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Disarmament and International Security Committee

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UNGA First Committee:
Disarmament and Security Council
(DISEC)
Background Guide

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Topic A: War crimes law and the increasing role of AI in conflict

Statement of the Problem

Artificial Intelligence (AI) is the use of computer systems to carry out tasks- often associated with human intelligence- that require cognition, planning, reasoning, or learning; and machine learning systems are AI systems that are 'trained' on and 'learn' from data, which ultimately define the way they function. Since these are software tools, or algorithms, that could be applied to many different tasks, the potential implications may be far-reaching and yet to be fully understood.[1]

Modern armed conflicts and military strategies have undergone dramatic shifts as a result of new technologies, and the next generation of innovations will have profound consequences for how wars are fought, where they are fought, and who fights them. This, in turn, will inevitably have a pronounced influence on the development of the laws of war and the justice mechanisms mandated with enforcing those laws. Therefore, as new strategies and dynamics of war emerge related to the use of new technologies, war crimes investigators and prosecutors must adapt in order to meet the goals of establishing the truth, protecting the historical record, and holding individuals accountable for grave violations of international law.[2]

A particular concern is the use of digital AI and machine learning tools to control physical military hardware, in particular the increasing number of unmanned robotic systems – in the air, on land and

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[1] https://international-review.icrc.org/articles/ai-and-machine-learning-in-armed-conflict-a-human-centred-approach-913
[2] https://nyujilp.org/wp-content/uploads/2019/07/NYI303.pdf

at sea – with a wide range of sizes and functions. AI and machine learning may enable increasing autonomy in these robotic platforms, whether armed or unarmed, and whether controlling the whole system or specific functions such as flight, navigation, surveillance or targeting.[3]

Autonomous weapon systems – weapon systems with autonomy in their 'critical functions' of selecting and attacking targets – are an immediate concern from a humanitarian, legal and ethical perspective, given the risk of loss of human control over weapons and the use of force. This loss of control raises risks for civilians, because of unpredictable consequences; legal questions, because combatants must make context-specific judgements in carrying out attacks under international humanitarian law; and ethical concerns, because human agency in decisions to use force is necessary to uphold moral responsibility and human dignity.[4]

AI and machine learning software – specifically of the type developed for "automatic target recognition" – could form the basis of future autonomous weapon systems, bringing a new dimension of unpredictability to these weapons, as well as concerns about lack of explainability and bias.[5]

Developments have arisen in certain technical fields resulting in new or amplified technological capabilities that might be employed in armed conflict. Those developments include increases in the efficiency of algorithms, computing power, sensor capacity, and the volume and range of available data. Another set of developments relates to an increase in the potential physical distance or amount of time (or both) that constructed systems with partial or full automatic or autonomous navigation may be able to travel at sea, on land, in air, or in outer space. Furthermore, developments in the fields

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[3] https://international-review.icrc.org/articles/ai-and-machine-learning-in-armed-conflict-a-human-centred-approach-913
[4] https://international-review.icrc.org/articles/ai-and-machine-learning-in-armed-conflict-a-human-centred-approach-913
[5] https://international-review.icrc.org/articles/ai-and-machine-learning-in-armed-conflict-a-human-centred-approach-913

of miniaturisation of constructed systems and of interactive capacities between humans and machines and among machines may be relevant as well.[6]

Some armed forces are increasingly relying on combinations of algorithmic, computational, and other data-driven tools and techniques. That increased reliance turns in part on perceptions that those technological developments could facilitate military advantages, including increases in speed, accuracy, and economy of resources and decreases in the number of personnel placed at risk of physical harm.[7]

Technology develops faster than the law. This is especially true of international law. In contrast to the reciprocal relationship between war and technology, and the speed at which both develop, the laws of war progress slowly and somewhat separately. There is a collective hesitation among states regarding cyberspace regulation at the international level, and national lawmakers appear cautious to legislate on issues surrounding new technologies and technology companies.[8]

Treaties, which constitute the primary source of international laws of war, take years, if not decades to form. Even once adopted, treaty law is slow to take hold at the local level- such laws are often difficult to implement and nearly impossible to enforce. As a result, the laws of war have failed to adapt to, address, and keep pace with the reality on the ground.[9]

The next generation of military and civilian technologies will have profound consequences for how wars are fought, where they are fought, and who fights them. This, in turn, will inevitably influence the development of the laws of war and the justice mechanisms mandated with enforcing those laws.

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[6] https://dash.harvard.edu/bitstream/handle/1/37366359/360-481-1-SM.pdf?sequence=1&isAllowed=y
[7] https://dash.harvard.edu/bitstream/handle/1/37366359/360-481-1-SM.pdf?sequence=1&isAllowed=y
[8] https://nyujilp.org/wp-content/uploads/2019/07/NYI303.pdf
[9] https://nyujilp.org/wp-content/uploads/2019/07/NYI303.pdf

The diverse actors entering the physical and cyber battlefields make application of the traditional international humanitarian law's classifications increasingly difficult for lawyers. Furthermore, the speed and openness of information exchange, the vast and growing volume of data, and the ease with which digital material can be manipulated or distorted, frustrates the ability of war crimes investigators to ferret out the truth. Therefore, an updated and more flexible legal framework that takes into account how technologies are transforming armed conflicts in the 21st century is sorely needed.[10]

One problem concerns the potential risks of military applications of AI. There are undoubtedly risks posed by applications of AI within the military domain. It is important, however, to not be alarmist in addressing these potential challenges. Militaries are likely to use AI to assist with decision making. This may be through providing information to humans as they make decisions, or even by taking over the entire execution of decision-making processes. This may happen, for example, in communications-denied environments or in environments such as cyberspace, in which action happens at speeds beyond human cognition. While this may improve a human operator's or commander's ability to exercise direct command and control over military systems, it could also have the opposite effect. AI affords the construction of complex systems that can be difficult to understand, creating problems of transparency and of knowing whether the system is performing as expected or intended. Where transparency is sufficiently prioritised in AI design, this concern can be reduced. Where it is not, it becomes possible that errors in AI systems will go unseen—whether such errors are accidental or caused deliberately by outside parties using techniques like hacking or data poisoning.[11]

Another aspect to consider is the potential benefits of military applications of AI. There is a need to consider more fully the potential positive applications of AI within the military domain and to develop

