



## UN SECURITY COUNCIL

### The Current State of Nuclear Weapons

By Horatio Thomas

#### Introduction

The common depiction of nuclear chaos illustrates the full magnitude of the bomb's destructive capabilities. The usual imagery consists of mushroom clouds, decimated cities, unimaginably large fireballs, and radiated victims. In H.G Wells' novel *The World Set Free*, however, Wells properly predicts the full social implications of nuclear weapons over 20 years before the explosion of the first bomb. He writes that, "The catastrophe of the atomic bombs which shook men out of cities and businesses and economic relations shook them also out of their old established habits of thought, and out of the lightly held beliefs and prejudices that came down to them from the past." Rather than further magnifying the physical force released by the bomb, this prophetic statement illustrates how the atomic catastrophe fundamentally changed the lives and the beliefs that govern the interactions between people.

Wells' depiction of atomic bombs predicts the consequences of nuclear proliferation. Over the past 60 years, fear of nuclear weapons prompted the constructions of nuclear defense systems, increased tension between the North Atlantic Trade Organization (NATO) countries and the Union of Soviet Socialist Republics (USSR), and brought the two powers to the brink of war. At the height of nuclear tension and unsustainable proliferation, it also forced countries to pursue cooperation or face **mutually assured destruction (MAD)**. On the verge of disaster, choosing cooperation has already slowed the progression of nuclear development and alleviated existing fears of nuclear war. However, the large stockpiles that exist today and the looming threat of nuclear expansion, call for additional efforts to ensure a more permanent peace.

**mutually assured destruction (MAD)**—*theory that nuclear war would result in the global annihilation of humans*

#### History of the Problem

##### *Prelude to Catch-22*

The development of the nuclear bomb was an indirect consequence of the discovery of the **neutron**. Excitement about the neutron set off a wave of experiments that sought to characterize the consequences of firing this new particle at previously identified atoms. Bombarding **uranium** with neutrons produced unprecedentedly large amounts of energy and a peculiar variety of radioactive particles. German scientists were the first to elucidate this observation, dubbed the

**neutron**—*a neutrally charged subatomic particle that helps to make up an atom's nucleus*

**uranium**—*atom that must be purified and enriched in order to produce nuclear weapons*

uranium problem. They theorized that neutron bombardment split uranium unevenly to produce energy and smaller atoms. Further characterization of the uranium fission reaction revealed that the consumption of one neutron in the reaction yielded two additional neutrons. This discovery confirmed Leó Szilárd's (a Jewish scientist who fled to US via Britain during World War II) earlier postulate that neutrons could potentially induce a chain reaction that repeatedly splits atoms to release large volumes of energy. The race to create the first controlled nuclear chain reaction began with many scientists speculating about the possibility of constructing a high-yield neutron-based bomb.

In the United States, Leó Szilárd authored a letter - cosigned by Albert Einstein - that explained the possible consequence of nuclear fission to members of the Roosevelt administration. The Roosevelt administration established the **Manhattan Engineering District**, codenamed the Manhattan Project, to engage in the race to produce a nuclear chain reaction. With the beginning of the project, military scientists' usurped research focused on nuclear technology from academic scientists, and redirected research efforts towards the production of a nuclear bomb. Although the US garnered support for the \$2 billion (\$25 billion in 2009 US dollars) investment by citing fears of German competition, they continued the Manhattan Project after the German surrender. The Germans doubted the feasibility of building a nuclear bomb and lacked the resources needed to control a neutron-induced reaction. Their nuclear project progressed minimally during the war. Nonetheless, the United States ventured forward to produce a uranium-based (named Little Boy) and a plutonium-based (named Fat Man) nuclear bomb. On August 6, 1945, the US exploded Little Boy in Hiroshima, Japan and proceeded to explode Fat Man three days later in Nagasaki, Japan.

This dramatic ending to World War II only intensified cold war tension between the United States and the Union of Soviet Socialist Republics (USSR) while compelling the United Kingdom (UK) and France to pursue nuclear development. The USSR, which had begun its nuclear program in 1943, successfully exploded its first plutonium based atomic bomb in 1949: "Joe-1". The US's post-war investigation of **nuclear fusion's** productivity pushed the Soviets to expedite the development of Joe-1 and stimulated research into the feasibility of thermonuclear technology. Thermonuclear fusion allowed the US to produce a more compact atomic bomb that released exponentially more energy in 1952: a hydrogen bomb named "Mike". In the same year, the UK successfully detonated its first atomic bomb. In the following years, the Soviet Union would go on to test its first H-bomb, "Joe-4," and France would detonate its first nuclear weapon.

