BCMMUN'18



BACKGROUND GUIDE

<u>AGENDA</u>: Nuclear security concerns, special emphasis on nuclear terrorism.

LETTER FROM THE EXECUTIVE BOARD

Greetings Delegates!

A very warm welcome to **BCMMUN'18.** A lengthy explanation isn't in order for the very name of our committee gives away its purpose. Research, relentlessly, for without doing so, you will not be able to say a single word in the committee, find solutions to the issues being discussed impossibility. Remember that the purpose of Model UN, to put it simply, is to maturely discuss the issues at hand and find global solutions to them, solutions that will be debated upon before you reach them and solutions that won't necessarily match your country policies, so learn to compromise and attempt to bring about what's best for the world.

Being aware of the daunting task that this might seem to most delegates, we have made an attempt at preparing a comprehensive, yet unintimidating background guide that we hope shall serve to guide you through your research. Before you go ahead and study this guide, please keep in mind that this is merely to facilitate your research and not the entire research in itself. The background guide will have a basic outline of the agenda to help your understanding and express our expectations from you as a delegate.

We hope to see confident leaders, skilled orators and well- researched delegates coming together to form an amalgam of fruitful discussions. Remember to speak up, and please do enjoy yourselves while what we hope shall be an enriching learning experience lasts. Remember that you are a delegate, act like one, talk like one and trigger change like one.

Regarding any information you are free to approach us. Remember, the study guide is to only guide you and give you a direction for your research. In no regards shall it be used as a source of evidence in the committee.

We are always here to help.

Regards,

| Japneet Monga | Vipasha | Abhishek |
|---------------|--------------------|--------------|
| (Chairperson) | (Vice Chairperson) | (Rapporteur) |
| 7888521060 | 9855390699 | 6283214717 |

ALL THE BEST DELEGATES :)

OVERVIEW OF DISEC - The First Committee of the general assembly deals with

disarmament, global challenges and threats to peace that affect the international community and seeks out solutions to the challenges in the international security regime. It considers all disarmament and international security matters within the scope of the charter or relating to the powers and functions of any other organ of the United Nations; the general principles of cooperation in the maintenance of international peace and security, as well as principles governing disarmament and the regulation of armaments; promotion of cooperative arrangements and measures aimed at strengthening stability through lower levels of armaments.

Proof and Evidences Allowed In Committee: - Reuters, Documents, and news publish by all UN agencies, Government reports (Government Reports of a given country used to corroborate an allegation on the same aforementioned country will be accepted as proof). The background Guide and information from Wikipedia will not be accepted as proof of evidence.

INTRODUCTION

The world has already tasted the vast destruction caused by two atom bombs that were dropped by America on the two Japanese cities, Hiroshima and Nagasaki, in 1945. Thousands of innocent people lost their lives, several thousands were seriously wounded. The diseases and deformities that developed in human beings who were directly or indirectly affected by the radiation lasted several decades after the dastardly act. Fortunately for humanity, no such ignominy has befallen ever since. But it does not mean that the danger of a nuclear warhead being used by some rogue state is not there.

Today, so many countries possess nuclear weapons and the day when a war between countries goes nuclear, the results will be catastrophic.

It is therefore extremely necessary that steps are taken at international level to maintain nuclear safety and security.

The Group of 8 (G8) have established a **Nuclear Safety and Security** Group (NSSG) which will provide technically informed, strategic policy advice on issues that could impact safety and security in peaceful uses of nuclear energy and other issues related thereto. The G8 nations are committed to the nuclear safety first principle, to recognize, internationally accepted norms and best practices in nuclear safety and security. They recognize the international conventions and International Atomic Energy Agency

(IAEA) standards from a good basis for the continuous improvement of national nuclear regulatory systems and nuclear safety as necessary.

Nuclear safety and security involves some major issues: saving the world from nuclear weapons; Stopping nuclear proliferation; Stopping the terrorist groups from acquiring a nuclear warhead; preventing nuclear explosions in reactors while harnessing nuclear technology for peaceful uses; and properly disposing nuclear waste so that it does not create harmful effects.