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[10] https://nyujilp.org/wp-content/uploads/2019/07/NYI303.pdf
[11] https://front.un-arm.org/wp-content/uploads/2020/06/Stanley-Stimson-UNODA-2020-TheMilitarization-ArtificialIntelligence.pdf

state-level and multilateral means of capturing these benefits safely. For national militaries, AI has broad potential beyond weapons systems. Often referred to as a tool for jobs that are 'dull, dirty, and dangerous,' AI applications offer a means to avoid putting human lives at risk or assigning humans to tasks that do not require the creativity of the human brain. AI systems also have the potential to reduce costs in logistics and sensing and to enhance communication and transparency in complex systems, if that is prioritised as a design value. In particular, as an information communication technology, AI might benefit the peacekeeping agenda by more effectively communicating the capacities and motivations of military actors.[12]

The particular problem here is the potential governance of military applications of AI. There are considerable challenges to international governance posed by these emergent technologies, and the primary work of stakeholders will be to devise constructs that balance the tradeoffs made between innovation, capturing the positive effects of AI, and mitigating or eliminating the risks of military AI. The primary challenge to multilateral governance of military AI is uncertainty—about the ways AI will be applied, about whether current international law adequately captures the problems that use of AI might generate, and about the proper venues through which to advance the development of governance approaches for military applications of AI. These characteristics of military AI are amplified by the technology's rapid rate of change and by the absence of standard and accepted definitions. Even fundamental concepts like autonomy are open to interpretation, making legislation and communication difficult.[13]

Current Situation

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[12]https://front.un-arm.org/wp-content/uploads/2020/06/Stanley-Stimson-UNODA-2020-TheMilitarization-ArtificialIntelligence.pdf
[13]https://front.un-arm.org/wp-content/uploads/2020/06/Stanley-Stimson-UNODA-2020-TheMilitarization-ArtificialIntelligence.pdf

International Humanitarian Law (IHL(continues to apply fully to all weapons systems, including the potential development and use of lethal autonomous weapons systems; human responsibility for decisions on the use of weapons systems must be retained since accountability for developing, deploying, and using any emerging weapons system must be ensured in accordance with applicable international law. The IHL provisions that most commonly arise in these debates concern distinction, proportionality, and precautions in attack. Focus has also been placed on reviews of weapons, means and methods of warfare.[14]

Disagreements have also arisen. The most prominent divergence concerns whether existing IHL is sufficient to address the range of issues that may arise in this area or whether a new norm needs to be elaborated (and, if so, what the content of that norm should be and what form(s) it should take). For example, calls have been made for the elaboration of a new legal norm aimed at the regulation, prohibition, or some combination thereof of lethal autonomous weapons systems or at least certain weapons involving an autonomous attribute in the 'critical functions' of selection of targets and engagement in attacks.[15]

Looking to the future: the use of AI in proving war crimes in court[16]

Human rights activists want to use AI to help prove war crimes in court. It would take years for humans to scour the tens of thousands of hours of footage that document violations in Yemen. With machine learning, it takes just days.

In 2015, Saudi Arabia led an air campaign against Yemen, carrying out by some estimates over 20,000 air strikes, many of which have killed Yemeni civilians and destroyed their property, allegedly

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[14] https://dash.harvard.edu/bitstream/handle/1/37366359/360-481-1-SM.pdf?sequence=1&isAllowed=y
[15] https://dash.harvard.edu/bitstream/handle/1/37366359/360-481-1-SM.pdf?sequence=1&isAllowed=y
[16] https://www.technologyreview.com/2020/06/25/1004466/ai-could-help-human-rights-activists-prove-war-crimes/

in direct violation of international law. Human rights organisations have since sought to document such war crimes in an effort to stop them through legal challenges.

On-the-ground verification by journalists and activists is often too dangerous to be possible. Instead, organisations have increasingly turned to crowdsourced mobile photos and videos to understand the conflict, and have begun submitting them to court to supplement eyewitness evidence. The time it takes to analyse this digital documentation has exploded as it has proliferated. The disturbing imagery can also traumatise the investigators who must comb through and watch the footage.

There is an initiative to trial a machine-learning alternative, it could model a way to make crowdsourced evidence more accessible and help human rights organisations tap into richer sources of information. Part of an ongoing effort to monitor the alleged war crimes happening in Yemen and create greater legal accountability around them. In 2017, the platform Yemeni Archive began compiling a database of videos and photos documenting the abuses. Content was gathered from thousands of sources- including submissions from journalists and civilians, as well as open-source videos from social-media platforms like YouTube and Facebook- and preserved on a blockchain so they couldn't be tampered with undetected.

Along with the Global Legal Action Network (GLAN) a nonprofit that legally challenges states and other powerful actors for human rights violations, the investigators then began curating evidence of specific human rights violations into a separate database and mounting legal cases in various domestic and international courts. The partners are focusing on a US-manufactured cluster munition, the BLU-63 in order to explain why instances are war crimes. The use and sale of cluster munitions, explosive weapons that spray out smaller explosives on impact, are banned by 108 countries, including the UK. If they would prove in a UK court that they had indeed been used to commit war crimes, it could be used as port of mounting evidence that the Saudi-led coalition has a track record

for violating international law, and make a case for the UK to stop selling weapons to Saudi Arabia or to bring criminal charges against individuals involved in the sales.

They decided to develop a machine-learning system to detect all instances of the BLU-63 in the database. Images of the BLU-63s are rare precisely because they are illegal, which left the team with little real-world data to train their system. As a remedy, the team created a synthetic data set by reconstructing 3D models of the BLU-63 in a simulation. Once the system is fully tested, the team plans to run it through the entire Yemeni Archive, which contains 5.9 billion video frames of footage. This would allow a system to complete it in roughly 30 days, compared to the 2750 days required by a person.

Machine-learning techniques can allow human rights organisations, for whom it is not uncommon to store massive amounts of video crowdsourced from eyewitnesses, to scour these archives and demonstrate the pattern of human rights violations at a previously infeasible scale, making it far more difficult for courts to deny the evidence. Showing, for instance, hundreds of videos of hundreds of incidents of hospitals being targeted, shows that it is really a deliberate strategy of war. When things are seen as deliberate, it becomes more possible to identify intent, and intent might be something useful for legal cases in terms of accountability for war crimes.

