 3.

¹⁰ *Ibid.*, 5.

¹¹ The Monitor, "Landmine Monitor 2016," ... In the year between October 2015 and October 2016, only the governments of Myanmar, Syria and North Korea employed these weapons. Antipersonnel mines were also reported to have been employed by non-state actors in up to 17 different states.

¹² Throughout this paper the term anti-vehicle mine will be used to describe the family of mines other than antipersonnel mines (MOTAPM), including anti-tank mines and other mines intended to be activated by a vehicle.

¹³ Frauke Lachenmann and Rüdiger Wolfrum, *The Law of Armed Conflict and the Use of Force: The Max Planck Encyclopedia of Public International Law* (Oxford;New York, NY: Oxford University Press, 2017), 635.

restrictions on the use of anti-vehicle mines have been unable to achieve broad international support due largely to the inherent difficulty in restricting the use of in-service weapons, the lack of engagement of civil society on this issue, and the fact that an international norm or taboo against the use of anti-vehicle mines has not yet been firmly established. After providing a brief background summary of the history of this issue, the factors influencing the restriction of anti-vehicle mines will be reviewed from the perspective of international relations (IR) theory. Each of realist, liberal, and constructivist viewpoints will be used to explain the failure of these negotiations. This will be followed by a more detailed analysis of three key influences in this debate. Specifically, the actual humanitarian impact of these weapons, their military utility on the modern battlefield, and the varied economic impacts of these weapons will be discussed.

BACKGROUND

The ICBL represents a uniquely notable success in international disarmament. In a short period of time, the use of antipersonnel mines transitioned from international acceptance to illegitimacy.¹⁴ While the resulting treaty has been commonly misconstrued as a complete ban on landmines,¹⁵ its provisions addressed only antipersonnel mines.¹⁶ While the ICBL certainly considered including the restriction of anti-vehicle mines

¹⁴ David Koplow, *Death by Moderation: The U.S. Military's Quest for Useable Weapons* (Cambridge, England; New York: Cambridge University Press, 2010), 143.

¹⁵ M. Patrick Cottrell, "Legitimacy and Institutional Replacement: The Convention on Certain Conventional Weapons and the Emergence of the Mine Ban Treaty," *International Organization* 63, 2 (2009): 217-48.

¹⁶ United Nations Treaty Collection, Chapter XXVI Disarmament ... Within the Mine Ban Treaty, an antipersonnel mine is defined as "a mine designed to be exploded by the presence, proximity or contact of a person and that will incapacitate, injure or kill one or more persons. Mines 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 antipersonnel mines as a result of being so equipped."

amongst its goals, it instead remained solely focused on the primary objective of banning antipersonnel mines,¹⁷ and the significant humanitarian threat that they posed.¹⁸

Concurrent to the multilateral work of the ICBL, negotiations towards the restriction of landmines were underway amongst the State Parties to the CCW, and in 1996 they adopted a number of restrictions on the design and use of landmines,¹⁹ though the bulk of these restrictions were surpassed a year later through the MBT.²⁰ As the MBT focused exclusively on antipersonnel mines, many stakeholders (including, notably, the government of the United States) remained motivated to further address the humanitarian impact of anti-vehicle mines.²¹ Proposals to restrict anti-vehicle mines were attempted during the second and third review conferences of the CCW in 2001 and 2006 respectively; however, no consensus could be reached and the States Parties elected to cease negotiations on this issue.²² Following the failed negotiation in 2006, a group of 25 nations²³ issued a Declaration on Anti-Vehicle Mines (DAVM).²⁴ They voluntarily agreed to conform to the following restrictions:

¹⁷ Jody Williams, Stephen D. Goose, and Mary Wareham, *Banning Landmines*, ... 39.

¹⁸ United Nations Office for Disarmament Affairs, "Mines Other Than Anti-Personnel Mines (MOTAPM)," accessed 30 April 2017, <https://www.un.org/disarmament/geneva/ccw/mines-other-than-anti-personnel-mines-motapm/>.

¹⁹ United Nations Treaty Collection, "CCW Amended Protocol II," accessed 2 May 2017, https://treaties.un.org/doc/Treaties/1996/05/19960503%2001-38%20AM/Ch_XXVI_02_bp.pdf.

²⁰ Frauke Lachenmann and Rüdiger Wolfrum, *The Law of Armed Conflict* ... 630-31.

²¹ United Nations Office for Disarmament Affairs, "Mines Other Than Anti-Personnel Mines (MOTAPM)," ... <https://www.un.org/disarmament/geneva/ccw/mines-other-than-anti-personnel-mines-motapm/>.

²² Frauke Lachenmann and Rüdiger Wolfrum, *The Law of Armed Conflict* ... 635.

²³ United Nations, "Fourth Review Conference of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects – Mines other than anti-personnel mines (MOTAPM)," accessed 24 April 2017, <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G11/647/01/PDF/G1164701.pdf?OpenElement>. Signatories to the DAVM were Albania, Australia, Bosnia and Herzegovina, Belgium, Bulgaria, Canada, Croatia, Denmark, El Salvador, Luxembourg, Estonia, France, Israel, Latvia, Lithuania, Netherlands, New Zealand, Norway, Republic of Korea, Romania, Serbia, Slovenia, The former Yugoslav Republic of Macedonia, United Kingdom of Great Britain and Northern Ireland and United States of America.

