

A Comparative Analysis of the Feasibility of Nuclear Disarmament Through Humanitarian Considerations

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Abstract

In response to this year's theme of the Critical Issues Forum, our paper will propose a humanitarian approach to nuclear disarmament and non-proliferation. To model our solution, we look to the varying levels of success humanitarian efforts have had in regard to slavery, chemical weapons, land mines, and CFCs. We then analyze the factors that led to each movement's successes and failures. These precedents will guide us on the path to a more peaceful future, and through an understanding of the humanitarian initiatives of the past, we will be better able to lay the foundation for a world without nuclear weapons.

1 Overview

Nuclear weapons are powerful and can be delivered with exceptional speed and accuracy. Nuclear explosions result in release of radiation which has both an immediate and residual impact. Usually, the radiation that is emitted during the first minute after a nuclear explosion is mostly gamma and neutron radiation. Statistically, there are few casualties from initial radiation. The weapon debris, fission products, and radiated soil all result in residual radiation. For humans, exposure to residual radiation can have devastating impacts. The chart below lists the varying impacts of radiation based on size of dose in rems (Atomic Archive).

Radiation in rems	Effects
5-20	Possible late effects; possible chromosomal damage.
20-100	Temporary reduction in white blood cells.
100-200	Mild radiation sickness within a few hours: vomiting, diarrhea.
200-300	Serious radiation sickness and hemorrhaging
300-400	Serious radiation sickness, marrow and intestine destruction
400-1000	Acute illness, early death
1000-5000	Acute illness, early death in days

Table 1: Radiation Impacts Based on Size of Dose

Some immediate, acute effects on human beings can be seen in loss of hair, seizures, nausea, blood vomiting, diarrhea, thyroid gland impact, and damage to reproductive tracts leading to infertility. Unfortunately, long after these immediate effects have subsided, the radiation can have long term devastating effects on the human race like leukemia, cataracts, malignant tumors leading to cancer of different organs, and keloids (Atomic Archive).

Alarmingly, as of Dec 1, 2014, per Federation of American Scientists, the total number of nuclear warheads stood at 16,300. Iran has an advanced nuclear weapons program and Syria is also believed to be developing a weapons of mass destruction program. Since the continued existence of these nuclear weapons poses a threat to humanity, we support the effort to prohibit the use of nuclear weapons.

2 Background

In order to holistically analyze the causative and relational factors with regards to the key question “*will humanitarian initiatives lead to the negation of a nuclear weapons convention?*”, we propose an empirical investigation into previous successful strategies. As such, we decided to focus on four key historical “turning points” that bear close resemblance to the nuclear arena today. Specifically, we examined the abolishment of slavery, the ban of certain chemical weapons including mustard gas, the prohibition of land mines, and monitoring policies of chlorofluorocarbons; policies which stemmed from humanitarian initiatives.

3 Historical Attempts

In our investigation of historical similarities of the movement towards nuclear nonproliferation, we highlighted four key political proposals that altered the course of history. Here we present our findings on each policy, together with an analysis of their benefits and drawbacks as well as their connection to the nuclear era.

3.1 Abolishment of Slavery

From the dawn of the agricultural revolution, slavery has been engrained into many civilizations and societies throughout history, though its meaning, economic consequences, and political ramifications have changed greatly over time. In ancient societies, slavery served as a way to use prisoners or debtors as a productive means to benefit a society. During the colonial period, however, the purpose of slavery underwent a fundamental shift: innocent people were captured, shipped, and exploited for their labor in an attempt to simply reduce the cost of labor for European powers. It is this new slavery that can be best compared to nuclear weapons: both serve as a profitable means for a government or regime to increase its power and influence.

Between the 16th and 19th centuries, European rulers competed to colonize the world and increase their respective country’s wealth. The guiding economic principle of the period, Mercantilism, stated that there existed a finite amount of resources in the world, and thus in order to be competitive, European powers needed to quickly colonize and expand. This fierce competition led to a demand for both labor and low cost methods of extracting economic resources, which was primarily met with African slaves. Following the early colonization of the Americas, slaves proved especially valuable growing cash crops, such as sugar and tobacco, on large plantations in the Caribbean islands. The new sources of revenue enabled both economic expansion and financing for further colonization in the Americas.