The production of nuclear weapons entrenched a feeling of insecurity that drove the development of weapons. The US argued that a weak nuclear stockpile would make the USSR less hesitant about bomb-

**Manhattan Engineering District (MED)**—commonly known as the *Manhattan Project*; refers to the project convened under the Roosevelt Administration to develop the nuclear bomb

**nuclear fusion**—the fusion of two atomic radii

ing the US. The increase in the number of players only complicated the problem. The growing number of Western states dashed the USSR's hopes of attaining nuclear dominance. To balance the scale, they aided China's development of an atomic bomb in the early 1960s. The USSR's endeavor to outsource nuclear technology to allies also led to its attempt to place nuclear arsenals in Cuba. The resulting **Cuban Missile Crisis** marks the height of nuclear tensions between the United States and the USSR. The threat of nuclear confrontation illuminated the **catch-22 paradox** associated with nuclear weapons. The initiators of the nuclear project expected it to secure states; instead, it produced a system where additional proliferation was necessary, worsened tension, and magnified international insecurity. Essentially, both proliferation and nuclear disarmament made everyone feel less safe.

#### *Move to Non-Proliferation*

The imminent danger posed by nuclear weapons compelled many to protest continued proliferation. The Stockholm Peace Appeal of 1950 called for a complete ban of nuclear weapons development and stockpiling. Over 500 million individuals from 79 countries signed the measure. In the coming years, Britons followed up these original protests by launching the Campaign for Nuclear Disarmament. These efforts led to the first major nuclear technology treaty signed by the US, USSR, and the UK in 1963. The three nuclear powers, joined by 116 other countries, agreed to prohibit nuclear testing in outer space, above the ground, and underwater in the Limited Test Ban Treaty. Four years later, these three nuclear powers also entered a treaty to prohibit putting any weapon of mass destruction in orbit in outer space. China abstained from signing both treaties at the time and went on to test its first H-bomb in 1967.

The fear associated with the increasing number of countries possessing nuclear weapons led to the signing of the Nuclear Non-Proliferation Treaty of 1970. In this landmark treaty, China, France, the UK, the US, and the USSR agreed not to "assist, encourage, or induce" the acquisition of nuclear weapons by non-nuclear states. In addition, the treaty encouraged the **nuclear powers** to ease international tensions and to move towards disarmament. It concurrently emphasized the potential use of nuclear technology for peaceful energy generation and underscored the egregiousness of the tenuous international climate that the previous decades of proliferation produced. During the period of negotiation of the non-proliferation treaty, however, the US surreptitiously established an agreement within the North Atlantic Trade Organization (NATO) that allowed it to place nuclear weapons in affiliated countries. This agreement stipulated that the US would retain full control over these weapons. In the coming decade, the US would exploit these

**Cuban missile crisis**—*a 13 day faceoff between the United States and Russia in 1962 concerning the Russian placement of nuclear*

**catch-22 paradox**—*defined in Joseph Heller's novel Catch-22, a situation in which an entity only has options that produce unacceptably negative consequences*

**nuclear power**—*China, France, Russia, UK, US; title given to each of the five states who have the most sophisticated nuclear arsenal*

agreements to place its nuclear arsenals and defense systems around the world.

### *Reaching the Modern Nuclear World*

In spite of the US's contentious maneuvering to expand its **nuclear radius** via NATO, it continued to engage Russia in peace talks throughout the 1970s and 1980s. Through these talks they categorized their nuclear weapons mainly into two categories: **strategic nuclear weapons (SNW)** and **tactical nuclear weapons (TNW)**. The SNW category is composed mainly of **intercontinental ballistic missiles (ICBMs)** and **submarine-launched ballistic missiles (SLBM)**. ICBMs and SLBMs carry the largest warheads, produce the most energy upon detonation, and can strike the most distant targets. The primary distinction between the two types of SNWs is that ICBMs are fired from land-based launch sites whereas SLBMs are fired from special submarines. The crude power of SNWs makes them useful only in a situation that calls for the elimination of a large population or the indiscriminant destruction of a large area of land. They produce the large mushroom cloud explosion associated with nuclear weapons. TNWs on the other hand were designed for their precision. These bombs would carry short-range arsenals that produce more controlled explosions. Essentially, TNWs are intended to reach targets (particularly underground ones) that could not otherwise be destroyed by conventional weapons with a minor increase in explosive power.