- (i) not to use any anti-vehicle mine outside of a perimeter-marked area if that mine is not detectable. ...
- (ii) not to use any anti-vehicle mine outside of a perimeter-marked area that does not incorporate a self-destruction or self-neutralization mechanism that is designed and constructed so that no more than ten percent of activated mines fails to self-destruct within forty-five days after arming; and not to use any anti-vehicle mine outside a perimeter-marked area unless it also incorporates a back-up self-deactivation feature that is designed and constructed so that, in combination with the self-destruction or self-neutralization mechanism, no more than one in one thousand activated mines functions as a mine one hundred twenty days after arming.
- (iii) to prevent the transfer of any anti-vehicle mine (a) to any recipient other than a State or State agency authorized to receive it; (b) if it does not meet the detectability and active life standards set out in this declaration, except for the purpose of destruction or for development of and training in mine detection, mine clearance, or mine destruction techniques; (c) to any State that has not stated the same policy that is set out in this declaration; and (d) without an end-user certificate.²⁵

The declaration went on to promise that if “in the future, and it appears possible that consensus may be achieved on a protocol on anti-vehicle mines, each of our governments intends to join other governments in renewed efforts to adopt such a protocol.”²⁶ While this issue has remained on the agenda of regular CCW meeting since 2006, significant progress towards consensus has not been achieved.²⁷ CCW States

²⁴ United Nations Office at Geneva, “Declaration on Anti-Vehicle Mines November 2006,” accessed 21 April 2017, [http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/98AD9D672EFB462BC125722E005DF3B4/\\$file/CCW+CONF.III+WP.16+AMEND.1+E.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/98AD9D672EFB462BC125722E005DF3B4/$file/CCW+CONF.III+WP.16+AMEND.1+E.pdf).

²⁵ *Ibid.*

²⁶ *Ibid.*

²⁷ United Nations, “Eighteenth Annual Conference of the High Contracting Parties to Amended Protocol II 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,” accessed 22 April 2017, <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G16/233/84/PDF/G1623384.pdf?OpenElement>.

Parties that have blocked these proposed restrictions have included China, Russia and Pakistan, citing a variety of national security and economic objections.²⁸

Despite these continued objections, proponents of anti-vehicle mine restrictions continue to work within the CCW in an attempt to build consensus. Studies have recently been commissioned to add credibility to the humanitarian arguments, and the list of supporting states has slowly grown.²⁹

ARMS CONTROL AND INTERNATIONAL RELATIONS THEORY

The debate in the United States leading up to the MBT has been described as a fight between realist and liberal ideologies.³⁰ This struggle has been used to explain how the United States, a key proponent of the mine ban movement and the world's largest supporter of humanitarian mine action, could also be one of the most notable hold-outs in refusing to sign the treaty.³¹ This apparent dichotomy saw realists maintain that the defence and security of the state and its allies (in this case, particularly, the security of South Korea) outweighed the potential humanitarian benefits of a total ban on antipersonnel mines. International liberalists on the other side of the debate argued that the landmine issue represented an opportunity for the United States to show leadership in international institutions and to build norms that would lead to increased international

²⁸ Wade Boese, "Cluster Munition, Anti-Vehicle Mine Limits Sought," *Arms Control Today* 36, no. 10 (2006): 41.

²⁹ United Nations Office of Disarmament Affairs, "Letter from Lieutenant Colonel Jim Burke, Friend of the Chair on MOTAPM, on the preparations for the Meeting of Experts," accessed 21 April 2017, https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/media/DD4CC9A9D3CCD6A2C12579C20031A78C/file/Letter_FriendoftheChair_MOTAPM_MX_PoW.pdf.

³⁰ Richard Matthew and Ted Gaulin, "Time to Sign the Mine Ban Treaty," *Issues in Science and Technology* 19, no. 3 (2003): 69-73.

³¹ *Ibid.*

cooperation.³² Despite the failure to convince the United States to join, the international success of the ICBL in stigmatizing the use of landmines has been described as a victory over realist ideology.³³ A similar comparison of IR theories can be useful in examining the factors influencing the potential restrictions on anti-vehicle mines.

Realist Viewpoint

A realist approach to landmine control and disarmament might argue that such treaties and conventions are essentially meaningless; that international laws and norms will not influence the behaviour of states when their national security is threatened.³⁴ When encountered with a choice between humanitarianism and military necessity, realism would predict that a state will err on the side of military necessity and national interest.³⁵ Such thinking can be seen to influence the decisions of states that have opposed conventions to further restrict the employment of anti-vehicle mines. During CCW meetings in 2012, several of the attending states continued to oppose the proposed restrictions for national security reasons. India spoke of the particular need for those countries with long borders to consider defence requirement in balance with humanitarian concerns,³⁶ while Russia³⁷ and Pakistan³⁸ both expressed concern regarding the political-

³² Leon Sigal, *Negotiating Minefields* ..., 54-55.

³³ *Ibid.*, 55.

³⁴ *Ibid.*, 241.

³⁵ *Ibid.*, 7.

³⁶ United Nations Office for Disarmament Affairs, "Statement from India at April 2014 Meeting of Experts on MOTAPM," accessed 23 April 2017, https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/media/4127AD61FB5498DEC12579D6004C258C/file/CCW_MOTAPMStatement_am_India.pdf.