Key Definitions: -

Proliferation is a term used to describe the spread of weapons, whether legally or illegally of weaponry. The term is often spoken of in the UN in preventing the proliferation or nonproliferation, meaning the international community aims to prevent the spread of weapons.

Disarmament is a term to describe the reduction and elimination of weaponry. The term typically indicates elimination, rather than reduction of weaponry when used in relation to weapons of mass destruction. Increasingly discussions on disarmament are more broadly oriented towards discussions on security, defense budgets and the community of nations.

Weapons of Mass Destruction (WMD) is a term used to describe nuclear, biological and chemical weapons capable of inflicting catastrophic harm on human life on a mass scale. Some analysists have argued that small arms and light weapons, radiological and ballistic missiles should also be considered WMDs. The types and destructive potential of WMDs varies significantly, with some requiring sophisticated technology (i.e. nuclear weapons) and others are cheap to produce and easy to access (i.e. some chemical and biological weapons).

Nuclear weapon means any weapon that derives its destructive force from nuclear reactions. The nuclear reaction may either be fission or a combination of fission and fusion. Nuclear weapons are considered weapons of mass destruction.

Chemical Weapons include incapacitants, blood, blister and nerve agents. Incapacitants do not tend to kill, and are most commonly used to control riots (tear gas) or for personal protection (pepper spray); however, vomiting agents have also been experimented with by US and Soviet scientists. Blood agents limit the transport of oxygen in the blood, and are not frequently used for military purposes because it evaporates too quickly to use on a large scale. In the First World War choking agents were the most frequent cause of death from chemical weapons, causing the victim to suffocate. Blister agents, while not usually lethal, can cause severe blistering on the skin, blindness and pain. Nerve agents, invented in the 1930s and stored by Nazi and Allied forces during the Second World War, are the most lethal chemical weapons. Due to their destructive potential, they were not used during combat.

Biological Weapons are weaponised bacteria, viruses and toxins, which can cause mass harm to people. While diseases are plentiful and cause harm to people everywhere, not all of them can be developed as a biological weapon. The highly lethal nature and challenges of storage, delivery and transmission of these weapons makes them extremely difficult to develop, leading them to be considered an unreliable weapon; however, they are still used. Due to its

hardiness and ability to be engineered as resistant to most antibiotics, Anthrax is the most well-known and mostpopular bacterial agent. Viral fevers, such as Marburg, Lassa Fever and Ebola, could serve as powerful viral agents, but policymakers are most worried about the use of smallpox as a weapon. The disease was eradicated globally by the early 1980s, meaning that most people are not vaccinated against it; thus, an outbreak could kill roughly 30 per cent of those who catch the disease. Toxins, most popularly known as poisons, are usually used to attack individuals (in assassinations). They can be lethal, are easily produced, but must be brought into direct contact with the target for the poison to take hold. Analysists are concerned toxins will be a weapon of bioterrorism.

Small Arms and Light Weapons, which include hand guns, small firearms, grenades and landmines, have been called the real weapons of mass destruction because of their widespread availability, ease of use and scale of destruction of human life.

Non-State Actors are those groups who do not act on behalf of a government or intergovernmental organisation, but who do interact in transnational relations. They can include multi and trans-national corporations (MNCs and TNCs), non-governmental organisations (NGOs), and terrorist organisations. They typically fulfill three criteria: (1) they are mostly independent of central governments; (2) they are part of a network which crosses more than two states; (3) their actions have political consequences, which are intentional or slightly 8 intentional "either as their primary objective or as one aspect of their activities"

Nuclear Weapon Free Zone (NWFZ) is geographical area in which nuclear weapons may not legally be built, possessed, transferred, deployed, or tested. NWFZs provide for the obligations and rights of non-parties to the zones, and of the nuclear weapon states with reference to those states that are party to the NWFZs and the regions covered. Protocols may include assurances by the NWS(Nuclear weapon states) not to use or threaten to use nuclear weapons against contracting parties within an NWFZ.