In addition to the naming scheme, these talks produced the **Strategic Arms Limitation Talks I (SALT-I) agreement**. In this agreement, both countries agreed to impose a cap of 100 **anti-ballistic missile system (ABMS)** launchers and missiles. Each country had engaged in the construction of ABMSs to defend against the possibility of a nuclear attack. In theory, ABMS launchers and missiles would destroy an enemy's strategic nuclear arsenals before the bombs could be systematically detonated. Because the high yield explosion depends on an induced chain reaction, destroying the warhead after it has been launched but before it detonates would completely cripple the weapon. The increase in these defensive systems posed the biggest threat to the US and Russia strides toward peace because it could make either country more inclined to use its weapons if it believed it could effectively cripple retaliatory attacks.

In 1992 the US and Russia extended the ban on ABMS with an interim agreement that restricted both countries' construction of additional ICBMs. It allowed them to increase the number of SLBM launchers if each country cut its supply of active ICBMs and SLBMs. Although the US and the USSR had a minimal increase in the number of ICBMs and SLBMs after 1968, there was an increase in the number of

**nuclear radius**—the furthest distance from a nuclear state's borders that the nation can bomb at any moment

**strategic nuclear weapons**—ICBMs and SLBMs

**tactical nuclear weapons**—short-range, small, nuclear arsenals that produced more controlled explosions

**intercontinental ballistic missiles (ICBM)**—missiles that can nuclear warheads that generally travel more than 8,500km

**submarine-launched ballistic missile (SLBM)**—nuclear missiles launched from a submarine

**Strategic Arms Limitation Talks I (SALT-I)**—impose a cap of 100 anti-ballistic missile system (ABMS) launcher and missiles  
**anti-ballistic missile system (ABMS)**—defensive system used to isolate and destroy subsonic rockets that could be used to carry nuclear warheads

**multiple independently targetable reentry vehicle (MIRV)** nuclear warheads. Because a single rocket could contain multiple independently targeted warheads or dummies, they could easily confuse ABMS. The enhanced nuclear capability created by MIRV undermined the efforts of the SALT-I and led to a second limitations talk. **SALT-II** (1979) placed more stringent limitations on the number of nuclear weapons and on the number of MIRVs containing ballistic missiles either country could stockpile. Seven years later, the US voided the agreement.

The collapse of the USSR in 1989 shifted the nature of the international nuclear debate from nonproliferation to deproliferation. As the Russian Federation began to rebuild, the two nations ratified the **Strategic Arms Reduction Treaty (START)** in 1991. This measure required the US and the Russian Federation to restrict the content of their nuclear arsenals to a maximum of 6000 ICBMs. The second version of the treaty, **START-II**, reduced this cap to 1000 ICBMs. The trend towards disarmament begun by the US and Russia compelled the United Nations (UN) to push for a complete ban on further nuclear weapons testing by all nations in the **Comprehensive Nuclear-Test Ban Treaty**. Currently, the treaty has been signed and ratified by most countries. The UN will only start enforcing it, however, when all of the countries that participated in the negotiations of the treaty sign and ratify it. Currently, nine outstanding nations on the list of 44 states who had nuclear reactors at the time - known as **Annex 2 States** - and participated in negotiations have not ratified the treaty. Among the nine, China, India, Pakistan, and the United States are known to have nuclear weapons.