As the Yemen collaborators prepare to submit their case, evidence on this scale will be particularly relevant. The Saudi-led air-strike coalition has already denied culpability in previous allegations of war crimes, which the UK government recognizes as the official record. A UK court also dismissed an earlier case that a different organisation submitted to stop the government from selling weapons to Saudi Arabia, because it deemed the open-source video evidence not sufficiently convincing. Though a different court later walked back some of these criticisms upon appeal, the collaborators hope that the greater wealth of evidence will avoid any contestations this time.

The Yemen effort will be one of the first to be involved in a court case, and could set a precedent for other human rights organisations.

Relevant UN Actions

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 (CCW):

The Convention, negotiated under United Nations auspices in 1979–1980, has its roots in key IHL principles, such as proportionality and distinction between civilians and combatants. Currently, the Convention has five Protocols—Protocol I on Non-Detectable Fragments; Protocol II on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices (as amended on 3 May 1996); Protocol III on Prohibitions or Restrictions on the Use of Incendiary Weapons; Protocol IV on Blinding Laser Weapons; and Protocol V on Explosive Remnants of War. Thus, it has a modular design that allows new instruments to be attached to the framework treaty as humanitarian concerns around weapons systems evolve and as new systems emerge.[17]

While discussions at human rights forums in Geneva on remotely controlled weapons in 2012-2013 were helpful in raising awareness, CCW turned out to be the forum of choice to discuss emerging technologies in the area of lethal autonomous weapons systems (LAWS). Its flexible nature and the balance it upholds between humanitarian principles and military necessity provided the space for States with very differing views to begin engaging on a complex and rapidly evolving technology. Its

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[17]https://www.un.org/en/un-chronicle/role-united-nations-addressing-emerging-technologies-area-lethal-autonomous-weapons

standing as an instrument of IHL, alongside the 1949 Geneva Conventions and their 1977 Additional Protocols, made it attractive to all those concerned with the potential undermining of IHL principles by autonomous combat systems. It is also helpful that all countries with established or emerging capabilities in AI systems—Canada, China, France, Germany, India, Israel, Japan, the Republic of Korea, the Russian Federation, the United Kingdom, and the United States—are High Contracting Parties to the Convention. This is not to say that the forum was without challenges. An important and continuing problem is financial stability. Arrears in payments by High Contracting Parties created uncertainty around some of the meetings in 2017. Another challenge was how to involve industry and technology developers in discussions on lethal autonomy, given the industry fear of being stigmatised, among other things. A significant mindset challenge was the tendency of the traditional arms control community to see weapons in discrete material terms. Hollywood depictions of Ironman and the Terminator did not help either.[18]

These issues of mindsets and cross-domain literacy were tackled first through a series of informal discussions at CCW in Geneva between 2014 and 2016. The Informal Meeting of Experts, led first by Ambassador Jean-Hugues Simon-Michel of France and later by Ambassador Michael Biontino of Germany, raised awareness of the complex dimensions of the issue—humanitarian, ethical, military, legal and techno-commercial. The fact that the CCW rules of procedure allow the participation of a broad range of stakeholders, including civil society, helped, as did the raised profile of the issue in forums outside of Geneva.[19]

CCW's Group of Governmental Experts (GGE):

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[18]https://www.un.org/en/un-chronicle/role-united-nations-addressing-emerging-technologies-area-lethal-autonomous-weapons
[19]https://www.un.org/en/un-chronicle/role-united-nations-addressing-emerging-technologies-area-lethal-autonomous-weapons

These informal discussions helped build consensus on the establishment of a Group of Governmental Experts (GGE) with a formal mandate at the Fifth Review Conference of the High Contracting Parties to CCW in December 2016, chaired by Ambassador Tehmina Janjua of Pakistan.[20]

The first formal meeting of the Group of Governmental Experts related to emerging technologies in the area of lethal autonomous weapons systems in the context of the objectives and purposes of CCW was held in Geneva from 13 to 17 November 2017. The discussion was animated by a "food-for-thought paper" from the Chair,4 with nine other working papers from High Contracting Parties, as well as four Panels of Experts, organized around the legal, ethical, military, technical and cross-cutting dimensions of the subject. Side events held by NGOs, research institutions and States enriched the discussion with new perspectives, including from young AI entrepreneurs. At the end of the week, the participants adopted a set of conclusions and recommendations.

One conclusion was that CCW is the appropriate framework for dealing with the issue; the other was that IHL applies fully to the potential development and use of LAWS. This was an important early assurance, although it did not settle the question of whether further legal norms were needed. The consensus conclusions also allowed the Chair to focus the agenda of the Group for 2018 on 1) characterization of the systems under consideration—the so-called definitional issue; 2) aspects of human-machine interaction, which were critical to the concern about potential violations of IHL; and 3) possible options for addressing the humanitarian and international security consequences of the implementation of such systems.

 Divergent views on definitions and risks, as well as possible benefits of LAWS, and approaches to regulation and control, including the idea of a pre-emptive ban, persisted, but the Chair's summary

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[20]https://www.un.org/en/un-chronicle/role-united-nations-addressing-emerging-technologies-area-lethal-autonomous-weapons / https://dash.harvard.edu/bitstream/handle/1/37366359/360-481-1-SM.pdf?sequence=1&isAllowed=y

emerged as a practical device to capture the diversity of views without blocking progress on substance through the pithier conclusions.[21]

GGE stepped up its work in 2018 with two sessions in April and in August. At the meeting that took place from 9 to 13 April in Geneva, the Group made significant progress in reaching common understandings on the quality and depth of the human-machine interface required not only for ensuring respect with IHL but also for the eventual construction of more ambitious outcomes on human responsibility and accountability. The Group used a so-called 'sunrise slide' to examine the different phases of technology development and deployment, and acquire an appreciation for the work that would be required in those phases to ensure meaningful human oversight and control. With regard to characterization, the discussions enhanced common ground on the concepts and characteristics required for an eventual definition, and shifted minds away from the elusive silver bullet of a technical bright line between what is of emerging concern and what can be handled under legacy instruments.