³⁷ United Nations Office for Disarmament Affairs, "Statement from the Russian Federation at April 2014 Meeting of Experts on MOTAPM," accessed 23 April 2017, https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/media/AF01BBFA7095933EC12579D50028D4B1/file/CCW_MOTAPMStatement_am_Russian_Federation.pdf.

military implications of the proposed restrictions. Russia also claimed that non-detectability remains a crucial aspect of these weapons in conflict situations.³⁹ For the Chinese, national security concerns have previously trumped humanitarianism when considering landmine restrictions, and China has been described as ranging from “non-cooperative to obstructionist” in landmine negotiations.⁴⁰ These self-interested positions are fully in line with a realist approach, particularly given the long history of states having violated arms control agreements.⁴¹ Any concern that the conventions could be violated by one’s potential adversaries would be further aggravated by the toothless compliance provisions built into the CCW.⁴² These factors speak to the ideological differences between disarmament initiatives and arms control, and may assist in enhancing understanding of why some attempts at weapons restriction can fail, while a total ban on a similar weapon could succeed.

As long as potential adversaries maintain landmines in their arsenals, there is little reason for a state to trust that they will only be employed in compliance with international conventions in time of war.⁴³ Only through enacting a ban and eliminating the weapon from all arsenals can a realist be satisfied that they are not sacrificing their national security by acceding to the treaty. This is in line with previous arguments that the only

³⁸ United Nations Office for Disarmament Affairs, “Statement from Pakistan at April 2014 Meeting of Experts on MOTAPM,” accessed 23 April 2017, https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/media/63DC71B32DBE8DF5C12579DC00528DBC/file/CCW_MOTAPM_CorrectStatement_am_Pakistan.pdf.

³⁹ United Nations Office for Disarmament Affairs, “Statement from the Russian Federation at April 2014 Meeting of Experts on MOTAPM,” ..., https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/media/AF01BBFA7095933EC12579D50028D4B1/file/CCW_MOTAPMStatement_am_Russian_Federation.pdf.

⁴⁰ Jing-Dong Yuan, “Culture Matters: Chinese Approaches to Arms Control and Disarmament.” *Contemporary Security Policy* 19, no. 1 (1998): 85-128.

⁴¹ Colin S. Gray, *House of Cards: Why Arms Control must Fail* (Ithaca: Cornell University Press, 1992), 3.

⁴² M. Patrick Cottrell, “Legitimacy and Institutional Replacement: The Convention on Certain Conventional Weapons and the Emergence of the Mine Ban Treaty,” ..., 231.

⁴³ Mike Croll, *The History of Landmines* (Barnsley, England: Leo Cooper, 1998), 151.

way to effectively counter the humanitarian effect of mines is to enact a ban on these weapons; mine restrictions such as those proposed in the DAVM are seen as only half-measures that will open the door for some governments to continue to employ restricted weapons under the cover of compliance.⁴⁴

Liberal Viewpoint

Mine ban champion and Nobel Peace Laureate Jody Williams perhaps best espoused a liberal approach to landmine restrictions when she argued in support of “multilateralism and adopting a policy of greater adherence to international law as a better solution than military force to the multiple problems facing the globe.”⁴⁵ While a realist viewpoint has been useful in exploring the motivations of states that do not support anti-vehicle mine restrictions, a liberal viewpoint may also help us explain the motivations of those states that are supportive.

By placing faith in the protocols of the CCW, these nations are aligning with the liberal thinking that institutions can have power to influence state behavior.⁴⁶ For liberal democracies, such agreements represent opportunities for increased multilateralism and international cooperation.⁴⁷ Liberal theory also suggests that states are likely to accept arms control treaties when the restrictions align with their “ideational interests” and those

⁴⁴ David Koplow, *Death by Moderation: The U.S. Military's Quest for Useable Weapons* ..., 145.

⁴⁵ Jody Williams, Paul Wapner, and Gina Coplon-Newfield, “Sign the Mine Ban Treaty,” *Issues in Science and Technology* 20, no. 1 (Fall, 2003): 19-21.

⁴⁶ Stephen Hill, *United Nations Disarmament Processes in Intra-State Conflict* (Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2004), 16.

⁴⁷ Jody Williams, Paul Wapner, and Gina Coplon-Newfield, “Sign the Mine Ban Treaty,” ..., 19-21.

of their societies.⁴⁸ It therefore follows that societies possessing strong desires to ban or restrict potentially inhumane weapons would be supportive of such treaties.

Some degree of the opposition to anti-vehicle mine restrictions can also be explained through liberalist perspective. Perhaps most notably, the failures within the CCW can be seen as reinforcing the liberal position that civil society, and not only states, can play important roles in foreign policy;⁴⁹ when compared to the process leading to the Mine Ban Treaty, the negotiations within the CCW had significantly less active participation by non-state actors such as Non-Governmental Organizations (NGOs).⁵⁰ The success of the Mine Ban Treaty was largely linked to the manner in which the ICBL was able to build momentum outside of the traditional state mechanisms and leverage the global media and emerging information technologies.⁵¹ The movement to restrict anti-vehicle mines has not enjoyed the same diversity of supporters. This factor is further reinforced by opinions that the CCW had lost its legitimacy and was no longer able to fulfill its role as an effective multilateral institution.⁵² Liberal theory could also help to explain why some objections to the proposed restrictions within the CCW have been made on the basis that these discussions are divisive and could lead to further divisions amongst the States Parties to the convention.⁵³

⁴⁸ A Moravcsik, *Interdisciplinary Perspectives on International Law and International Relations : The State of the Art / Edited by Jeffrey L. Dunoff, Mark A. Pollack* (2013), 91.