## Modern Nuclear Stakeholders

### *United National Security Council*

The People's Republic of China, France, the Russian Federation, the United Kingdom, and the United States (the permanent members of the Security Council) individually possess the largest stockpiles of nuclear arsenals. Nearly all of these countries possess both SNWs and TNWs. France is the exception; it only possesses SNWs. Cold war competition between the US and Russia baited both countries into assembling thousands of nuclear bombs while the next closest competitor, China, is suspected to have only a few hundred. Treaties between the Russian Federation and the US have greatly reduced the number of active nuclear bombs held by both countries. However, reducing the number of active nuclear weapons does not imply **deproliferation** or **disarmament**. Rather, the weapons have been inactivated and the warheads have been appropriately stored for future use. The remaining countries in the UNSC - China, the UK, and France - have smaller stockpiles of sophisticated arsenals. Because China has not engaged in any non-

**multiple independently targetable reentry vehicle (MIRV)**—*subsonic transport rockets that can carry multiple warheads targeted at different objects*

**Strategic Arms Limitation Talks II: (SALT-II)**—*further limited the number of MIRV*

**Strategic Arms Reduction Treaty I (START-I)**—*reduced the cap of strategic nuclear arsenals for the US and Russia to 6000 ICBMs*

**Strategic Arms Reduction Treaty II (START-II)**—*reduced the cap of strategic nuclear arsenals for the*

**Comprehensive Nuclear-Test Ban Treaty**—*treaty that would ban all nations from conducting any additional tests on weaponized nuclear technology*

**annex 2 states**—*the states that participated in the negotiations of the Comprehensive Ban on Nuclear Testing Treaty and had nuclear power reactors at the*

proliferation treaty they are suspected of slowly updating and increasing their nuclear capability. Conversely, China is the only country that has committed to only firing nuclear weapons in response to another attack.

**deproliferation**—*the inactivation of the active nuclear arsenals*  
**disarmament**—*the dismantling of inactive nuclear arsenal*

#### *Pakistan, India, and North Korea*

Pakistan, India, and North Korea are not included in the list of the five nuclear powers, but they have developed and tested nuclear weapons. Pakistan reported successfully testing five nuclear devices in 1998. India reconvened its nuclear development program in the 1990s and detonated several nuclear warheads weeks ahead of the Pakistani tests. These programs only yielded relatively modest nuclear capabilities. Since these tests, external pressure has compelled these states to end proliferation projects. North Korea, on the other hand, has not acquiesced to foreign economic sanctions. It has continued its nuclear development program during the past decade, and has repeatedly attempted to test a long range dummy missile in the guise of a satellite launch. Currently, North Korea has not successfully tested a long-range missile and is suspected of having few functional nuclear weapons.

#### *Africa*

South Africa pursued nuclear development during the 1970s and 1980s. It constructed its first bombs during the mid-1980s. But South Africa signed the Nuclear Non-Proliferation treaty in 1991 with Russia and the United States. Since then, South Africa has ceased nuclear development and has been the old country holding nuclear weapons to voluntarily dismantle its arsenal.

Libya also pursued nuclear development in the late 1980s and 1990s. Since 2003, the country has fully terminated its nuclear program. They never constructed a functional bomb.

#### *Nuclear Energy*

Advancements in nuclear technologies propelled the development of civil nuclear energy reactors. These reactors use lower grade uranium as fuel to generate electricity for cities. The USSR pioneered this idea and constructed the first nuclear-based power grid in 1954. Since then, the nuclear powers have engaged in the construction of power plants and have helped other nations construct nuclear reactors. Overall, nuclear reactors are an efficient means of generating a high output of energy that do not require any geographically sensitive natural resources (e.g. water, air) to generate power.

This technology also possesses intense disadvantages, the most graphic of which is Russia's Chernobyl reactor meltdown. This meltdown required the dumping of radioactive material into a lake and the

construction of a one-foot thick concrete shell around the destruction site. The accident burned over 600,000 people, killed 58 people, and caused at least 4,000 cancer cases. Two decades after the meltdown, the area surrounding the reactor site is still uninhabitable. While meltdowns represent the most extreme and explosive consequences, nuclear energy has other long-term consequences. Nuclear reactors require a large supply of water in order to control the nuclear reaction and cool the reactor core. In addition, fuel consists of radioactive and highly toxic compounds that must be correctly stored. This requires countries to create a site on which to consolidate toxic compounds.