The work on common understandings and principles that was started in 2017 was continued in April 2018 and culminated in a set of possible guiding principles at the end of the August session that year. These principles are supported by a set of building blocks on characterization, on the human-machine interface and on technology review. The GGE report presents four options for policy, including a possible legally binding constraint, which can be constructed using the agreed guiding principles and the building blocks.[22]

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[21]https://www.un.org/en/un-chronicle/role-united-nations-addressing-emerging-technologies-area-lethal-autonomous-weapons
[22]https://www.un.org/en/un-chronicle/role-united-nations-addressing-emerging-technologies-area-lethal-autonomous-weapons

The 10 principles included applicability of IHL; non-delegation of human responsibility; accountability for use of force in accordance with international law; weapons reviews before deployment; incorporation of physical, non-proliferation and cyber security safeguards; risk assessment and mitigation during technology development; consideration of the use of emerging technologies in the area of LAWS in compliance with IHL; non-harm to civilian research and development and use; the need to adopt a non-anthropomorphic perspective on AI; and the appropriateness of CCW as a framework for dealing with the issue. The building blocks on characterization include the need to maintain a focus on the human element in the use of force. The understandings on the human-machine interface are built around political direction in the pre-development phase; research and development; testing, evaluation and certification; deployment, training, command and control; use and abort; and post-use assessment. The Group agreed that accountability threads together these various human-machine touch points in the context of CCW.

GGE also agreed on the need to move in step with technology and build in partnership with industry and other stakeholders a common scientific and policy vernacular across the globe.[23]

The CGE mandate concerns weapons specifically and, in certain respects, the conduct of hostilities more broadly. However, the potential employment of AI techniques and methods in situations of armed conflict may impact several other areas as well, including detention, humanitarian services, uninhabited military maritime systems, and legal advice.[24]

One part of the CGE's mandate during the 2020-2021 period concerned the exploration and agreement on possible recommendations for options related to emerging technologies in the area of lethal autonomous weapons systems, such as potential challenges to IHL. Included among the

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[23]https://www.un.org/en/un-chronicle/role-united-nations-addressing-emerging-technologies-area-lethal-autonomous-weapons

[24] https://dash.harvard.edu/bitstream/handle/1/37366359/360-481-1-SM.pdf?sequence=1&isAllowed=y)

categories of possible options raised for addressing the humanitarian and international security challenges posed in this area are a legally binding instrument, a political declaration and clarity on the implementation of existing obligations under international law, in particular IHL.[25]

Another part of the GCE's current mandate pertains to the formulation of consensus recommendations concerning the clarification, consideration, and development of aspects of the normative and operational framework on emerging technologies in the area of lethal autonomous weapons systems.[26]

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[25] https://dash.harvard.edu/bitstream/handle/1/37366359/360-481-1-SM.pdf?sequence=1&isAllowed=y
[26] https://dash.harvard.edu/bitstream/handle/1/37366359/360-481-1-SM.pdf?sequence=1&isAllowed=y

Bloc Positions

For at least some of the states, including the US, the employment of weapons with an automatic or autonomous attribute may yield purported increases in capabilities to (among other things) enhance distinction between civilians and military objectives through greater precision and accuracy. According to that position, the employment of such technologies may result in greater protection of civilians, increased compliance with IHL, and heightened realisation of some of the (other) humanitarian aims underlying IHL.[27]

In a discussion on the Russian invasion of Ukraine in the 77th session of the UNGA DISEC, the Chinese representative supported the United Nations leading role in stronger artificial intelligence governance and advocated for the peaceful use of science and technology, with dividends shared among all.[28]

Questions a Resolution Must Answer

Here are some discussion points you may want to consider during your research and the progression of the committee. Please note that these discussion points are only meant to serve as a starting point for your debate and should not in any way limit your debate.

Does the current international law around war crimes reflect the increasing potential for war crimes that do not arise directly from human decisions?

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[27] https://dash.harvard.edu/bitstream/handle/1/37366359/360-481-1-SM.pdf?sequence=1&isAllowed=y)
[28] https://press.un.org/en/2022/gadis3686.doc.htm

What kind of problems have already appeared, and how can we solve them, as well as preventing worse accountability problems in the future?

If an AI or a computer programme targets an area for a drone strike and a strike is carried out, who if anyone can be prosecuted?

How can we make sure that as military operations become more automated this does not lead to a decrease in human accountability for atrocities?

Suggestions for Further Research

Geneva Graduate Institute- International Law- Lethal Autonomous Weapons Systems and War Crimes Research Page (https://www.graduateinstitute.ch/academic-departments/international-law/lethal-autonomous-weapons-systems-and-war-crimes)

The LAWS & War Crimes project analyses the challenges of ascribing criminal responsibility for war crimes raised by the advent of increasingly autonomous weapon systems and human-machine shared decision-making in the targeting process (so-called mixed-initiative systems).

In particular, the project focuses on the criminal responsibility of the user of autonomous weapons and of the human-operator in mixed systems. It is in this area that the risk of a responsibility gap is greatest. It is likely that the criminal intent required for the commission of war crimes in combat operations is lacking. At the same time, it is also likely that the causal connection between the human conduct and the harmful and wrongful result is missing.

The LAWS & War Crimes project seeks to understand this gap, both at the international and domestic level, and identify ways to resolve it. The project team consists of an international team of researchers based at the Graduate Institute of International and Development Studies in Geneva and is supported by a four-year grant from the Swiss National Science Foundation.

International Committee of the Red Cross (ICRC) Position Paper: Artificial intelligence and machine learning in armed conflict: A human-centred approach

(https://international-review.icrc.org/articles/ai-and-machine-learning-in-armed-conflict-a-human-centred-approach-913)

UN- The Militarisation of Artificial Intelligence:

(https://www.un.org/disarmament/the-militarization-of-artificial-intelligence/)

In 2019, the United Nations Office for Disarmament Affairs, the Stanley Center and the Stimson Centre partnered in a workshop and series of papers to facilitate a multistakeholder discussion among experts from Member States, industry, academia, and research institutions, with the aim of building understanding about the peace and security implications of AI. This publication captures that conversation and shares assessments of the topic from US, Chinese, and Russian perspectives. It is intended to provide a starting point for more robust dialogues among diverse communities of stakeholders as they endeavour to maximise the benefits of AI while mitigating the misapplication of this important technology.