Signature to a treaty indicates that the country accepts the treaty. It commits not to take any actions that would undermine the treaty's purposes. A treaty is signed by a senior representative of a country such as the president or the foreign minister.

Ratification Symbolizes the official sanction of a treaty to make it legally binding for the government of a country. This process involves the treaty's adoption by the legislature of a country such as the parliament. It also includes the submission of the so-called instrument of ratification to the treaty's depository, which for the CTBT is the UN Secretary-General. Only then is the process of ratification officially concluded. The ratification of a treaty may require the adjustment of a country's legislation, reflecting its commitments under the treaty.

Various Treaties and organizations: -

• **Biological Weapons Conventions (BWC**) - The Biological Weapons Convention (BWC), the first multilateral disarmament treaty banning the development, production and stockpiling of an entire category of weapons of mass destruction, was opened for signature on 10 April 1972. The BWC entered into force on 26 March 1975. The Second Review Conference (1986) agreed that the States Parties were to implement a number of confidence-building measures (CBM) in order to prevent or reduce the occurrence of ambiguities, doubts and suspicions and in order to improve international co-operation in the field of peaceful

biological activities. The CBMs were expanded by the Third Review Conference (1991). Under these agreements, the States Parties undertook to provided annual reports – using agreed forms – on specific activities related to the BWC including: data on research centres and laboratories; information on vaccine production facilities; information on national biological defence research and development programmes; declaration of past activities in offensive and/or defensive biological research and development programmes; information on outbreaks of infectious diseases and similar occurrences caused by toxins; publication of results and promotion of use of knowledge and contacts; information on legislation, regulations and other measures.

- NPT (Nuclear Non-Proliferation Treaty): The NPT is a landmark international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy and to further the goal of achieving nuclear disarmament and general and complete disarmament. The Treaty represents the only binding commitment in a multilateral treaty to the goal of disarmament by the nuclear-weapon States. Opened for signature in 1968, the Treaty entered into force in 1970. On 11 May 1995, the Treaty was extended indefinitely. A total of 191 States have joined the Treaty, including the five nuclear-weapon States. More countries have ratified the NPT than any other arms limitation and disarmament agreement, a testament to the Treaty's significance. the provisions of the Treaty, particularly article VIII, paragraph 3, envisage a review of the operation of the Treaty every five years, a provision which was reaffirmed by the States parties at the 1995 NPT Review and Extension Conference. To further the goal of non-proliferation and as a confidence-building measure between States parties, the Treaty establishes a safeguards system under the responsibility of the International Atomic Energy Agency (IAEA). Safeguards are used to verify compliance with the Treaty through inspections conducted by the IAEA. The Treaty promotes cooperation in the field of peaceful nuclear technology and equal access to this technology for all States parties, while safeguards prevent the diversion of fissile material for weapons use.
- **PTBT (Partial Test Ban Treaty):** :- In 1954, India made the first proposal calling for an agreement to ban nuclear weapons tests. In 1958, the United States, the Soviet Union, and the United Kingdom began a Conference on the Discontinuance of Nuclear Tests in Geneva, aimed at reaching 9 agreement on an effectively controlled test ban. The Conference did not come to fruition because the sides could not reach an agreement on the issue of verification procedures. On 5 August 1963, the Partial Test Ban Treaty (PTBT) also known as the Limited Test Ban Treaty (LTBT) was signed. The Treaty requires Parties to prohibit, prevent, and abstain from carrying out nuclear weapons tests or any other nuclear explosions in the atmosphere, in outer space, under water, or in any other environment if such explosions cause radioactive debris to be present outside the territorial limits of the State that conducts an explosion; to refrain from causing, encouraging, or in any way participating in, the carrying out of any nuclear weapon test explosion, or any other nuclear explosion, anywhere which would take place in any of the above-described environments
- CTBT (Comprehensive Nuclear Test Ban Treaty) The Comprehensive Nuclear-Test-Ban Treaty (CTBT) is the Treaty banning all nuclear explosions everywhere, by everyone. The Treaty was negotiated at the Conference on Disarmament in Geneva and adopted by the United Nations General Assembly. It opened for signature on 24 September 1996. Since then, the Treaty has reached near-universality. 182 countries have signed the Treaty the last country to do so was Trinidad and Tobago on 8 October 2009 which also ratified the Treaty on 26 May 2010. 154 countries have ratified the Treaty most recently Ghana on 14 June 2011. The CTBT is the last barrier on the way to develop nuclear weapons. It curbs the development of new nuclear weapons and the improvement of existing nuclear weapon designs. When the Treaty enters into force it provides a legally binding norm against nuclear testing. The Treaty also helps prevent human suffering and environmental damages caused by nuclear testing.
- **CWC (Chemical Weapon Convention)** the Convention aims to eliminate an entire category of weapons of mass destruction by prohibiting the development, production, acquisition, stockpiling, retention,