The use of nuclear energy has been a recurring focus of the nuclear proliferation debate. While nuclear energy is exempt from the technical understanding of nuclear proliferation, countries have paraded a **farcical** interest in nuclear energy in order to pursue the covert development of an atomic bomb. As the US and Russia aid non-nuclear countries in constructing nuclear energy facilities, they must ensure that workers have enough competence to effectively run a reactor while stopping short of releasing secrets of how to enrich fuel to create a bomb. The fear of nuclear proliferation from fuel produced by nuclear-capable countries has driven the emphasis on returning spent fuel rods to the origin country and for allowing nuclear inspectors to visit nuclear facilities.

**farcical**—*laughably inept*

## Modern Conflict

### *The US and the Russian Federation*

The US has many concerns about the nuclear relationships Russia pursues with non-nuclear countries. Russia has made commitments to build nuclear power plants in Venezuela, Iran, and India. While Venezuela has not demonstrated an interest in beginning a nuclear weapons project and India already possesses its own bombs, Iran remains a volatile and contentious area. Although the current trade agreement requires Iran to return spent fuel to Russia, the US and other western countries suspect that Iran's nuclear ambitions extend beyond civil exploitation of nuclear energy. The US has repeatedly articulated its concern that Iran may use nuclear fuel provided by Russia to further its development of its nuclear arsenal. In doing so, the US has urged Russia to hinder the progress of Iran's nuclear capabilities by imposing higher scrutiny on how nuclear fuel is being used.

As the US has repeatedly enumerated its concerns, the Russian Federation has also petitioned the role of NATO in nuclear proliferation. Today, many NATO-affiliated non-nuclear states house nuclear arsenals or ABMS. Russia contests the US plan to add radar to its old base in the Czech Republic and the US's decision to construct an ABMS in Poland

by 2011. Russia considers the US's friendliness to ex-members of the soviet bloc as a move that is intended to threaten Russia's security on the western border. The US's unilateral withdrawal in 2001 from the Anti-Ballistic Missile Treaty of 1972 has only increased tension with Russia. Since the withdrawal, the Bush administration invested in developing tactical nukes (nicknamed **bunker busters**) that could penetrate underground bases. In response to its contentions with the US, Russia has promised to remilitarize by 2011.

### *Regional Conflicts*

Pakistan and India demonstrated the first modern example of regional nuclear conflict. Previous Indian proliferation encouraged the Pakistani government to develop bombs as a means of establishing collateral necessary for winning wars between the two nations.

The International Atomic Energy Agency and other countries suspect Israel of having several hundred nuclear weapons. Current documentation suggest that Israeli scientists were critical in helping the French develop their initial nuclear arsenals in the 1950s and 1960s and would have had the means to construct nuclear weapons since then.

Israel's good-faith promise and nuclear ambiguity has done little to quell the speculation of its neighbors. Belief that Israel has a nuclear arsenal could motivate Iran to continue its nuclear proliferation. Iran currently obtains nuclear fuel from Russia and maintains that it only intends to pursue the creation of nuclear energy. But recently, inspections have confirmed that Iran has more enriched Uranium than it has reported. These investigations simultaneously discovered that Iran could potentially begin constructing a nuclear bomb within a year. This could most certainly set off an arms race in the Middle East.

**bunker buster**—a type of tactical nuclear weapon that is design to penetrate underground nuclear facilities

### *The Club*

North Korea was the last state to develop nuclear technology, and it has continued to pursue nuclear development. In the recent decade, continued proliferation has attracted retaliation from the western countries. As many western nations have called for further sanctions in repudiation of North Korea's proliferation, China has frequently served as a lonely ally. China now provides nearly all North Korea's natural resources. In addition to China, North Korea profits from trading non-nuclear arms with Egypt and Iran to fund its nuclear ambitions. China has gone further in the past, firmly allied with North Korea and served as a buffer against the dogmatic opposition for North Korean nuclear proliferation. As North Korea has begun to test long-range delivery systems that could functions as ICBMs, they have found themselves coping with dwindling support. The US has worked with South Korea to run yearly training missions for soldiers. The UN has imposed strong sanc-

tions. While China will only pursue actions authorized by the UN against North Korea, it has proposed the idea of finding a peaceful solution rather than engaging in a war.