Topic B: WMDs disarmament and verification methods

Statement of the Problem

Nuclear disarmament refers to the process leading to the realisation of the ultimate goal of a world without nuclear weapons. Different tools and procedures would be required to verify the disarmament process. A future disarmament agreement might seek to limit a country's ability to break out of the agreement quickly, in order to allow time to detect and respond to any violation, before a country could rebuild one or more nuclear weapons.[29]

It is universally accepted that robust verification arrangements are essential to the success of nuclear disarmament.

Several countries with nuclear weapons have taken steps to reduce their arsenals. Arms control agreements have generated an extensive set of procedures to monitor and verify limits on nuclear weapons and delivery systems, but they have not developed procedures to verify the destruction of weapon components.[30]

Missiles are becoming an increasingly prominent element of military arsenals, but the system of arms control that helped provide a check on the missile arms race is under considerable stress. Addressing this challenge will require developing new approaches to missile verification.[31]

More technical work is needed to achieve all the preconditions for a nuclear

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[29] https://www.ipndv.org/learn/understanding-nuclear-disarmament/
[30] https://www.ipndv.org/learn/understanding-nuclear-disarmament/
[31] https://unidir.org/publication/exploring-options-missile-verification

weapon-free world, particularly on verifying the dismantlement of nuclear
weapons. At the same time, a more favourable political context could reduce the extent to which
technical challenges are perceived as obstacles to nuclear disarmament. Even in the absence of new
disarmament treaties, the operationalization of disarmament verification can begin at a conceptual
and discursive level, by adopting a more policy-oriented approach to disarmament verification.[32]

History of the Problem

The very first resolution of the General Assembly of the United Nations, in January 1946, addressed
the "problems raised by the discovery of atomic energy". Despite civil society's efforts, led by scientists
and women's peace organizations, leaders of the United States and the Soviet Union rejected
measures to curb nuclear ambitions. As the cold war took hold, the leaders that had emerged
"victorious" in 1945 raced each other to manufacture and deploy all kinds of new weapons and war
technologies, especially nuclear, chemical and biological weapons (notwithstanding the 1925 Geneva
Protocol prohibiting the use of chemical and biological weapons in war) and a variety of missiles to
deliver them speedily anywhere in the world.[33]

During the Cold War, the term "weapons of mass destruction" was primarily a reference to nuclear
weapons. At the time, in the West the euphemism "strategic weapons" was used to refer to the
American nuclear arsenal.

Subsequent to Operation Opera, the destruction of a pre-operational nuclear reactor inside Iraq by
the Israeli Air Force in 1981, the Israeli prime minister, Menachem Begin, countered criticism by
saying that "on no account shall we permit an enemy to develop weapons of mass destruction against

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[32] https://www.sipri.org/sites/default/files/2019-04/sipriinsight1904_0.pdf
[33] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties

the people of Israel." This policy of pre-emptive action against real or perceived weapons of mass destruction became known as the Begin Doctrine.

The end of the Cold War reduced U.S. reliance on nuclear weapons as a deterrent, causing it to shift its focus to disarmament. With the 1990 invasion of Kuwait and 1991 Gulf War, Iraq's nuclear, biological, and chemical weapons programs became a particular concern of the first Bush Administration.

After the 11 September 2001 attacks and the 2001 anthrax attacks in the United States, an increased fear of unconventional weapons and asymmetric warfare took hold in many countries. The fear reached a crescendo with the 2002 Iraq disarmament crisis and the alleged existence of weapons of mass destruction in Iraq that became the primary justification for the 2003 invasion of Iraq; however, American forces found none in Iraq. They found old stockpiles of chemical munitions including sarin and mustard agents, but all were considered to be unusable because of corrosion or degradation.[21] Iraq, however, declared a chemical weapons stockpile in 2009 which U.N. personnel had secured after the 1991 Gulf War. The stockpile contained mainly chemical precursors, but some munitions remained usable.

The only country to have used a nuclear weapon in war is the United States, which dropped two atomic bombs on the Japanese cities of Hiroshima and Nagasaki during World War II.

In developing disarmament verification procedures, the international community can rely on the experience past arrangements offer.[34] For example, The US and the Russian Federation have developed elaborate procedures for verified dismantlement of nuclear-capable delivery systems, and

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[34] https://unidir.org/projects/verifying-absence-nuclear-weapons-2

have eliminated large amounts of weapon-origin fissile materials.[35]The International Atomic Energy Agency has successfully safeguarded fissile materials in non-nuclear weapon States for decades,[36] while a number of projects, from the UK-Norway Initiative to the International Partnership for Nuclear Disarmament Verification have also explored various aspects of verified dismantlement of nuclear warheads.[37]

Current Situation

Current Nuclear Weapons Situation:

There are eight countries that have declared they possess nuclear weapons and are known to have tested a nuclear weapon, only five of which are members of the NPT. The eight are China, France, India, North Korea, Pakistan, Russia, the United Kingdom, and the United States. Israel is considered by most analysts to have nuclear weapons numbering in the low hundreds as well, but maintains an official policy of nuclear ambiguity, neither denying nor confirming its nuclear status.[38]

South Africa developed a small nuclear arsenal in the 1980s but disassembled them in the early 1990s, making it the only country to have fully given up an independently developed nuclear weapons arsenal. Belarus, Kazakhstan, and Ukraine inherited stockpiles of nuclear arms following the break-up of the Soviet Union, but relinquished them to the Russian Federation.[39]

[35] https://unidir.org/projects/verifying-absence-nuclear-weapons-2
[36] https://unidir.org/projects/verifying-absence-nuclear-weapons-2
[37] https://unidir.org/projects/verifying-absence-nuclear-weapons-2
[38] https://sipri.org/yearbook/2019/06
[39] https://www.sciencedirect.com/topics/earth-and-planetary-sciences/nuclear-warhead

Countries where nuclear weapons are deployed through nuclear sharing agreements include Belgium, Germany, Italy, the Netherlands, and Turkey.[40]

The Disarmament Process:

