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The Future of Weapons of Mass Destruction

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Introduction

Since the first use of modern chemical weapons in World War I, Weapons of Mass Destruction (WMDs) have improved drastically in lethality and longevity. These advances in weapons production, coupled with civilian industries that can be rapidly converted to produce these weapons, provide a serious concern to the future of global security. For these reasons, further action is needed by stakeholders, specifically the United Nations (UN) and global superpowers, to curtail the development, proliferation, and WMDs utilization, for both domestic and international peace and prosperity. Following are two ways the future security of WMDs can be addressed by the aforementioned stakeholders:

- Maintain status quo with current treaties and preventive measures
- Revamp arms treaties and ensure there are consequences for violations

Each of these issues is described and discussed in this brief. To understand the gravity of the policy decisions that must be made in regard to WMDs, we present a brief background, WMDs' risks and benefits, maintaining the status quo of WMD policy, and offer policy alternatives and recommendations.

Scope of the Problem

Today, certain WMDs are easier to obtain than ever. Unlike nuclear weapons, which require significant investment and knowledge to be created, Chemical and Biological WMDs can easily be made by repurposing civilian facilities [1]. Consequently, these two WMDs can deliver serious damage to both the personnel caught in the weapons deployment and the environment [1]. As the use of these weapons increases, namely by developing nations and non-state actors, we must determine what countermeasures must be taken to deter this erroneous behavior, because there will continue to be threats in the future.

Among the history of WMDs use, international treaties and protocols leading to the limitation of testing and usage have followed, which many nations follow extensively. Organizations created through the United Nations Office of Disarmament Affairs or by national entities have achieved the



safe disposal of many of the world's WMDs. Additionally, meetings with other WMDs users created agreements on limitations towards the deadliest weapons in the world [2].

Despite these advancements, there are still problems related to WMDs. While most nations adhere to the documents banning WMDs use on the battlefield, some nations do not abide by these conventions and further increase and sophisticate their stockpiles [3]. This disregard for the law, coupled with production of WMDs, has led to use of such weapons via terrorist attacks and by rogue, developing nations, with few consequences for the violators.

Risks and Benefits

The risks posed by these weapons remain extensive. All three forms of WMDs lay in the surrounding areas of effect for long periods of time, affecting both the civilian populace inside of the area and in the environment, in some cases causing irreparable damage to the ecosystem. These problems, in turn, cause economic and political difficulties for the nations affected by these weapons.

While the risks of WMDs in the world are high, WMDs also have some level of benefit. With close monitoring and control of WMD arsenals worldwide, they have served as a dissuasion from further large scale or worldwide conflicts, as the threat of mutually assured destruction has influenced many powerful nations. Possession of these weapons allows smaller nation-states to have more authority internationally and given them bargaining power to prevent larger nations from political or military imposition.

The ethics of using WMDs remain fiercely debated, as examples show long lasting effects that came from their destructive powers. Furthermore, most nations wish to liberate the world of such weapons as a means to ensure

protection to both civilians and the environment alike [2]. Unfortunately, most nations who possess a WMD do not wish to rid themselves of the weapon, for a plethora of reasons, such as politically or for security. Fortunately, the utilization of these weapons has happened only a few times, and treaties and retaliation fears have driven wielders to keep the weapons on standby.

WMDs retain an immense cost for the upkeep and maintenance required to maintain optimal use [4]. The funds for upkeep of such weapons can put serious strain on nations with limited capacities in place. Moreover, containment breaches of the material in WMDs have shown to cause more serious consequences than the usage of the weapons themselves [5]. The majority of these consequences are environmentally and economically challenging, as civilian displacement and decontamination of the impacted area is expensive, while seriously detrimental to the wildlife surrounding the areas [6].

In order to curtail the destruction of both lives and land areas, more interventions and inspections of nations is required. Inspections of all nations' facilities with the capacity to create WMDs should be done without question or hindrance for the betterment of society, and reports should be open on what nations control which WMDs. Interventions for WMD deterrence, such as harsh economic sanctions and possible international ultimatums, may be needed to stop rogue actors.

Current Policy: Maintaining the Status Quo

Currently, there is the option to maintain existing levels of WMD security and monitoring. There has been very limited WMD usage in conflict and none between major superpowers

in a large-scale conflict. In addition, proliferation of WMDs is very low due to vigilant security of stockpiles and the secrets that could lead to weapons creation. Overall, the status quo may be the best way to address WMD security in the future because it has worked, and the international community is familiar with the current guidelines.

Chemical Weapons

Chemical weapons' current policy is more than adequate for eliminating stockpiles. The Chemical Weapons Convention (CWC) of 1993 called for and led to the elimination of chemical weapons from most nation's stockpiles. The United States is the only country which has complied and still is in the process of dismantling their remaining chemical weapons. However, some nations, such as Syria, do not offer full transparency into their arsenal and are assumed to have chemical weapons [7]. Guidelines stated at the CWC should be applied more rigorously to Syria and other nations in order to ensure complete compliance.

Biological Weapons

Biological weapons are also banned from nations' arsenals. However, current policy allows for countries to continue researching biological weapons to counter any potential attacks, whether from another enemy nation or a terrorist group. Similar to chemical weapons, biological weapons have not been used by a nation in conflict for a long time and are almost exclusively weapons of terrorist groups or rogue nations [8]. Current standards appear effective for keeping biological weapons off the battlefield and in the lab, for now as well as in the future.

Nuclear Weapons

Nuclear weapons are highly debated due to their destructive power and use in real conflict (as

compared to other WMDs.) There are a number of policies and treaties which attempt to limit nuclear arsenals and their continued proliferation. The United Nations has many laws which are largely symbolic, but the United States and Russia have the Strategic Arms Reduction Talks (START) treaty, which reduced the two nations' nuclear arsenals since the end of the Cold War [9]. Other nations, such as India and Pakistan, have treaties. While agreements may not be as comprehensive and all-encompassing for completely removing nuclear weapons, nuclear weapons have not been used during war since 1945.

Policy Alternatives and Recommendation

While current policies have prevented recent use and proliferation of WMDs by major powers, the global situation is constantly evolving. Chemical weapons were used by some nations in smaller conflicts and on their own people [10], biologicals can potentially be weaponized by nations studying their effects, and nuclear weapon treaties are not effective or consistent enough to apply to every nation. Because of these issues, there must be some change and evolution in the policies that govern WMDs to preserve security of countries around the world.

Current policy needs to be granted more support, making the enforcement more effective. The Organization for the Prohibition of Chemical Weapons (OPCW) should have greater authority to go into countries to examine their stockpiles and current chemical weapon research. This examination would prevent rogue nations from secretly building stockpiles and using WMDs on their citizens or adversaries. Greater transparency should also be applied to biological weapons research. While countries need research programs to counteract potential

attacks, an independent commission should be able to examine each country's program to ensure no research into weaponizing is occurring. Lastly, nuclear treaties need to have greater enforcement. Current UN laws have little to no backing and punishment for violating treaties has no power. With China, North Korea, and Iran increasing their nuclear arsenals, sanctions should be imposed for not complying with weapons limitations as well as any proliferation of secrets or technology.

Conclusion

Usage of WMDs leads to unimaginable and horrifying consequences, especially as technology continues to develop the weapons' lethality. Whether it is the environment, economic, or societal costs, the destruction caused is astronomical. For these reasons, it should be in the interest of all nations to enforce limitations on possessors of WMDs, inspections towards all nations for any possible violations of international agreements towards WMDs, and serious repercussions for rule violators. This can be done by giving the United Nations more power and resources to combat rogue actors and thwart any possible use of these weapons.

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