⁴⁹ Short, "The Role of NGOs in the Ottawa Process to Ban Landmines," *International Negotiation* 4, no. 3 (1999): 483-502.

⁵⁰ *Ibid.*

⁵¹ Richard A. Matthew and Kenneth R. Rutherford, "The Evolutionary Dynamics of the Movement to Ban Landmines," *Alternatives: Global, Local, Political* 28, 1 (2003): 29.

⁵² M. Patrick Cottrell, "Legitimacy and Institutional Replacement: The Convention on Certain Conventional Weapons and the Emergence of the Mine Ban Treaty," ..., 217-48.

⁵³ Reaching Critical Will, "CCW Report: From Killer Robots to Incendiary Weapons: the CCW Preparatory Committee Previews Issues for the Fifth Review Conference," accessed 20 April 2017, <http://www.reachingcriticalwill.org/disarmament-fora/ccw/2016/prepcom/ccwreport/11147-ccw-report-from-killer-robots-to-incendiary-weapons-the-ccw-preparatory-committee-previews-issues-for-the-fifth-review-conference>.

It is notable that the anti-vehicle mine restrictions championed by the world's superpower were unsuccessful, while the MBT achieved success despite the lack of support from the United States. It has been argued that the fact that the United States did not support the MBT actually worked in favour of the ICBL, as the opportunity to join a multilateral movement in an apparent break with American dominance provided political motivation for many countries to join the treaty.⁵⁴ This surprised many American decision makers who had assumed that international treaties could not be negotiated without their participation, and it challenged notions about the indispensability of the United States in the international order.⁵⁵ By this logic, the leadership of the United States towards the restriction of anti-vehicle mines may actually be an impediment to its larger success.

Constructivist Viewpoint

The failure of the attempts to restrict anti-vehicle mines, and the comparative success of the MBT, can perhaps be best explained through social constructivism, given that this theory is useful in explaining the role of human consciousness in international relations.⁵⁶ While constructivism is a diverse concept without clear consensus,⁵⁷ a key aspect of constructivist theory maintains that the social structures and norms within a state have an important role in constructing that state's identities and interests.⁵⁸

⁵⁴ M. Patrick Cottrell, "Legitimacy and Institutional Replacement: The Convention on Certain Conventional Weapons and the Emergence of the Mine Ban Treaty," ..., 242.

⁵⁵ Leon Sigal, *Negotiating Minefields* ..., 241.

⁵⁶ John Gereard Ruggie, "What Makes the World Hang Together? Neo-Utilitarianism and the Social Constructivist Challenge." *International Organization* 52, no. 4 (1998): 856.

⁵⁷ Emanuel Adler, "Seizing the Middle Ground: Constructivism in World Politics." *European Journal of International Relations* 3, no. 3 (1997): 320.

⁵⁸ Alexander Wendt, "Collective Identity Formation and the International State." *The American Political Science Review* 88, no. 2 (06, 1994): 384.

Largely through the work of NGOs and other non-state actors during the 1990s, a new social norm regarding antipersonnel landmines was established in many states that would otherwise not have been expected to support the MBT.⁵⁹ This phenomenon was well illustrated by Japan, whose opposition to the MBT was reversed after strong NGO lobbying effectively introduced a new anti-landmine norm into Japanese society. This, in turn, convinced the Japanese government to counter the long-standing practice of alignment with American security policies.⁶⁰ These normative shifts have been used by constructivists to help to explain the success of the ICBL and the Ottawa process.⁶¹ Conversely, the negotiations towards the restriction of anti-vehicle mines have occurred without benefit of the same broad base of support and activism from civil society.⁶² Without the strong influence of social norms on this issue, states can be expected to act in accordance with their other material interests. It can be ineffective to restrict a weapon before a norm has been established to make that weapon sufficiently taboo.⁶³ This was well demonstrated by the complete ineffectiveness of the ban on gas attacks that was included in the 1899 Hague Declarations.⁶⁴

The lack of social pressure influencing the anti-vehicle mine debate has been linked to the manner in which the public urgency surrounding humanitarian threat of landmines began to dissipate following the success of the MBT.⁶⁵ There are those who

⁵⁹ Richard Price, "Reversing the Gun Sights: Transnational Civil Society Targets Land Mines." *International Organization* 52, no. 3 (1998): 614-5.

⁶⁰ Yoichiro Sato and Keiko Hirata. *Norms, Interests, and Power in Japanese Foreign Policy* (New York: Palgrave Macmillan, 2008), 61-62.

⁶¹ Richard Price, "Reversing the Gun Sights: Transnational Civil Society Targets Land Mines." ..., 614-5.

⁶² Short. "The Role of NGOs in the Ottawa Process to Ban Landmines." ..., 483-502.

⁶³ Leon Sigal, *Negotiating Minefields* ..., 243.