By the 19th century, Europe and its colonies relied heavily upon slavery to maintain prosperous economies. Thus there was little motivation for abolition, and fierce opposition to those who advocated for the end of slavery. Yet in 1833, Great Britain abolished slavery, passing the Slavery Abolition Act in parliament. France and the United States followed suit, by banning slave ownership in the French colonies in 1848, and by passing the 13th Amendment in 1856, respectively. With the exception of the civil war in the United States, the end of legal slavery was abrupt in retrospect. Today, slavery is still a problem, and continues to plague all countries. Human trafficking continues to touch all corners of the world, and sweatshops continue to put workers in near-slavery conditions. Yet the legal abolition was generally successful in ending a system that was once vital to the majority of the world’s economies. Thus, it seems improbable that such a profitable institution would be eradicated so quickly, so what enabled this relative success?

The abolition movement in both Britain and the United States were rooted in humanitarian efforts. Building upon the Enlightenment Era and the ideals of the French Revolution, abolitionists questioned the justifications for economic exploitation, institutionalized racism, and dismissal of basic human rights. The most widely accepted reason for abolition is that these social movements were able to apply pressure to political leaders, which eventually led to the legal banning of slavery.

However, there was also strong public opposition to abolition, particularly for those with economic stakes in plantations, companies, etc., built on slave labor. It seems wildly optimistic that politicians

were easily swayed by the opinions of leftist reformers over their pockets.

Leading up to the Slavery Abolition Act in Britain, the profitability of sugar was declining as the French were outperforming Britain's production. British plantations were overworked, their soil less fertile, as slaves continued to die due to disease and poor conditions. The high turnover made owning slaves increasingly costly. As French sugar flooded the market, the global price of sugar declined, making it even more difficult for plantation owners and slave-holders to generate a profit. Thus, because of the inadvertent economic discentive that was created for sugar and by extension, slave-labor, "it was the former slave owners... who now held the humanitarian torch," protesting against "a system of man-stealing against a poor and inoffensive people" (Williams, 1944, p. 175).

Similarly in America, economics dominated the fight over slavery. As the industrial revolution took hold of the nation, factories and companies based on free labor expanded rapidly in the northeastern United States, while the South continued to expand its plantation economy based in cotton. In tandem with Manifest Destiny, the expansionist sentiment of the country during the 19th century, both the North and South wanted to see their version of an American economy spread coast-to-coast. Soldiers of the Union and the Confederacy were not only fighting over the moral justifications of slavery, but also the plantations and factories they built, worked, and owned.

According to Williams (1944), the "humanitarians, in attacking the system in its weakest and most indefensible spot, spoke a language that the masses could understand. They could never have succeeded a hundred years before when every important capitalist interest was on the side of the colonial system" (p. 136). Thus, while humanitarian movements based in moral reform provided the base for abolition, the combination of social pressure and most importantly, the economic disincentive, is what ultimately made these policies successful.

3.2 Ban of Chemical Weapons

Unless used for legitimate purposes, toxic chemicals are considered chemical weapons. Most common of these chemicals are chlorine, phosgene (a choking agent), and mustard gas. Chemicals have been used in warfare since ancient times; examples include the poison arrow, boiling tar, and arsenic smoke. We witnessed the devastating effects when 124,000 tons of chemicals were spent during World War I. The use of chlorine and phosgene gases resulted in approximately 90,000 deaths and one million casualties, leaving the world shaken with the impacts of chemical weapons (OPCW). This led to a huge outrage of their use, and public sentiment was very effective in establishing successful arms control agreements. Although history saw another conflict resulting in World War II, a truly global war, there was very minimal use of chemical weapons aside from the poison gases used in Nazi concentration camps. Although not on a large scale, the repeated use of chemical weapons in the Iran-Iraq war led to the first effective and successful ban on chemical weapons use.