transfer or use of chemical weapons by States Parties. States Parties, in turn, must take the steps necessary to enforce that prohibition in respect of persons (natural or legal) within their jurisdiction. All States Parties have agreed to chemically disarm by destroying any stockpiles of chemical weapons they may hold and any facilities which produced them, as well as any chemical weapons they abandoned on the territory of other States Parties in the past. States Parties have also agreed to create a verification regime for certain toxic chemicals and their precursors in order to ensure that such chemicals are only used for purposes not prohibited. A unique feature of the CWC is its incorporation of the 'challenge inspection', whereby any State Party in doubt about another State Party's compliance can request the Director General to send an inspection team. Under the CWC's 'challenge inspection' procedure, 10 States Parties have committed themselves to the principle of 'anytime, anywhere' inspections with no right of refusal.

NSG (Nuclear Supplier Group) – the Nuclear Suppliers Group (NSG) is a group of nuclear supplier • countries that seeks to contribute to the non-proliferation of nuclear weapons through the implementation of two sets of Guidelines for nuclear exports and nuclear-related exports. The NSG Guidelines also contain the socalled "Non-Proliferation Principle," adopted in 1994, whereby a supplier, notwithstanding other provisions in the NSG Guidelines, authorises a transfer only when satisfied that the transfer would not contribute to the proliferation of nuclear weapons. The Non-Proliferation Principle seeks to cover the rare but important cases where adherence to the NPT or to a Nuclear Weapon Free Zone Treaty may not by itself be a guarantee that a State will consistently share the objectives of the Treaty or that it will remain in compliance with its Treaty obligations. The NSG Guidelines are consistent with, and complement, the various international, legally binding instruments in the field of nuclear non-proliferation. These include the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco), the South Pacific Nuclear-Free-Zone Treaty (Treaty of Rarotonga), the African Nuclear-Weapon Free Zone Treaty (Treaty of Pelindaba), the Treaty on the Southeast Asia Nuclear Weapon-Free Zone (Treaty of Bangkok), and the Central Asian Nuclear-Weapon-Free Zone Treaty (Treaty of Semipalatinsk). The NSG Guidelines are implemented by each Participating Government (PG) in accordance with its national laws and practices. Decisions on export applications are taken at the national level in accordance with national export licensing requirements.

• MTCR (Missile Technology Control Regime) – The Missile Technology Control Regime (MTCR) is an informal political understanding among states that seek to limit the proliferation of missiles and missile technology. The MTCR was initiated to address the increasing proliferation of nuclear weapons by addressing the most destabilizing delivery system for such weapons. In 1992, the MTCR's original focus on missiles for nuclear weapons delivery was extended to a focus on the proliferation of missiles for the delivery of all types of weapons of mass destruction (WMD), i.e., nuclear, chemical and biological weapons. Such proliferation has been identified as a threat to international peace and security. One way to counter this threat is to maintain vigilance over the transfer of missile equipment, material, and related technologies usable for systems capable of delivering WMD

IAEA (International Atomic Energy Agency) – The International Atomic Energy Agency is the world's central intergovernmental forum for scientific and technical co-operation in the nuclear field. It works for the safe, secure, and peaceful uses of nucl-ear science and technology, contributing to international peace and security and the United Nations' Sustainable Development Goals. The IAEA was created in 1957 in response to the deep fears and expectations generated by the discoveries and diverse uses of nuclear technology. The Agency's genesis was U.S. President Eisenhower's "Atoms for Peace" address to the General Assembly of the United Nations on 8 December 1953.