⁶⁴ International Committee of the Red Cross, "Final Act Of the International Peace Conference. The Hague, 29 July 1899," accessed 26 April 2017, <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument&documentId=8FCF14D950797012C12563CD00515C0A>.

⁶⁵ Leon Sigal, *Negotiating Minefields* ..., 228.

argue that the sense of international accomplishment that came with the rapid endorsement of the MBT and the awarding of 1997 Nobel Peace Prize have actually worked to hamper the further progress that was required for the restriction of landmines and other similar weapons.⁶⁶ In fact, the MBT has been mistakenly seen as having replaced the protocols of CCW by some.⁶⁷ With reduced attention on landmines, CCW negotiations and discussions have shifted to focus on other threats and priorities, most notably the threat posed by Improvised Explosive Devices.⁶⁸

HUMANITARIAN IMPACT

A key aspect of the arguments against further restriction of anti-vehicle mines has been the assertion that the humanitarian threat posed by anti-vehicle mines has been overstated.⁶⁹ During the November 2006 negotiations, the Russian representative emphasized that a credible case that anti-vehicle mines posed a humanitarian threat had not been made.⁷⁰ While that may have been the case in 2006, the body of research in this area has since increased. A detailed 2014 study by the Geneva International Centre for Humanitarian Demining (GICHD) directly addressed the humanitarian and developmental impacts of anti-vehicle mines. While admitting that the data remains incomplete, this study determined that anti-vehicle mines do pose a significant

⁶⁶ *Ibid.*

⁶⁷ M. Patrick Cottrell, "Legitimacy and Institutional Replacement: The Convention on Certain Conventional Weapons and the Emergence of the Mine Ban Treaty," ..., 217-48.

⁶⁸ United Nations, "Eighteenth Annual Conference of the High Contracting Parties to Amended Protocol II 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," ..., <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G16/233/84/PDF/G1623384.pdf?OpenElement>.

⁶⁹ Wade Boese, "Anti-Vehicle Mines Proposal Falters," *Arms Control Today* 36, no. 1 (2006): 37-37.

⁷⁰ *Ibid.*

humanitarian threat to civilians.⁷¹ The study also noted that the scope of the threat may exceed what can be measured, as communities without vehicles continue to unknowingly live among anti-vehicle mines.⁷² Other research has shown that in 2015, 78% of all landmine victims worldwide were civilians, while the total numbers of victims by each of antipersonnel and anti-vehicle mines were comparable (509 and 468 victims respectively).⁷³ While the most recent available reporting does not distinguish the percentage of anti-vehicle mine victims who were civilians, similar studies from 2010 have shown that “more than three-quarters of recorded anti-vehicle mine casualties are civilians.”⁷⁴ It has also been shown that the extensive presence of anti-vehicle mines in countries such as Cambodia, South Sudan and Afghanistan has contributed to the failure of development and recovery activities to take root.⁷⁵

While antipersonnel and antitank mines have largely been addressed separately through international treaties and conventions, humanitarian demining and mine action operations in the field are less discerning, and the humanitarian threat of both mine types are tackled as a common problem.⁷⁶ Even throughout past treaty negotiations, the line between these weapons systems has been blurred, as have their comparative humanitarian threats. This was seen through the exclusion of anti-vehicle mines with anti-handling

⁷¹ Geneva International Centre for Humanitarian Demining, “The Humanitarian and Developmental Impact of Anti-Vehicle Mines,” accessed 26 April 2017, <https://www.gichd.org/resources/publications/detail/publication/the-humanitarian-and-developmental-impact-of-anti-vehicle-mines/#.WQkmTMsZWM8>.

⁷² *Ibid.*

⁷³ The Monitor, “Landmine Monitor 2016,” ..., <http://www.the-monitor.org/media/2386748/Landmine-Monitor-2016-web.pdf>.

⁷⁴ The Monitor, “Landmine & Cluster Munition Monitor Fact Sheet,” accessed 24 April 2017, <http://the-monitor.org/media/984276/The-Humanitarian-Impact-of-Anti-vehicle-Mines.pdf>.

⁷⁵ Geneva International Centre for Humanitarian Demining, “The Humanitarian and Developmental Impact of Anti-Vehicle Mines,” ..., <https://www.gichd.org/resources/publications/detail/publication/the-humanitarian-and-developmental-impact-of-anti-vehicle-mines/#.WQkmTMsZWM8>.

⁷⁶ Jody Williams, Stephen D. Goose, and Mary Wareham, *Banning Landmines: Disarmament, Citizen Diplomacy, and Human Security* ..., 137.

devices from the original MBT, an omission that opened the door for these mines to be used in an antipersonnel role.⁷⁷ Also of note was the eventual insertion of the word “primarily” into the antipersonnel mine definition that read: “primarily designed to be exploded by the presence, proximity and contact of a person.”⁷⁸ This was considered to be a significant loophole by the ICBL, and they fought the change with no success.⁷⁹

It is clear from a review of the available research that there is now a credible case that anti-vehicle mines pose a significant humanitarian threat. While the responsible use of detectable anti-vehicle mines within marked perimeters will minimise this threat, the ongoing humanitarian impact of anti-vehicle mines currently deployed throughout the world is undeniable.⁸⁰

MILITARY NECESSITY

Fundamental to arguments against restricting anti-vehicle mines have been discussions surrounding their degree of military necessity. However, claims that anti-vehicle mines are an absolute military necessity should be placed in context of similar claims made regarding antipersonnel mines prior to the work of the ICBL. Throughout the Cold War it had been accepted that antipersonnel landmines could not be replaced or avoided on the modern battlefield without sacrificing vital operational effectiveness.⁸¹ Military establishments staunchly opposed a mine ban, citing the important defensive role

⁷⁷ Leon Sigal, *Negotiating Minefields* ..., 34.