## Focus of Debate

### USA

The US has demonstrated an unwavering conviction towards ensuring that aggressive states deproliferate or remain non-nuclear. In order to do so, the US has vocally opposed the minimal supervision of Iran's nuclear program and North Korea's testing of sub-sonic rockets. In bringing its petitions to the UNSC, it believes that the Security Council should take a more proactive role in thwarting nuclear proliferation. Rather than responding to the hostile action of newly proliferating states, the US advocates stronger coordinated proactive economic sanctions and military pressures. This would cripple the states' abilities to construct nuclear weapons before their capabilities advanced too far. In addition, the US favors forced deproliferation for proliferating non-nuclear countries and hostile regimes. Since the inception of the war on terror, the US has discussed the possibility of the terrorists gaining control of facilities that have tactical nuclear weapons. In order to minimize the possibility of a terrorist gaining control of a nuclear arsenal, the US argues that it's best to ensure that unstable countries have limited or no access to nuclear capabilities.

### China

China has repeatedly emphasized its unwillingness to commit troops to conflicts in which the UN has not authorized military force. They have been instrumental in shaping the debate concerning the level of **preventive force** acceptable in dealing with North Korea. In this process, China has demonstrated its disapproval of rash military force from Western countries. Instead, the country has strongly encouraged the use of aggressive diplomatic constraints in response to unchecked North Korean proliferation. To do so, they have coordinated talks between the US and North Korea. China has imposed some economic sanctions on North Korea, but less stringent ones than those imposed by other nuclear powers.

China has endorsed updating of older nuclear weapons without engaging in excessive proliferation. By unveiling a new submarine capable of launching nuclear warheads, China has displayed its commitment to further securing its territory. This modernization will likely entail the development of stronger, more durable strategic and tactical nuclear arsenals with longer lifetimes. The scale and proportion of the de-

**preventive force**—*military or economic forces used to ensure that a country does not develop a certain capability*

velopment, however, is unlikely to match that seen by the US and Russia during the cold war. It encourages other developed countries to follow this example. China argues that each country can remain adequately protected with a slim supply of nuclear weapons and retroactive nuclear policy.

### *Russia*

Russia has demonstrated its commitment to nonproliferation during the past three decades. Essentially, it has complied with all of the treaties it has established with the US. The US's close nuclear relationship with eastern European countries has raised tensions between the US and Russia. Russia called for the removal of ABMS and nuclear radars from bases in countries near Russia. It has used this contention as a bargaining point for further cooperation with the United States. Upon American cooperation with non-proliferation agreements, Russia has shown a willingness to support efforts to curtail nuclear development in non-nuclear countries.

The Russian economy has recovered in recent years by selling oil and nuclear technologies to other countries. Consequentially, it has played a large role in ensuring nuclear power is not used for proliferation. Because its provision of nuclear technologies to other countries for energy use has become a **lucrative** export, it will only support non-proliferation for measures that do not compromise that industry while ensuring the proper usage and return of nuclear fuel.

### *UK & France*

The UK and France have been at the forefront of advocacy for nuclear energy and global deproliferation. Shortly after the development of nuclear bombs in both countries, the nuclear programs were largely cut or refocused towards developing nuclear energy. The UK and France heavily stressed the looming threat of war that results from large nuclear stockpiles and aggressively argue for the gradual disarmament of nuclear powers.

### *The Realists*

Some international political theorists argue that nuclear weapons have a stabilizing effect on the world. While these weapons do not necessarily create peace, they discourage major nuclear powers from engaging each other in war. Presumably, the fear of mutually assured destruction from nuclear weapons compels them to pursue diplomatic solutions rather than war. The lack of physical confrontation between the US and Russia is often cited as evidence that corroborates the theory. Furthermore, the most intense face-off between the two countries – the Cuban

**lucrative**—*something where one stands to gain*

Missile crisis – precipitated the establishment of a direct phone line between the White House and the Kremlin. Essentially, this theory maintains that the controlled possession of nuclear weapons can encourage diplomacy and cooperation.

It's important to note, however, that while the US and Russia did not fight each other directly, they would frequently support opposing sides of wars involving smaller ethnic clashes. Some have argued that the countries vicariously fought each other through Middle Eastern, Asian, African, and South American conflicts. Often, support from the US and Russia induced greater instability and morbidity in conflicts.