OPCW (ORGANISATION FOR THE PROHIBITION OF CHEMICAL WEAPONS) – OPCW is

to implement the provisions of the Chemical Weapons Convention (CWC) in order to achieve the OPCW's vision of a world that is free of chemical weapons and of the threat of their use, and in which cooperation in chemistry for peaceful purposes for all is fostered. In doing this, our ultimate aim is to contribute to international security and stability, to general and complete disarmament, and to global economic development

• United Nations Office for Disarmament Affairs (UNODA) UNODA provides

substantive and organizational support for norm-setting in the area of disarmament through the work of the General Assembly and its First Committee, the Disarmament Commission, the Conference on Disarmament and other bodies. It fosters disarmament measures through dialogue, transparency and confidence-building on military matters, and encourages regional disarmament efforts; these include the United Nations Register of Conventional Arms and regional forums. It also provides objective, impartial and up-to-date information on multilateral disarmament issues and activities to Member States, States parties to multilateral agreements, intergovernmental organizations and institutions, departments and agencies of the United Nations system, research and educational institutions, civil society, especially non-governmental organizations, the media and the general public. UNODA supports the development and implementation of practical disarmament measures after a conflict, such as disarming and demobilizing former combatants and helping them to reintegrate in civil society.

Stand of various nations regarding Nuclear Disarmament -

<u>States that are not parties to NPT</u> Since the NPT entered into force in 1970, three states that were not parties to the Treaty have conducted nuclear tests, namely India, Pakistan, and North Korea. North Korea had been a party to the NPT but withdrew in 2003. Israel is also widely believed to have nuclear weapons, though it maintains a policy of deliberate ambiguity regarding this, and is not known definitively to have conducted a nuclear test

United States of America

Having suffered several terrorist attacks, the United States of America has set combating Weapons of Mass Destruction and terrorism as one of its primary goals. Therefore, it has taken national initiatives, such as the creation of FBI's Weapons of Mass Destruction Directorate (WMDD), whose occupation is to ensure that terrorist groups or nations (United Kingdom, China, Russia, and United States, which have the right to possess but not use WMD will not obtain weapons of mass destruction. In addition, it is officially claimed by the USA that Al Qaeda and other terrorist groups are enemies. USA has times played a key role in the international diplomacy and exercised pressure in order to adopt measures to prevent the danger.

Russian Federation

Russia is the nuclear weapons processor state who had signed NPT. In the aftermath of the Cold War, Russia inherited a massive nuclear arms stockpile – about 40,000 nuclear warheads – from the Soviet Union. Beginning in the early 1990s, Moscow started to dramatically reduce its arsenal in accordance with arms control agreements between Russia and the

United States. The two countries have worked together to secure nuclear material and facilities of the former Soviet Union and more recently have spearheaded multilateral initiatives to address the threat of nuclear terrorism. Moscow has had a long history of assisting other states with technologies applicable to nuclear weapons and missile programs.