⁷⁸ United Nations Treaty Collection, Chapter XXVI Disarmament ...

⁷⁹ Leon Sigal, *Negotiating Minefields* ..., 85-86.

⁸⁰ Geneva International Centre for Humanitarian Demining, “The Humanitarian and Developmental Impact of Anti-Vehicle Mines,” ..., <https://www.gichd.org/resources/publications/detail/publication/the-humanitarian-and-developmental-impact-of-anti-vehicle-mines/#.WQkmTMsZWM8>.

⁸¹ M. Patrick Cottrell, “Legitimacy and Institutional Replacement: The Convention on Certain Conventional Weapons and the Emergence of the Mine Ban Treaty,” ..., 229-30.

played by antipersonnel mines.⁸² However, as momentum built towards a mine ban, it became more evident that the utility of antipersonnel mines was questionable, particularly in a post-cold war context.⁸³ Support for the mine ban amongst military leaders began to increase through the mid-1990s, as it became more evident that less controversial weapons could be employed in the place of antipersonnel mines without a significant degradation of effectiveness.⁸⁴ This historical lesson certainly begs a closer analysis of the true utility of anti-vehicle mines, and whether this weapon may also be replaceable by other technologies.

A review of the available data and research suggests it would be difficult to make a credible argument against accepting restriction on anti-vehicle mines on the basis of military necessity. The sort of smart anti-vehicle mines that would be mandated under the proposed restriction are of more utility than the so called 'dumb mines' that do not include such features as self-destruction or self-neutralization mechanisms.⁸⁵ Such mines are less likely to have a lasting negative impact on the manoeuvre of friendly forces, or to pose the same dangers to non-combatants.⁸⁶ In turn, land forces may be more apt to employ these weapons without the same concern for unintended consequences.⁸⁷ Also pertinent is the historical record on the employment of anti-vehicle mines. The potential ineffectiveness of minefields and anti-vehicle mines against modern breaching equipment may have been best demonstrated by the remarkable ease with which coalition

⁸² Chris Smith and University of London Centre for Defence Studies, *The Military Utility of Landmines?* (London: North-South Defence and Security Programme, Centre for Defence Studies, University of London, 1996), 9-11.

⁸³ *Ibid.*, 98-104.

⁸⁴ *Ibid.*

⁸⁵ David Koplow, *Death by Moderation: The U.S. Military's Quest for Useable Weapons ...*, 146.

⁸⁶ *Ibid.*

⁸⁷ *Ibid.*

forces were able to breach significant Iraqi minefields during the First Gulf War.⁸⁸ While the ineffectiveness of the Iraqi minefields in this example may have had as much to do with the failure of Iraqi forces to effectively cover and observe their obstacles than can be attributed to weaknesses in the mine technology itself,⁸⁹ other examples such as the Yom Kippur War have provided similar evidence.⁹⁰

Other historical research not specific to anti-vehicle mines has demonstrated that a “systematic combination of other lethal weapons (i.e. tanks, air power, artillery, mortars, and machine guns)” could provide as much battlefield effect as minefields (or more).⁹¹ It is also argued that the time consuming process of placing and removing tactical minefields is of limited utility in the fluid manoeuvre warfare espoused by many land forces today, and in fact may do more to impede effectiveness.⁹² This factor has been cited as causing a reluctance of American forces to employ minefields during recent conflicts.⁹³ The security of South Korea is among the most commonly cited examples by those arguing for the continued necessity of landmines;⁹⁴ however, those arguments have centred around the requirement for antipersonnel mines, and both the United States and the Republic of Korea have supported the restrictions in the DAVM.

An analysis of the military necessity of anti-vehicle mines would be incomplete without a brief discussion of emerging technologies that have the potential to render these weapons obsolete. The group of future and emerging technologies that are anticipated to

⁸⁸ Thomas Houlahan, “Mine Field Breaching in Desert Storm,” *Journal of Mine Action* 5.3 (December 2001).

⁸⁹ Roger Roy and Shaye Friesen, *Historical Uses of Anti-Personnel Landmines* (Department of National Defence, 1999), 47.

⁹⁰ Spencer Tucker and Priscilla Mary Roberts, *The Encyclopedia of the Arab-Israeli Conflict: A Political, Social, and Military History* (Santa Barbara, Calif: ABC-CLIO, 2008), 679.

⁹¹ Roger Roy and Shaye Friesen, *Historical Uses of Anti-Personnel Landmines* ..., 47..

⁹² David Koplow, *Death by Moderation: The U.S. Military's Quest for Useable Weapons* ..., 140.

⁹³ *Ibid.*, 140-41.