## NGO Perspectives

### *Greenpeace*

Greenpeace staunchly contests arguments for further nuclear proliferation. For Greenpeace, nuclear technologies have no redeeming qualities because the high-energy output could be achieved through clean fuel sources. Greenpeace frequently argues that the testing of nuclear weapons has caused irreparable damage to the environment. Some areas have been exposed to extensive radiation, leading to the poisoning of animals, the killing of vegetation, and the creation of **jellyfish babies**. The frequency of past nuclear tests has fundamentally altered the chemical structure of the atmosphere. These explosions caused a spike in the quantities of radioactive carbon and nitrogen molecules in the atmosphere. While these radioactive atoms have had minimal negative effects on the **biosphere**, Greenpeace believes that further development could precipitate more disastrous consequences. The peaceful use of nuclear technology for energy extraction also requires the generation of radioactive waste. Storage is usually inadequate and the areas usually become contaminated. These negative environmental effects compel Greenpeace to staunchly **contest** future nuclear proliferation of any sort and advocate complete disarmament.

### *Amnesty International*

Amnesty International opposes nuclear proliferation. Amnesty claims that the indiscriminate nature of nuclear weapons makes them unacceptable weapons of war. They do not make a distinction between strategic and nuclear weapons. Essentially, the magnitude of the nuclear output has caused Amnesty International to declare its unwavering rejection of the technology. The organization does not contest the use of nuclear energy.

During the past decade, Amnesty International has been the most vocal in encouraging the UNSC to increase its pressure on Iran and

**jellyfish babies**—born from both exposed to nuclear radiation who have enlarged craniums translucent skin and disfigured limbs; 100% morality rate

**biosphere**—all areas on earth that support life

North Korea. In addition to its concerns about normal humanitarian issues, Amnesty believes that both countries are pursuing proliferation in a way that threatens international security. In its report, Amnesty International subscribes to the theory that Iran's talk of nuclear fuel is a guise for its investigation into nuclear bombs. It fully endorses severe economic sanctions from other countries to suppress this program.

**contest**—*argue against*

### *Heritage Foundation*

The Heritage Foundation argues that the world should work to ensure that hostile regimes do not gain weaponizable nuclear technology. They advocate for a swift and firm response to Iran's suspected proliferation and the unwillingness of North Korea to cease its nuclear program. The Foundation criticized the international community for taking a relaxed approach to combating both nations. It has also published an article that confronts China's role in supporting Iran's nuclear proliferation. They cite that China has joined Russia in exporting nuclear technologies and the raw materials necessary for the construction of nuclear bombs. As Iran has evaded nuclear inspections, China has done little to pressure Iran into more acceptable nuclear practices. As such, the Heritage calls for a bolder stance from the US and its allies in encouraging other countries to show complete commitment to the Nuclear Non-Proliferation Treaty.

## **Possible Solutions**

### *Forced Nonproliferation in Hostile Regimes*

The UNSC could establish a policy of forced disarmament for hostile countries that refuse to curtail nuclear proliferation. Through **sanctions**, each member of the Security Council would limit its trade with a hostile regime to humanitarian based aid. In such a scheme, each nation could only provide food, clothes, and medicine that is necessary. Trade in all other resources would slowly be phased out. These aggressive sanctions would deprive countries of the resources they need to militarize and have, in the past, effectively curtailed the development of nuclear arsenals. Additionally, sanctions would certainly have detrimental economic effects on the hostile nations. Producing such a plan in the United Nations Security Council will be contentious. The US, Russia, and China are not likely to agree on how to define hostile regimes, nor will they easily agree to a series of pre-determined sanctions. The UNSC tends to only enact measures of this nature in reaction to a specific act of proliferation.

### *Non-Proliferation Treaty Revision*

Currently, the creation of the “Treaty on the Non-Proliferation of Nuclear Weapons” marks the most monumental step towards nuclear peace. Every country except India has signed it, and North Korea is the only country to have withdrawn from the treaty. By garnering the support of all five nuclear powers, it defined a clear rejection of unchecked nuclear proliferation. This treaty arguably led to the future discussions that produced additional non-proliferation treaties between the United States and Russia. Because this treaty was created in 1968, it desperately needs to be updated.