United Kingdom

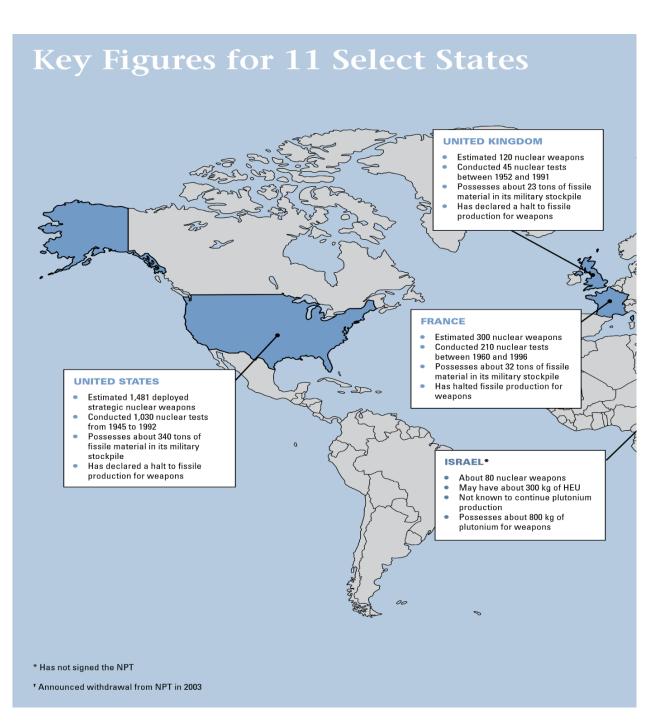
The United Kingdom was the third state to test a nuclear weapon and played a major role in the U.S. efforts to develop nuclear weapons as part of the Manhattan Project. The proliferation of weapons of mass destruction (WMD) poses a potential threat to the UK's security. A number of countries continue to develop WMD programmes which give cause for concern. The UK has obligations under a number of international treaties, conventions and export control regimes such as the Nuclear Non-Proliferation Treaty, the Chemical and Biological Weapons Conventions and the Missile Technology Control Regime Since 1992. In recent years, London has moved to the forefront of nuclear disarmament efforts by the nuclear-weapon states, unilaterally reducing its nuclear arsenal to the lowest level of those five states. The United Kingdom continues to engage in an internal debate over the salience of its nuclear deterrent, including whether or not to build new ballistic missile submarines, the sole delivery system for the United Kingdom's deterrent, to replace its aging fleet.

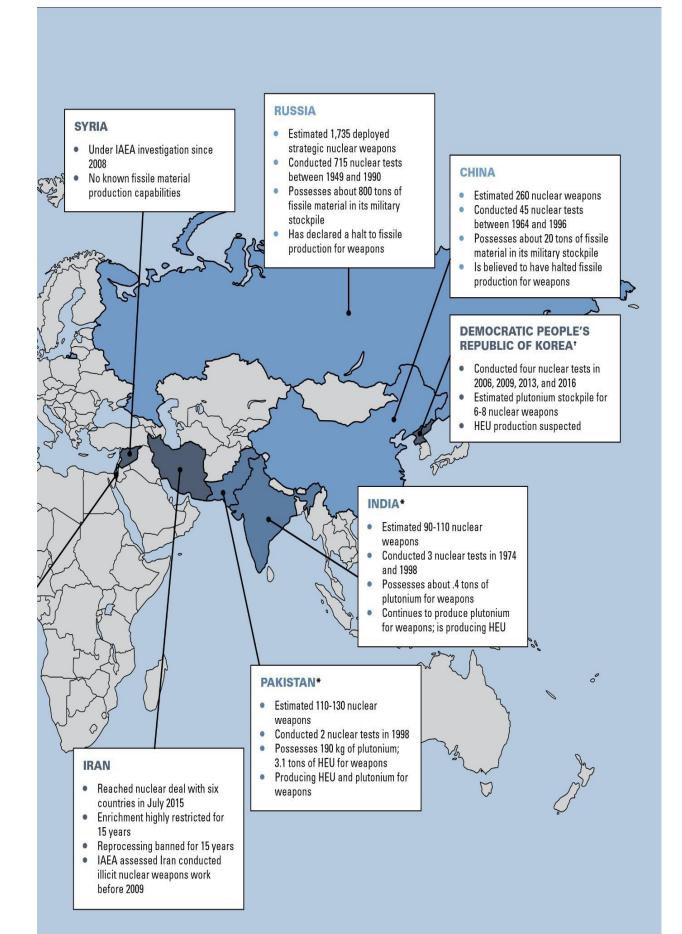
China

China remained outside of the global non-proliferation regime for several decades, until Beijing ratified the nuclear Non-proliferation Treaty (NPT) in 1992. Prior to its ratification of the treaty, Beijing is believed to have shared critical nuclear weapons technology, including warhead design information, with a number of states. In recent years, Beijing has shown an increasing willingness to engage in nonproliferation efforts, including the adoption of export controls and the imposition of sanctions on proliferators. China played a critical role in the negotiations with Iran to restrict Tehran's nuclear activities. Yet, Chinese entities are still believed to supply materials and technologies relevant to nuclear weapons and delivery systems to states of concern. Beijing is also taking troubling steps in regards to its own nuclear arsenal, including expansion of its warhead stockpile and qualitative improvements to its delivery systems