⁹⁴ *Ibid.*, 139.

replace the requirements for both antipersonnel and anti-vehicle mines are collectively referred to as Area Access Control (AAC) systems.⁹⁵ This group of technologies could employ a wide variety of lethal or non-lethal effectors.⁹⁶ They include such rudimentary obstacles as traditional walls and barriers, but also future and emerging technologies such as directed laser or microwave radiation.⁹⁷ While some technologies in this group that are under consideration by NATO are yet to be developed (on a 3-10 year timeline as of reporting in 2014),⁹⁸ others are readily available current technologies.⁹⁹

Despite the variety of future options under consideration, the anti-vehicle mine has not yet been replaced in the arsenals of most conventional militaries, and it remains a critical component of land force anti-armour tactics and the manner in which the manoeuvre of enemy armour is shaped on the battlefield.¹⁰⁰ It is not credible to claim that anti-vehicle mines do not have military utility,¹⁰¹ and as such it is likely that the total elimination of this weapon remains out of reach until it can be effectively replaced by emerging technologies.

Any current irreplaceability of anti-vehicle mines does not, however, adequately explain the objections from some states to the modest restrictions proposed in the DAVM. These three proposed restrictions to not prohibit the sort of marked and/or smart minefields that are required to meet the needs of professional armies to shape the

⁹⁵ NATO Industrial Advisory Group, *Study Group 174, Study Report - Area Access Control Capabilities* (2014), 5.

⁹⁶ *Ibid.*, 28-31.

⁹⁷ *Ibid.*

⁹⁸ *Ibid.*, 3.

⁹⁹ *Ibid.*, 28-31.

¹⁰⁰ National Defence, *B-GL-361-201/FP-001 Counter-Mobility – Obstacles, Study Draft* (2012), 96.

¹⁰¹ Chris Smith and University of London Centre for Defence Studies, *The Military Utility of Landmines?* ..., 98.

movement of enemy forces.¹⁰² For this reason, the arguments against the further restriction of anti-vehicle mines on the grounds of military necessity are largely unconvincing.

ECONOMIC

China has specifically objected to the increased restrictions included in the DAVM due to the economic cost of upgrading landmine technology;¹⁰³ however, those expenses should be considered in contrast to the alternative economic costs of inaction. Removal of landmines following conflict has been estimated at costing US\$300-1,000 per mine,¹⁰⁴ while the cost to produce a landmine can be as little as 1% of this figure.¹⁰⁵ Despite reduced global investment in demining in recent years,¹⁰⁶ the costs are still staggering. In 2015, 171 km² of minefields were reported as having been cleared worldwide (172,000 mines, 8% of which were anti-vehicle mines), while the international community invested US\$352 million on mine action in that same period. That is an investment of over US\$2,000 for every mine removed.¹⁰⁷ These demining costs add to the many other economic tolls taken by legacy landmines. Victims of mine strikes require a lifetime of support from society, including medical care, rehabilitation, and psychological

¹⁰² United Nations Office for Disarmament Affairs – MOTAPM Documents, “Non-paper by Australia titled ‘Understanding Detectability’,” accessed 8 May 2017, <https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/media/61301A634B858DD2C12579CA0059B548/file/CCW%2BMOTAPM%2B-%2BAustralian%2Bnon%2Bpaper%2Bon%2Bdetectability.pdf>.

¹⁰³ Wade Boese, “Anti-Vehicle Mines Proposal Falter,” ..., 37-37.

¹⁰⁴ Nicolas Walsh and Wendy S. Walsh. “Rehabilitation of Landmine Victims--the Ultimate Challenge.” *Bulletin of the World Health Organization* 81, no. 9 (2003): 665.

¹⁰⁵ Neil Andersson, Cesar Palha Da Sousa, and Sergio Paredes. “Social Cost of Land Mines in Four Countries: Afghanistan, Bosnia, Cambodia, and Mozambique.” *BMJ: British Medical Journal* 311, no. 7007 (1995): 718-721.

¹⁰⁶ The Monitor “Global Support for Mine Action 2011-2015,” accessed 26 April 2017, <http://www.the-monitor.org/media/2397038/Support-for-Mine-Action-2011-15-Infographic.pdf>.

¹⁰⁷ The Monitor, “Landmine Monitor 2016,” ..., <http://www.the-monitor.org/media/2386748/Landmine-Monitor-2016-web.pdf>.

and social support.¹⁰⁸ Perhaps less tangible are the staggering economic losses that can result from the arable land lost to the world's minefields. Considering that there remain 20 different states that still have more than 20 km² (approximately 5,000 acres) of unusable land due to minefields,¹⁰⁹ the economic impact begins to become evident. The effect of this lost farmland is particularly severe in the agrarian economies of the developing world.¹¹⁰ In some cases even the suspicion of a mine threat can have a large impact on agricultural productivity.¹¹¹ Anti-vehicle mines can have a particularly severe impact on agriculture and development due to the manner in which they can inhibit a region's progress towards modern farming practices. As such modern practices often require increased vehicle usage and infrastructure expansion, they can make the local population particularly vulnerable to anti-vehicle mines.¹¹²

These factors should not diminish the fact that states can incur significant expense in the development of new landmine technologies. Between 1999 and 2004, the United States spent over US\$319 million on the development of treaty-acceptable replacements for antipersonnel mines,¹¹³ and many of the states reliant on older 'dumb mine' technologies have significantly less capacity to absorb these types of research and development costs. In fact, the low economic cost of landmines has historically been one

¹⁰⁸ United Nations General Assembly, *A/70/207 Assistance in Mine Action Report of the Secretary-General*, (2015), 10.