One part of the nuclear disarmament process has not yet been fully covered by previous efforts-verifying the absence of nuclear weapons. The need for this arises in a number of contexts. For example, nuclear disarmament may include removal of weapons from certain countries or territories, withdrawal of nuclear weapons from active service, and consolidation of weapons at a small number of storage sites. In all these cases, verifying the absence of nuclear weapons may be an essential element of the nuclear disarmament process.[41]

Most verification arrangements would require a fairly high level of transparency, but that is what makes them stronger and more reliable. The path to building an effective verification arrangement is to design it in a way that facilitates cooperation and transparency.[42]

A particular area of concern surrounds denuclearisation of the Korean Peninsula, which critically depends on finding a way to constrain and roll back the nuclear programme of the Democratic People's Republic of Korea. A freeze on its fissile material production would be the first essential step, provided that it can be made effectively verifiable. This requirement presents a significant technical as well as political challenge. One UNIDIR study proposes an arrangement for a verified freeze of fissile material production through a new mechanism to verify the suspension of all production activities in the early stages of the denuclearization process. It would also provide a mechanism for building confidence and trust and create a path to expanding the verification programme. In the longer run,

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[40] https://www.nti.org/analysis/articles/nato-nuclear-disarmament/
[41] https://unidir.org/projects/verifying-absence-nuclear-weapons-2
[42] https://unidir.org/publication/exploring-options-missile-verification

this freeze verification arrangement would ensure that all material, military as well as civilian, will be accounted for and placed under appropriate safeguards.[43]

North Korea has launched seven sets of missiles in the past few weeks, allegedly in response to United States and South Korea missile drills. This comes as intelligence suggests that North Korea is planning its first nuclear weapon test since 2017, in the context of more missile launches this year than ever before. The missiles are short-range weapons intended for battlefield use. The official statement of state media stated that the missiles were designed to carry nuclear weapons, suggesting that the recent missile launches were a 'simulation' of a nuclear attack on South Korea, intended as a warning to the US and South Korea.[44]

The issue of Cyber Weapons:

There have been calls to classify at least some classes of cyber weapons as WMD, in particular those aimed to bring about large-scale (physical) destruction, such as by targeting critical infrastructure. However, some scholars have objected to classifying cyber weapons as WMD on the grounds that they "cannot [currently] directly injure or kill human beings as efficiently as guns or bombs" or clearly "meet the legal and historical definitions" of WMD.

Relevant UN Actions

Comprehensive Nuclear-Test Ban Treaty (CTBT):

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[43] https://unidir.org/publication/freeze-and-verify-ending-fissile-material-production-korean-peninsula
[44] https://www.bbc.co.uk/news/world-asia-63196618

After early efforts to control nuclear developments floundered, it was the upsurge of health and environmental concerns provoked by nuclear testing that led the Prime Minister of India, Jawaharlal Nehru, and the Japanese Parliament to call for such explosions to be halted altogether. After an egregiously irresponsible 15 megaton thermonuclear bomb was tested in the Marshall Islands on 1 March 1954, Nehru submitted his proposal for a Comprehensive Nuclear-Test Ban Treaty (CTBT) to the United Nations Disarmament Commission on 29 July 1954. Since then CTBT has been the centrepiece of disarmament demands from many States, especially the developing countries of the Non-Aligned Movement (NAM). Intended as a first step towards disarmament, the driving force behind CTBT was concern about the humanitarian impacts. Early attempts at multilateral negotiations through a newly created Ten-Nation Committee on Disarmament made little progress. Although the leaders of the United States, the Soviet Union and the United Kingdom professed their desire for a CTBT, their talks kept stalling. Obstacles from the nuclear laboratories and security advisors were dressed up as verification problems, but they stemmed from these nuclear-armed Governments' military ambitions and rivalries, and their shared determination to keep their own weapons options open, even as they sought to limit those of others.[45]

General Assembly Resolution 1664 (XVI):

In 1961, General Assembly resolution 1664 (XVI) recognized that "the countries not possessing nuclear weapons have a grave interest, and an important part to fulfil" in halting nuclear tests and achieving nuclear disarmament.[46]

General Assembly Resolution 1653 (XVI):

[45] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties
[46] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties

General Assembly resolution 1653 (XVI) went further, noting that the targets of nuclear weapons would not just be "enemies" but "peoples of the world not involved in...war", with devastation that would "exceed even the scope of war and cause indiscriminate suffering and destruction to mankind...contrary to the rules of international law and to the laws of humanity".[47]

General Assembly Resolution 1665 (XVI):

General Assembly resolution 1665 (XVI), unanimously adopted, called on nuclear and non-nuclear weapons possessors to "cooperate" to prevent further acquisition and spread of nuclear weapons.[48]

Biological and Toxin Weapons Convention (BTWC):

The 1972 Biological and Toxin Weapons Convention (BTWC) was heralded as multilateral, but was largely determined by United States and Soviet interests. BTWC enshrined the same basic prohibitions and obligations on all States parties, including undertakings not to "develop, produce, stockpile or otherwise acquire or retain" such weapons, to "take any necessary measures to prohibit and prevent the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery" and to destroy existing stocks. Characterising their military use as "repugnant to the conscience of mankind", the objective of BTWC was to "exclude completely the possibility of bacteriological (biological) agents and toxins being used as weapons". It

[47] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties
[48] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties

was adopted without verification provisions. Having recognized that it was in their own interests to ban bioweapons because of their indiscriminate and uncontrollable global consequences, the super-Powers chose not to allow lengthy multilateral negotiations on verification to delay the adoption of the treaty, which they believed they could monitor through other means. Their security priority was to achieve international legal prohibitions and embed a bioweapons taboo in norms and practice, before it was too late.[49]

Affirming the definition of Weapons of Mass Destruction:

In 1977, the General Assembly, through its resolution A/RES/32/84-B, affirmed the definition of Weapons of Mass Destruction as "[…] atomic explosive weapons, radioactive material weapons, lethal chemical and biological weapons, and any weapons developed in the future which might have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above."[50]

United Nations Monitoring, Verification and Inspection Commission (UNMOVIC):

UNMOVIC was created through the adoption of United Nations Security Council resolution 1284 of 17 Dec 1999 and its mission lasted until June 2007. It was meant to replace the former United Nations Special Commission (UNSCOM) to carry on with the mandate to disarm Iraq's compliance with its obligations not to reacquire the same weapons banned by the Security Council.