France

France was the last of the five nuclear-weapon states to join the NPT, depositing its ratification in August 1992. It has declared that it possesses an arsenal of less than 300 nuclear weapons, and it has taken steps in recent years to shut down key of nuclear weapons facilities. France, however, has been less proactive on nuclear disarmament, insisting that its nuclear deterrent must be maintained for future contingencies. Meanwhile, France is one of the world's foremost suppliers of nuclear technology, leaving Paris with a major responsibility in preventing the proliferation of technology - applicable to developing nuclear weapons





India

India developed a nuclear arsenal outside the NPT, carrying out its first nuclear test in 1974, which it described as a "peaceful nuclear explosion." India formally declared itself a nuclear-weapon state after further tests were completed in May 1998. Despite long-standing calls from New Delhi for global nuclear disarmament, India rejects the current non-proliferation regime as inherently discriminatory and has been resistant to join multilateral disarmament efforts, arguing that nuclear weapons are "an integral part" of its national security "and will remain so pending the global elimination of all nuclear weapons. In 2008 the NSG agreed to exempt India from rules restricting commercial nuclear cooperation to non-NPT members, allowing India to take advantage of a key NPT incentive despite remaining outside the treaty.

Pakistan

Pakistan chose not to join the NPT and began a concerted drive to develop nuclear weapons in the early 1970s. As nuclear suppliers began to oppose transfers of sensitive nuclear technologies to the country, Islamabad relied heavily on smuggled uranium enrichment technology acquired by nuclear official Abdul Qadeer Khan. By the 1980s, when Pakistan had acquired sufficient expertise in uranium enrichment, Khan and his smuggling network shared that technology with a number of other countries, including Iran, Libya, and North Korea, likely with some involvement by the Pakistani government or military. There is also existence of an illegal market in Pakistan that may be able to supply terrorists with the raw material for the construction of weapons of mass destruction, the intense presence of Al Qaeda in this nation and the estimate that in Pakistan exist more than 40 terrorist training camps. More recently, Pakistan's development of tactical nuclear weapons have raised concerns about the security of Pakistan's nuclear warheads and on the issue of crisis escalation on its border with India

Democratic People's Republic of Korea

The Democratic People's Republic of Korea (North Korea) has been a focal point for nuclear non-proliferation efforts for more than 20 years, a focus that intensified after IAEA inspectors found North Korea to be cheating on its nonproliferation obligations in the 1990s. In response, the United States entered into the so-called Agreed Framework of 1994 that froze much of the North's nuclear activities but was unsuccessful in turning back the program. Following the collapse of that agreement in 2002, North Korea developed an overt nuclear weapons capability and declared its withdrawal from the NPT in 2003. A multilateral process, known as the six-party talks, began in 2003 to address the nuclear issue, and that process has been replete with periods of crisis, stalemate, and tentative progress toward denuclearization, until North Korea declared it would no longer take part in the talks in 2009. The UN Security Council also has sought to place pressure on North Korea regarding its proliferation activities, adopting sanctions in response to its 2006, 2009, 2013, and 2016 nuclear tests. North Korea is also taking steps to develop its ballistic missile systems, and currently deploys short and medium range ballistic missiles that experts and some officials in Seoul and Washington think could be capable of delivering nuclear warheads. In December 2012 and again in February 2016, North Korea successfully launched a satellite into space using an Unha-3 space launch vehicle. Pyongyang is prohibited from space launches by UN Security Council resolutions because the technology can be used to inform ballistic missile development. Given the many technical differences between the two types of systems, experts assess that North Korea remains years away from development of an ICBM, but could begin flight tests in as little as a year. In addition to its own nuclear weapons efforts, North Korea has been a key supplier of nuclear and missile technologies to other states, increasing proliferation threats in South and Southeast Asia and the Middle East