Realizing the devastating effects of the use of chemical weapons, several attempts have been made for chemical arms control agreements. The Hague Convention of 1907 was an initial attempt to restrict the use of chemical weapons, although its legitimacy was violated during World War I. The 1925 Geneva Protocol took steps to prohibit the use of chemical and biological weapons in war. Even though the use of chemical weapons was minimal during World War II, the Geneva Protocol had a few major shortcomings in that it did not prohibit development, production, or stockpiling of chemical weapons (UNODA). Furthermore, ratified states reserved the right to use prohibited weapons against non-ratified states. Following the use of chemical weapons during Iran-Iraq war, in January 1993, the Chemical Weapons Convention (CWC) officially prohibited the development, production, stockpiling, and use of chemical weapons and mandated their destruction. This was the first agreement which provided for the elimination of an entire category of weapons of mass destruction under universally applied international control. In April 1997, the Organization for the Prohibition of Chemical Weapons (OPCW) was established to implement the provisions of the CWC.

The success of the CWC may be attributed to its clear, definite timeline for the destruction of the chemical weapons. Its overwhelming support from 189 member state-parties (which comprise 98% of the population) illustrates its global acceptance (OPCW). According to the OPCW, 43,131 metric tons of chemical agents have been destroyed as of September 2010, which is 61 percent of the world's declared

chemical weapons stockpiles of 71,194 metric tons. As of Dec 31 2011, 72.85% of Category 1 and 52% of Category 2 chemicals have been destroyed (UNODA, 2011, p.63). The deep commitment of the member State parties accompanied by effective management and execution of the OPCW has led to widespread disarmament and steps toward effective prohibition of chemical weapons usage.

In spite of the significant progress, 30,000 metric tons of chemical weapons still need to be eliminated (Walker, 2010). The road to elimination has been faced with numerous environmental, financial, and political challenges along the way. In order to ensure public health, protection of the environment, and worker safety, the cost of eliminating chemical weapons has skyrocketed and the deadline to destroy them has been extended. Although ongoing inspections of chemical facilities will continue to enforce the ban on chemical weapons, transparency and full cooperation of the members is required. In order to achieve global elimination, it is critical that all countries (including the five active industrial developers that have not signed the prohibition) are active and willing participants in this effort. Finally, advancements in science and technology have led to the development of even more deadly chemical agents which, along with their benefits, pose a huge threat to mankind. Unfortunately, there is also a large and pressing risk of radicals gaining access to weapons of mass destruction, leading to potentially horrific consequences and ramifications.

It is difficult to believe that we have been able to successfully implement elimination on a whole class of weapons of mass destruction. It is truly an excellent example of how an international cooperative effort, in spite of its many unique challenges, was able to provide astounding results. Considering the inhumane nature of chemical weapons, it is natural that we were able to achieve these results on moral grounds for the continued survival of mankind and our civilized existence. The unanimous consensus that the use of the chemical weapons is monstrous as well as the determination of State legislatures were contributing factors that led to the successful multi-lateral agreement that bans the use and stockpiling of chemical weapons. The CWC is a historic step in arms control and disarmament; nuclear and biological disarmament initiatives ought to follow suit to make this world a safer and more peaceful place for future generations.

3.3 Prohibition of Land Mines

The introduction of tanks in World War I required a counterforce to curb their power. Anti-vehicular landmines, specifically designed to destroy tanks, filled this role, albeit with one problem—enemies often stole these mines and repurposed them (McGrath, 2000, p. 1). Armies needed a way to prevent their enemies from stealing their own mines, and so the rise of the anti-vehicular mine necessitated the development of the anti-personnel mine, which indiscriminantly kills any human who triggers it, civilian or soldier.

The Ottawa Convention of 1997 that led to the signing of the Mine Ban Treaty, grew from the seeds of previous humanitarian efforts, namely the failed Conventional Weapons Review Conference of 1996 in Geneva. Tired of the lack of progress on the governmental side, non-governmental organizations (NGO's) decided to take charge and led the initiative to ban landmines. The Mine Ban Treaty of 1997 is largely the result of the efforts of NGO's such as the International Campaign to Ban Landmines (ICBL) and small to medium sized countries such as Canada, Australia, and the Nordic countries (Anderson, 2000, para. 46).

The treaty is remarkable since it is one of the first instances where NGO's and smaller powers took charge in the post-Cold war political scene to prompt a situation out of stalemate. In fact, one of the reasons why the treaty was signed was to challenge the United States' position as a hegemon. Many signing parties believed that banning mines would cut into the military power of the United States (Anderson, 2000, para. 46).