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[49] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties
[50] https://unrcpd.org/wmd/

Following the mandate of the UN Security Council Resolution 1441, the President of Iraq, Saddam Hussein, was forced to allow UN inspectors back to his country in November 2002. UNMOVIC led inspections of alleged chemical and biological facilities in Iraq until shortly before the US invasion of Iraq in March 2003.

UNMOVIC never found any operative weapons of mass destruction in Iraq and although its inspectors were withdrawn in March 2003, continued to operate with respect to those parts of its mandate it could implement outside of Iraq and maintained a degree of preparedness to resume work in Iraq. It maintained a roster of more than 300 experts ready to serve and continued to conduct training.

The mandate of UNMOVIC was terminated on 29 June 2007.

UNGA Resolution 71/67 "Nuclear Disarmament Verification":

In December 2016, the United Nations General Assembly adopted resolution 71/67, entitled "Nuclear disarmament verification." Among other actions, it called for States "to identify and develop practical and effective disarmament verification measures facilitating the objective of achieving and maintaining a world without nuclear weapons". It also asked the United Nations Secretary-General to "establish a group of government experts to consider the role of verification in advancing nuclear disarmament."[51]

Treaty on the Prohibition of Nuclear Weapons:

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[51] https://unidir.org/projects/verifying-absence-nuclear-weapons-2

The Treaty on the Prohibition of Nuclear Weapons (TPNW), or the Nuclear Weapon Ban Treaty, is the first legally binding international agreement to comprehensively prohibit nuclear weapons with the ultimate goal being their total elimination. It was adopted on 7 July 2017, opened for signature on 20 September 2017, and entered into force on 22 January 2021.[52]

For those nations that are party to it, the treaty prohibits the development, testing, production, stockpiling, stationing, transfer, use and threat of use of nuclear weapons, as well as assistance and encouragement to the prohibited activities. For nuclear armed states joining the treaty, it provides for a time-bound framework for negotiations leading to the verified and irreversible elimination of its nuclear weapons programme.

The mandate adopted by the United Nations General Assembly on 23 December 2016 scheduled two sessions for negotiations: 27 to 31 March and 15 June to 7 July, 2017.[7] The treaty passed on schedule on 7 July with 122 in favour, 1 against (Netherlands), and 1 official abstention (Singapore). Sixty-nine nations did not vote, among them all of the nuclear weapon states and all NATO members except the Netherlands.[53]

'Evidence of Absence: Verifying Removal of Nuclear Weapons':

On 18 October 2018, the United Nations Institute for Disarmament Research (UNIDIR) hosted a First Committee side event entitled "Evidence of Absence: Verifying Removal of Nuclear Weapons". Ms. Renata Dwan, the Director of UNIDIR, moderated a discussion between four panellists: Ambassador Ann-Sofie Nilsson of Sweden; Dr. Pavel Podvig, UNIDIR Senior Researcher, Dr. Wilfred

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[52] https://www.theguardian.com/world/2017/jul/07/treaty-banning-nuclear-weapons-approved-un
[53] https://www.un.org/disarmament/tpnw/index.html

Wan, UNIDIR Researcher; and Ms. Christine Parthemore, Director of the Climate-Nuclear-Security Program at the Council on Strategic Risks.[54]

The event explored a new UNIDIR study intended to outline credible, reliable and accurate techniques and arrangements for nuclear disarmament verification, which is seen as an essential element of the nuclear disarmament process. They stressed that a verification framework centred on "absence" could support nuclear disarmament efforts because it would not require a reliable chain of custody, access to sensitive data or the creation of trusted information channels—some of the most complex and daunting problems associated with current verification methods.[55]

Dr Podvig Dr. Podvig outlined four areas in which different procedures could help verify the absence of nuclear weapons. 1) No deployed weapons: It is possible to verify the absence of deployed nuclear weapons by applying, with almost no modification, relevant procedures established under the Treaty between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START). "This is absolutely possible, and we are already doing it", he said.

2) No weapons at operational military bases: To ensure there are no weapons at an operational base, an inspection would only need to address relatively large arms systems. Dr. Podvig said an obvious aspect of the inspection arrangement would be confirming that nuclear warheads are not present inside objects large enough to contain them. He expressed confidence that "this can be verified".

3) Infrastructure for deployment: An absence-focused verification regime would also aim to confirm that no infrastructure is present to support the long-term deployment of nuclear weapons. Because

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[54] https://www.un.org/disarmament/fr/update/evidence-of-absence-unidir-panel/
[55] https://www.un.org/disarmament/fr/update/evidence-of-absence-unidir-panel/

nuclear weapons are dangerous and valuable, States use support infrastructure to help ensure their safety and security, Dr. Podvig noted. Verifying the absence of such infrastructure would involve some difficulties, but it is possible, he said.

4) Conversion of delivery systems: Future inspections may also seek to verify the conversion of weapon systems so they cannot deploy nuclear weapons. This approach would become possible with the development of a conversion process that is verifiable and considered by an inspecting State to be irreversible. While acknowledging some problems in this area, Dr. Podvig said such conversion "can be done in principle."[56]

Dr. Wan presented his research on the history and potential applications of the absence-verification concept. On the Korean Peninsula, demonstrating the absence of nuclear weapons at sites such as United States military bases in the Republic of Korea could be "an important confidence-building tool" in denuclearization talks, he said.[57]

Ms. Parthemore then took the floor, providing an in-depth overview of a debate concerning nuclear-capable cruise missiles. She said the ability of cruise missiles to deliver nuclear or conventional warheads would pose a substantial risk of escalating a conflict, as a target State could not know whether an incoming cruise missile is carrying a nuclear or conventional payload. Eliminating the ambiguity surrounding cruise missiles is critical, she said. As she concluded, Ms. Parthemore stated that the proposed verification techniques and arrangements could encourage nuclear-weapon States to move forward in pursuing new disarmament measures.[58]

Overview:

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[56] https://www.un.org/disarmament/fr/update/evidence-of-absence-unidir-panel/
[57] https://www.un.org/disarmament/fr/update/evidence-of-absence-unidir-panel/
[58] https://www.un.org/disarmament/fr/update/evidence-of-absence-unidir-panel/

Drawing on these histories and evaluating the role of the United Nations and the comparative effectiveness of multilateral agreements on disarmament, the treaties with universal humanitarian as well as disarmament objectives have proved more successful in concrete and security terms than partial treaties limited by the military interests of dominant States. Regardless of a treaty's origins and negotiating process, some Governments will always try to stay outside disarmament agreements. That does not invalidate multilateral disarmament, since hold-out States become increasingly drawn into compliance (whether or not they formally accede) as treaties become embedded and respected in international law.[59]

Treaties that embed disarmament objectives in "universal humanitarian" rather than "partial control" terms share a number of elements in common:[60]

Whether negotiated in ad hoc or formally constituted United Nations forums, the important requirement for multilateral disarmament success is that negotiations should be open to all United Nations Member States but blockable by none (thereby avoiding the vetoes and consensus deadlock that have paralyzed CD and various cold war treaty review processes.