**sanction**—a provision of a law enacting a penalty for disobedience or a reward for obedience

The first section concerning non-proliferation could be revised to impose lower caps on the number of nuclear weapons a state can have. This revision could set an objective standard based on the previous cold war quantities. Currently, The US and Russia have agreed to cap their active nuclear warhead stockpiles at six thousand active weapons. The revision of the treaty could slightly lower this number and invite China, the UK, and France to enter this agreement as well. This agreement alone would demonstrate an increased commitment toward the success of nuclear non-proliferation.

The second section of the Non Proliferation treaty seeks to encourage disarmament. While the major nuclear powers – the US and Russia – have engaged in deproliferation agreements, they have not yet heeded the task of disarmament. Frequently, proliferation caps lead to the shutdown and storage of active nuclear arsenals rather than the dismantling of the nuclear bombs. The new treaty could further stipulate a graduated disarmament of a percentage of the inactivated nuclear weapons. While this agreement would currently only require work from Russia and the United States, it would also demonstrate China’s commitment to controlled proliferation that would cease at a certain cap.

The third section of the Non Proliferation Treaty demonstrates the international community’s openness to the development of the nuclear energy technology. This area of the current non-proliferation treaty is the **loophole** that many countries can exploit to surreptitiously pursue nuclear development. A revision of this section could establish additional requirements for how the five nuclear powers proceeded to share nuclear technology with other countries. For example, it could require each power to sell and retrieve fuel rods within a specific time. In addition, each power could require the state to which they intend to provide nuclear technology to consent to full inspection of nuclear facilities by the UN inspectors through the duration of the fuel provision.

### *Global Commitment to Defensive Usage*

China and Israel have declared that they would only use nuclear weapons defensively. The UNSC could encourage nuclear states to en-

gage in a treaty that commits these states to strictly defensive usage of nuclear weapons. Such a plan could clearly define the grounds that would merit the usage of nuclear bombs and the level of force that constitutes a reasonable defense. For example, it could stipulate that a country can only activate and arm its nuclear defense system if there was evidence of a potential nuclear attack.

## Questions for Policy Makers

This briefing has shown that nuclear proliferation is a significant and complex problem. In order to discuss possible solutions, you must first specify the part of the topic that you would like to engage. Should nuclear proliferation be addressed by forcing the largest shareholder to disarm or should it continue to maintain the exclusivity of the nuclear club? Could the UNSC advocate more effective monitoring of the use of nuclear fuel from non-nuclear nations? Should a country be required to house its nuclear weapons within its territorial borders? When contemplating these questions, it's important to consider whether each member of the council will support the measure. If you decide that the nuclear powers should disarm, how can this be accomplished without a veto? As you consider restriction on other countries, what incentives will you give for compliance? To which punishments can the council commit in the face of defiance? Most importantly, ensure that your questions seek to avoid flaws of previous treaties. Why have the multiple treaties between Russia and the US not fully alleviated tensions between the two countries? Which loopholes within the treaties increase the tension between the nuclear powers and how can they be alleviated?

**loophole**—*an opportunity for evading a rule or law*

## Conclusion

Nuclear weapons are at once the greatest and the most disastrous invention of the 20<sup>th</sup> century. Since their development, they have produced both military supremacy and grave insecurity. Although the latter quarter of the 20<sup>th</sup> century witnessed unexpected international cooperation and a profound thaw in nuclear tensions, more work needs to be done. The explosion of one bomb catalyzed the beginning of a nuclear race that lasted for several decades. A modern lapse of the same proportion would threaten the security of everyone. It would inspire countries to rearm and make them more apt to use their arsenals. Furthermore, failed deproliferation would discourage nations from disarming again in the future. As such, it is important to act now to prevent the rise of nuclear tensions. Only **proactive** attempts to address the proliferation issue will save the world from watching the speculation of nuclear war come to fruition.

## Guide to Further Research

Additional research into nuclear proliferation should begin with looking at documents released by the International Atomic Energy Agency. This agency functions as an intergovernmental association that pools technical information about the development of nuclear technologies. This site provides a comprehensive description of the current state of nuclear weapons in the world. Its documents also include information about nuclear inspections, the number/types of nuclear arsenals own by each country, and the progress of nations in following through on nuclear related treaties. In addition, this organization provides online articles written by scholars and scientists that articulate current concerns with the nuclear status quo and enumerate various ways of alleviating these problems. Following up this research with relevant information gathered from local and international news outlet will provide a thorough understanding of the nuclear weapons debate.

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