¹⁰⁹ The Monitor, "Landmine Monitor 2016," ..., <http://www.the-monitor.org/media/2386748/Landmine-Monitor-2016-web.pdf>. 11 of those 20 states actually have more than 100 km² of minefields.

¹¹⁰ Gregory Bier, "The Economics Impact of Landmines on Developing Countries." *International Journal of Social Economics* 30, no. 5 (2003): 651-662.

¹¹¹ *Ibid.*

¹¹² Geneva International Centre for Humanitarian Demining, "The Humanitarian and Developmental Impact of Anti-Vehicle Mines," ..., <https://www.gichd.org/resources/publications/detail/publication/the-humanitarian-and-developmental-impact-of-anti-vehicle-mines/#.WQkmTMsZWm8>.

¹¹³ Human Rights Watch, "Back in Business? U.S. Landmine Production and Exports, August 2005," accessed 24 April 2017, <https://www.hrw.org/legacy/backgrounder/arms/arms0805/arms0805.pdf>.

of the key factors that spurred the development and popularity of this technology,¹¹⁴ an advantage that would be diminished under the proposed restrictions.

While there is little doubt that there are significant costs associated with developing and producing new smart landmines, this does not in itself provide a strong argument against the proposed anti-vehicle mine restrictions. The minimum standard of detectability to meet the needs of humanitarian demining can be easily achieved in future mine systems by matching the detectability (metal content) standards imposed in past antipersonnel mine restrictions.¹¹⁵ Likewise, proponents of the anti-vehicle mine restriction have shown a willingness to find an amicable and cost-effective solution to the retrofit of non-detectible landmines currently in the stockpiles of various states.¹¹⁶

CONCLUSION

The post-cold war period in which the MBT was negotiated was a fleeting moment in which the world felt relatively safe, and humanitarianism and human security could take a priority.¹¹⁷ The ICBL seized this unique opportunity to shock the world and achieve a ban on a weapon that was already in widespread use.¹¹⁸ It is unclear when such opportunities will present themselves again, or if further significant steps can be taken to restrict or ban indiscriminate weapons such as anti-vehicle landmines.

¹¹⁴ Mike Croll, *The History of Landmines* (Barnsley, England: Leo Cooper, 1998), 146-47.

¹¹⁵ United Nations Office for Disarmament Affairs – MOTAPM Documents, “Non-paper by Australia titled ‘Understanding Detectability’,” ..., <https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/media/61301A634B858DD2C12579CA0059B548/file/CCW%2BMOTAPM%2B-%2BAustralian%2Bnon%2Bpaper%2Bon%2Bdetectability.pdf> .

¹¹⁶ *Ibid.*

¹¹⁷ Don Hubert, *The Landmine Ban – A Case Study in Humanitarian Advocacy* (Providence, RI: The Thomas J. Watson Jr. Institute for International Studies, 2000), 70-71.

¹¹⁸ Kenneth R. Rutherford, *Disarming States; the International Movement to Ban Landmines*. (Portland: Ringgold Inc, 2011), 1.

While the complex nature of arms control makes it difficult to categorize these issues into a rigid academic category or theory,¹¹⁹ it is clear that a variety of IR theories can aid in the understanding of the failed negotiations around the restriction of anti-vehicle mines. An examination from a realist perspective has shown the inherent flaw in attempts to restrict the use or method of employment of weapons held by both sides in any potential conflict, and has highlighted how arms control can fail where disarmament measures might succeed. The analysis from a liberal perspective suggests that the lack of engagement of civil society and the corresponding illegitimacy of the CCW contributed to the failed negotiations. Likewise, the constructivism discussion reinforced the finding that the relative absence of social engagement was a key factor, and suggested that the failure can be linked to the fact that an international norm against the use of anti-vehicle mines has not yet been firmly established.

Three key objections that have been put forward by those states that oppose increased restriction of anti-vehicle mines were also explored: that the humanitarian impact of anti-vehicle mines is unsubstantiated or has been overstated; that the three proposed restrictions on anti-vehicle mines are not supportable for reasons of military necessity; and that the economic hardship of upgrading landmine arsenals and production lines would be too significant. In each of these three cases the analysis has shown that these arguments are unconvincing. This further reinforces the finding that the restrictions on the use of anti-vehicle mines have been unable to achieve broad international support due largely to the inherent difficulty in restricting the use of in-service weapons, the lack

¹¹⁹ Nancy Gallagher, *Arms Control: New Approaches to Theory and Policy* (Portland, OR; London;: Frank Cass, 1998), 4.

of engagement of civil society, and the fact that an international norm or taboo against the use of anti-vehicle mines is as yet unestablished.

As new and emerging counter-mobility technologies continue to become more accessible for all states, a renewed effort to restrict or ban anti-vehicle mines may become feasible; however, it is unrealistic to expect such changes or agreements to happen quickly. Even Canada, one of the original signatories to the DAVM in 2006, had not yet incorporated the required restrictions into its doctrine or mine warfare tactics a decade later.¹²⁰

¹²⁰ National Defence, *11300-1 (CA G34) Implementation of the Political Direction on Anti-Vehicle Mines*, (2016).

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