It is up to individual Governments whether they initiate or join negotiations.

As with all treaties, it is a sovereign national decision to accede or not, but experience shows that even the policies of opponents become influenced and constrained by well-supported agreements as they become embedded in international law.

Relevant United Nations and regional agencies and civil society actors, the International Federation of Red Cross and Red Crescent Societies, humanitarian and disarmament non-governmental organisations are treated as partners in making these treaties effective.

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[59] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties
[60] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties

Regardless of how and where a treaty is negotiated, it has become normal practice for negotiators to present the finalised text to be adopted by the General Assembly of the United Nations, where all States have the opportunity to register their views.

Early entry into force is encouraged through representative but practical conditions, so that the treaties can build up legal and normative credibility from the very beginning, making it much harder for the weapons-dependent Governments to continue business as usual.

It is not necessary or even desirable to spell out and lock in verification and technical implementation details of the head treaty, given that legal prohibitions and obligations already in place must take precedence. Practical implementation requirements can be agreed upon and adjusted, as the treaties are embedded and more States become parties.

Looking forward, three humanitarian disarmament objectives are being put on the United Nations agenda: a nuclear ban treaty that would prohibit the use, deployment, production, stockpiling and transfer of nuclear weapons and require their total elimination; a ban on autonomous weapons intended to preventively ban "killer robots" before they are deployed and become unstoppable; and a treaty or protocol to prohibit the military use of highly toxic depleted uranium. Momentum is building to achieve all three treaties. Opposition is limited to a handful of weapons-dependent Governments— the same few in most cases. As some but not all are in the Security Council of the United Nations, they are recognized to be influential—but not decisive, as other successful treaties have demonstrated.[61]

The United Nations was founded for "We the Peoples". Modern disarmament diplomacy has shown that prohibiting weapons that a few dominating States want to deploy is feasible, as long as the humanitarian arguments are persuasive, the ground is prepared well, and an influential cross section

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[61] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties

of Governments, humanitarian agencies and civil society actors are willing to move forward, initiate negotiations and achieve effective treaties.[62]

Bloc Positions

Academics in the United States of America led in developing theories of deterrence to provide legitimacy for these weapons of mass destruction, which soon became embedded in the military doctrines and political rhetoric of further Governments, from NATO allies to the Eastern bloc and beyond.[63]

Nationalist tactics and vetoes from a handful of States with high levels of dependency on weapons production and trade have stymied multilateral attempts to strengthen existing treaties, and paralyzed the Conference on Disarmament since 1998.[64]

States in Asia and the Pacific have assumed a leadership role in the global campaign to delegitimize all forms of WMDs. 3 of the 6 treaties establishing nuclear-weapon-free zones are located in Asia and the Pacific, those being the Treaty of Rarotonga (South Pacific Nuclear Free Zone Treaty, 1986), the Bangkok Treaty (Southeast Asian Nuclear-Weapon-Free Zone Treaty, 1995), and the Central Asia Nuclear-Weapon-Free-Zone (2006).

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[62] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties
[63] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties
[64] https://www.un.org/en/chronicle/article/united-nations-and-disarmament-treaties

In addition, Mongolia declared itself the first single-State nuclear-weapon-free zone (SS-NWFZ) in 1992, and has set a precedent for other states to follow in declaring themselves SS-NWFZs. In May 2012, Ambassador J. Enkhsaikhan of Mongolia proposed two draft declarations to the five recognized nuclear states (P5) in an effort to attain security assurances that would allow them to officially recognize Mongolia's status as a non-nuclear state. In September 2012 the five nuclear-weapon states signed a joint declaration that not only recognized Mongolia's nuclear-weapon-free status, but also committed them to respect that status and not contribute to any act that would violate it.[65]

Questions a Resolution Must Answer

Here are some discussion points you may want to consider during your research and the progression of the committee. Please note that these discussion points are only meant to serve as a starting point for your debate and should not in any way limit your debate:

How have verification problems interfered with WMDs disarmament efforts before, and what has the effect of this been on international relations?

Is it possible to successfully verify that WMDs stockpiles have been destroyed when a state claims they have been?

Can verification processes be improved and made more reliable?

Why might certain countries oppose stricter or more thorough verification processes?

Suggestions for Further Research

United Nations Institute For Disarmament Research (UNIDIR)

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[65] https://unrcpd.org/wmd/

With over 40 years of experience, UNIDIR is an autonomous institution within the UN that conducts independent research on disarmament and related problems; particularly international security issues.

https://unidir.org/programmes/wmd

NATO Weapons of Mass Destruction:

The proliferation of weapons of mass destruction (WMD) and their delivery systems could have incalculable consequences for national, regional and global security. The potential effects of these types of weapons – which include nuclear devices, radiological material, biological pathogens and chemical substances – are some of the greatest threats that NATO faces. The Alliance is therefore working to prevent the proliferation of WMD through an active political agenda of arms control, disarmament and non-proliferation, while at the same time strengthening its capabilities to defend against attacks.

https://www.nato.int/cps/en/natohq/topics_50325.htm

International Partnership for Nuclear Disarmament Verification (IPNDV):

Understanding Nuclear Disarmament

https://www.ipndv.org/learn/understanding-nuclear-disarmament/

Nuclear Threat Initiative:

'The Nuclear Threat Initiative is a nonprofit, nonpartisan global security organisation focused on reducing nuclear and biological threats imperilling humanity.'

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