However, there are moral reasons to ban landmines as well. Landmines explode upon contact and, much like nuclear weapons, do not discriminate between civilians and soldiers. In fact, they often kill more civilians than soldiers. Their threat is present in both wartime and peacetime, and mine affected areas must live with the consequences long after armies have left. For rural communities that depend on the land as an economic resource, this reality is especially difficult to face. Victims of mine blasts, if they survive, must amputate their limbs. Sometimes in rural areas, hospitals with the ability to perform

these operations are far away, and victims often have to fly or drive for hours to reach them. Minefields are typically unmarked and vary in size (McGrath, 2000, p. 31, 48). There is no one common descriptor for minefields, making it difficult to distinguish them from safe areas, especially for those with no mine education. While landmines' purpose in war is to deny the enemy strategic ground, during peacetime, they end up displacing communities that no longer have a means to support themselves.

Furthermore, landmines have no great military value which makes their prohibition more necessary and easier to realize. As United States General Gray who served as a Marine in Vietnam once stated, "we kill more Americans with our mines than we do anybody else. We never killed many enemy with mines [...] In the broader sense, I'm not aware of any operational advantage from the broader deployment of mines" (as cited in McGrath, 2000, p. 28).

The Mine Ban Treaty of 1997 prevents the production, trade, and stockpiling of anti-personnel mines. As of 2015 there are 162 signees to the treaty, and 35 parties who have not signed, notably Russia, China, Pakistan, India, and the United States (ICBL website). Obviously, the refusal of world powers to sign the treaty diminishes its authority to some degree. Furthermore, the treaty makes no mention of anti-vehicular mines which poses a problem since anti-vehicular mines are just as dangerous, and states can develop new mines that exhibit characteristics of an anti-vehicular mine but contain anti-personnel abilities (McGrath, 2000, p. 17). The Mine Ban Treaty also binds signatories to a strict timeline. Within four years of signing, a state must clear all mines within its territory. Furthermore, states signing the treaty agree to cooperate with other states to develop and share mine clearance technology and aid mine afflicted communities on the path to recovery (Mine Ban Treaty, article 4, article 7).

During the signing of the treaty, the United States offered to join if some exemptions were made. The U.S. wanted to keep their mines as well as to keep the Korean Peninsula outside the treaty (Thakur, 1999). Following this course of action would have greatly weakened the integrity of the treaty, and the other parties refused to appease.

Both nuclear weapons and landmines are purposed to reduce enemy morale. As defined in the 1934 British military manual "land mines are explosive charges laid in the ground with the object of delaying the advance of the enemy by impairing his morale (as cited in McGrath, 2000, p. 3). The same can be said about nuclear weapons. The only two times atomic bombs were dropped over Hiroshima and Nagasaki during World War II, they had a significant impact on the Japanese decision to surrender, partly because of the sheer amount of human life extinguished in so short a time. Like landmines, if nuclear weapons were ever to be used again, the majority of victims will be civilians in homes, not soldiers on the battlefield.

3.4 Reduction in the Use of Ozone Depleting CFCs

In the mid-19th century, chloroflourocarbons (CFCs) began to be used in many industries and applications as refrigerants, solvents, and aerosol propellents. Manufacturers universally praised them for their chemical stability, non-flammability, and inexpensiveness and for a long time were convinced that they were "miracle" substances.

In reality, they were very wrong. Earth's stratosphere contains a small quantity of a compound called ozone that protects life in the lower atmosphere from a specific band of ultraviolet light called UVB (UV light emitted by the sun that measures between 280 and 315 nanometers in wavelength). While chlorine present in sea salt, swimming pools, and industrial plants easily combines with water and is rained out of the troposphere (the lowermost section of the atmosphere where human activity takes place), CFCs do not dissolve in rain and eventually make their way to the stratosphere where they destroy precious ozone molecules. Increased UVB exposure has been linked to many detrimental effects including increased instances of non-melanoma skin cancer, malignant melanoma cancer, the death of marine life, the prevalence of human cataracts, and crop death.

In the early 1970s scientists began studying the effect of CFCs on the atmosphere, among them were the chemists Frank Sherwood Rowland and Mario Molina at the Univeristy of California, Irvine, who beginning in 1973 launched a study. They quickly discovered the aforementioned resilience and durability of CFCs where they would destroy large amounts of ozone. Prior to their work, Paul J. Crutzen

and Harold Johnston had shown that nitric oxide could spur the destruction of ozone but no one had believed CFCs could be responsible for such catastrophic damage. After testimonies at the US house of representatives and further work conducted by the US national academy of sciences, the suspicion was confirmed and the US and a few countries immediately began to limit the use of CFCs. The United States banned the use of CFCs like Freon in aerosol cans in 1978. But much to scientists' alarm, other uses for CFCs were discovered and expanded and their use actually increased. The event that spurred legislative and policy action was the result of 1985 measurements recorded by British Antarctic Survey Scientists. They discovered abnormally low ozone concentrations over Antarctica and speculated that it was the result of CFC usage. NASA confirmed the findings with satellite readings.

Representatives from 20 countries convened in Austria for the Vienna Convention for the Protection of the Ozone Layer. The convention was designed to act as an international framework for the protection of the ozone layer but included no specific agreements or deadlines for reducing CFC usage which were included in the accompanying Montreal Protocol. The Montreal Protocol set up a CFC and HCFC phase-out management plan and established a multi-lateral fund that assists developing nations (147 of the 197 parties participating in the protocol) in the conversion of existing processes, training personell, and establishing national ozone offices. The Montreal Protocol is regarded as the most successful multi-lateral treaty of all time, signed by 46 states and ratified by 197 including the European Union, every member of the United Nations, the Holy See, Niue, and the Cook Islands. The Montreal Protocol and Vienna Convention became the first two universally ratified treaties in United Nations history.

As a result of the Montreal Protocol, the ozone layer is scheduled to return to pre-1980 levels within the next 50-70 years making the treaty extremely effective. Consumption of ODS (ozone depleting substances) has declined 98 percent as a direct result of the protocol.

4 Proposed Solutions

In the following subsections we propose various policies that utilize the major successes of the historical humanitarian efforts. We found that incentive, organizations separate of political influence, and definite time frames were all tenets of what made successful abolition of slavery, ozone, and other weapons. By applying those successes to nuclear weapons, we hope to create a strategy to reduce the risk of nuclear proliferation built upon proven methods from the past.

4.1 Eliminating Motivations for Nuclear Weapons Development

Before proposing a set of specific actions to be undertaken to reduce the use and possession of nuclear weapons, it is essential to consider the reason why nations develop nuclear programs in the first place. The primary reasons nations take any action are based in the interests and gains those actions advance. In the instance of slavery, abolition in Britain began in humanitarian efforts, but succeeded through peaceful means because the economic benefit of slavery vanished as the profitability of sugar declined. Ultimately it was the combination of the humanitarian political pressure combined with the loss of incentive that ensured the legal ban. Thus the incentives for countries to hold nuclear weapons must be considered.

The primary impetus for Project Manhattan and the creation of the first nuclear bomb was *fear* and national security. The United States had received rumors and intelligence that Germany was attempting to create a super weapon and thus began a program to build one as well. However, they won the race and ran successful tests of nuclear weapons before the end of World War II. Fear was also a pervasive factor in the years following World War II and in the Cold War when the nuclear arms race began. While the United States and the Soviet Union were the only two powers that competed on such a large scale in regard to nuclear warhead production, many other nations also began to initiate nuclear programs which they believed would mark their entry onto the world stage. Yet another significant factor is national pride. America prided itself on its nuclear monopoly following World War II and many countries are developing nuclear capabilities not out of necessity but out of national pride, to be able to count themselves among the nuclear powers. Thus, our plan must address the issue of national security, fear, and national pride.

Given that national security is the primary motivator for nuclear weapons, a plan that calls for complete worldwide disarmament is not practical. Nuclear weapons will most likely always exist. Even if the

world disavows their production, some countries will continue to develop or possess them in secret, and there is always the chance of a rogue nation secretly possessing a nuclear monopoly and then unveiling it at a later date. We must accept, as a species, that we have scientifically progressed to the point where the complete eradication of nuclear weapons is highly unlikely. Thus our aim must be to reduce the risk from current nuclear powers while simultaneously turning the incentive for other countries to join.

4.2 Centralization of Nuclear Weapons

Currently, what we consider the greatest danger regarding nuclear weapons is the number of nuclear capable parties rather than the worldwide quantity of nuclear warheads. A large amount of nuclear capable nations makes it more difficult to compromise, mediate, and conduct diplomacy between countries. To ease diplomacy, and make non-proliferation a more obtainable goal, we propose a council, similar to the United Nations Security Council that will regulate the distribution and use of nuclear weapons. The nations on this council will choose a country among the current Nuclear Weapons States, as recognized by the NPT, to represent their nuclear requirements and interests. For example, the United States could represent Japan, South Korea, and its NATO allies. China could represent itself, North Korea, and a number of its allies in Asia. Together all the countries will form five “nuclear families” headed by China, France, Russia, the United Kingdom, and the United States. Countries in the Council will establish a practice of co-ownership. Before any nuclear weapon is to be deployed, the representative state must meet with all its allies and unanimously agree to launch the weapon. Furthermore, all five nuclear families will meet on a bi-annual basis in order to make their nuclear intentions clear.

In moving toward this proposal, countries will dismantle their nuclear programs because they will no longer feel threatened, with their trust in a nuclear capable ally, solving any national security concerns. The aim of consolidating the global nuclear stockpile into the hands of a few parties is to reduce the need of Non-Nuclear Weapons States to pursue their own nuclear weapons programs while reducing the possibility of a nuclear launch. Metaphorically, our plan extends the “club” to all countries, thus reducing the incentive for their own nuclear development.

A potential problem is that our proposal creates a similar “web of alliances” that enabled the global nature of World War I and the Cold War, via NATO and the Warsaw pact. To account for these concerns, the legislation that creates this council must include specific language to avoid the entanglement of alliances. Representatives will only threaten the use of nuclear arms when an explicitly nuclear threat has been made against one of its constituents.

It is important that the council focuses solely on nuclear affairs and remains outside the realm of politics and other military matters. Although it is difficult to remove politics from any organization, by framing our program as a nuclear consolidation effort and restricting all discussion within the forum to nuclear related matters, we hope to limit political involvement. Countries that choose to join a nuclear family will have no obligation to the other countries in the family other than to meet on a regular basis and to disarm any existing nuclear weapons. In return they will have limited access to the weapons of their respective NWS representative, thereby reducing the chances of rash decisions by nation-leaders and hopefully avoiding the mobilization of alliances that plagued World War I.

4.3 The Role of Non-Governmental Organizations

The current nuclear gridlock closely resembles the inability for governments to agree on a policy for landmines in the 90s. To push past the standstill, NGO’s took the initiative to propose their own treaties and hosted voting outside of the UN’s governmental forum. Furthermore, the NGO’s were unwilling to yield to the larger powers’ demands which would have compromised the treaty.

While addressing national security and pride via nuclear centralization, we wish to further disembodiment the incentive for other nations to continue military nuclear programs. Historically, the open-sourcing of information was extremely useful in reducing the use of CFCs. Scientists at Greenpeace were able to create an alternative to CFCs entirely free of fluorocarbons, CFCs/HFCs or HFCs, in both the refrigerant cycle and the insulation that was widely adopted and now cools over 300 million refrigeration

units. Thus to decrease the incentive of military nuclear development, a similar organization must be established to both research and monitor nuclear weaponry.

Thus we also propose a renewal of several aspects of the Baruch Plan, a short-lived proposal written by Bernard Baruch but based on the Acheson–Lilienthal Report, to the United Nations Atomic Energy Commission (UNAEC) during its first meeting in June 1946. The plan proposed to:

1. Extend between all countries the exchange of basic scientific information for peaceful ends
2. Implement control of nuclear power to the extent necessary to ensure its use only for peaceful purposes
3. Eliminate from national armaments atomic weapons and all other major weapons adaptable to mass destruction
4. Establish effective safeguards by way of inspection and other means to protect complying States against the hazards of violations and evasions

To implement the ideas outlined in the Baruch Plan, we propose the creation of two organizations. First, an organization that will oversee the mining, enrichment, and trade of fissile material. The second organization will be a politically independent organization (NGO) dedicated towards research of nuclear monitoring solutions, nuclear defense systems, nuclear reactor safety protocols, and other non-weapons related nuclear research. The latter already partially exists in the form of the International Atomic Energy Agency (IAEA) but it has outlived both its usefulness and its effectiveness. The IAEA’s response to the Fukushima accidents were slow and inadequate and as Najmedin Meshkati of the University of Southern California aptly noted, “it recommends safety standards, but member states are not required to comply; it promotes nuclear energy, but it also monitors nuclear use; it is the sole global organization overseeing the nuclear energy industry, yet it is also weighed down by checking compliance with the Nuclear Non-Proliferation Treaty (NPT)”. In addition, its complicated mandate makes reform extremely difficult to implement and member states do not have to be signatories or ratifiers of the NPT. Thus we recommend the dissolution of the IAEA in its current form. Our new proposed will open source all of its scientific findings and maintain complete transparency, giving no one country any kind of nuclear advantage over another.

As the global community begins to take responsibility for the monitoring of nuclear testing, there will be less pressure on the NWS to defend their political standing. The threat to their nuclear hegemony will diminish while still allowing them to be among one of the few owners of nuclear weapons.

In addition, the combination of nuclear surveillance and open-sourcing of nuclear defense systems will further disembodify the incentive for development of nuclear weapons. Increasing the political costs while decreasing the economic viability of nuclear weapons will further discourage rogue states from pursuing weapons programs.

A potential problem of this open-sourcing is that it may encourage another arms race; a competition between weapons production and weapons defense systems. To account for this, the NGO, with sufficient funding, should be able to remain miles ahead in technological development, thus increasing the cost for rogue states to develop anything effective. Further, the advanced monitoring of nuclear activity will be able to give advance-warning to the NGO.

4.4 A Timeframe for Disarmament

As nuclear detection improves and nuclear technology for peaceful purposes becomes widely available, the benefits of disarmament will outweigh the incentives to develop nuclear weapons for countries under the larger nuclear umbrella. Part of the reason why the Mine Ban Treaty of 1997 and the OPCW, the disarmament of chemical weapons, were considered successful was because they outlined a definite timeframe for the clearance of mines.

Currently the NPT has no timeframe for nuclear weapons states (NWS) to disarm their arsenals, rather trusting the NWS to pursue disarmament in “good faith” (Perkovich, 1998). The NPT is unique

in that it is a treaty that discriminates between two parties. Holding NWS to a strict timeline for disarmament will alleviate some growing tensions between the NWS and the NNWS. The aforementioned proposals will raise the national status and prestige of the NNWS, as they now have some control over the nuclear stockpile and access to the latest nuclear research. If the NNWS choose to take part in the Nuclear Council, they should be in possession of no nuclear weapons. Invitation should remain open to states who have violated or have yet not signed the NPT, and they should disarm completely within one year of admittance into the Council.

The difficulty, however, lies in convincing NWS that adhering to a timeline for disarmament benefits them. Ideally NWS should disarm one tenth of their stockpile each year. However, since Russia and the U.S. have stockpiles disproportionate to the stockpiles of China, France, and the U.K., the three latter countries may postpone disarmament until all five NWS have a relatively similar number of active warheads.

5 Conclusion

If any significant nuclear negotiation is to be reached at the upcoming NPT review conference, the nuclear weapons states must be able to compromise with the non-nuclear weapons states without diminishing the treaty's authority, admittedly a difficult task. The proposals we have listed above aim to lessen that gap by balancing and realigning the incentives of disarmament with political interests. For a long time, nuclear disarmament and non-proliferation have largely been driven by the fear of mutually assured destruction. Though nuclear apocalypse seems but a dim figment of the past and an unlikely possibility today, it should not take a major catastrophe to remind us of the dormant yet real dangers of nuclear weapons. Therefore, it is necessary to find more creative methods of framing the argument against nuclear weapons that assess and respond accurately to the current needs and fears of our global community. This paper represents but a small shift in approach to the great nuclear issue that builds upon the work laid in the Cold War era but is not afraid to grow beyond it.

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