ISRAEL

Israel is widely believed to possess an undeclared nuclear arsenal of approximately 80 nuclear weapons, with enough nuclear material for approximately 200 warheads. One of three states never to sign the NPT but signed Comprehensive Test Ban Treaty (CTBT) in 1996, Israel has maintained a policy of nuclear ambiguity since the 1960s, declaring that it will not be "the first country to introduce nuclear weapons into the region." Israel's position on a wide variety of disarmament measures is that regional security conditions must first improve before it can take certain concrete disarmament steps. As a result, Israel's participation in a number of key international non-proliferation measures has been somewhat limited. Israel's grade did marginally improve since the2013 version of this report, primarily because of positive steps taken in support of a zone free of weapons of mass destruction in the Middle East and support of the CTBTO's work

IRAN

Iran's nuclear program was a critical non-proliferation concern, given that Tehran took steps to illicitly pursue uranium enrichment capabilities outside of its declaration to the IAEA, continued to expand its nuclear activities, and conducted work relevant to designing a nuclear weapon. Much of the concern about Tehran's nuclear activities in the near-term abated when Iran and six countries reached a nuclear deal in July 2015 known as the Joint Comprehensive Plan of Action. Under the nuclear deal, which was implemented in January 2016, Iran's uranium enrichment capacity is restricted to reactor grade levels and its stockpile is capped. Tehran also cannot reprocess any plutonium for at least 15 years. The country's entire nuclear infrastructure is subject to intrusive monitoring and verification, including real-time monitoring on centrifuge enrichment levels and continuous surveillance at key sites. As part of the deal, Iran is implementing its additional protocol and its import and export of dual-use materials is monitored. Iran also complied with the IAEA's request for access and information to resolve the outstanding concerns about Tehran's past weaponization activities and committed to forgo certain types of experiments relevant to designing nuclear explosives. In return, Iran received relief from nuclear-related UN, EU, and U.S. sanctions. While the deal dramatically restricts Iran's nuclear program, skepticism about Iran's intentions to comply with the deal remain.

IRAQ

Under Saddam Hussein Iraq developed chemical and biological weapons, acquired missiles allowing it to attack neighboring countries with these weapons and persistently tried to develop a nuclear bomb. Saddam has used chemical weapons, both against Iran and against his own people. Following the Gulf War, Iraq had to admit to all this. And in the ceasefire of 1991 Saddam agreed unconditionally to give up his weapons of mass destruction. Iraq's nuclear programme was established under the Iraqi Atomic Energy Commission in the 1950s. Under a nuclear co-operation agreement signed with the Soviet Union in 1959, a nuclear research centre, equipped with a research reactor, was built at Tuwaitha, the main Iraqi nuclear research centre. The research reactor worked up to 1991. The surge in Iraqi oil revenues in the early 1970s supported an expansion of the search programme. This was bolstered in the mid-1970s by the acquisition of two research reactors powered by highly enriched uranium fuel and equipment for fuel fabrication and handling. By the end of 1984 Iraq was self-sufficient in uranium ore. One of the reactors was destroyed in an Israeli air attack in June 1981 shortly before it was to become operational; the other was never completed

Algeria

Algeria's position on nuclear and WMD proliferation must be understood in the context of, on the one hand, the country's commitment to both nuclear non-proliferation and the on-going struggle against CBRN(Chemical, Biological, Radiological and Nuclear) terrorism in North Africa, and, on the other hand, its development of a civil nuclear program. Algeria's policy direction is supportive of a WMD Free Zone, leaving open the possibility of North African regional participation to bolster the initiative. Algeria's situation As a state of the MENA(Middle East and North Africa) region,

Algeria is openly committed to the fight against the acquisition and dissemination of weapons of mass destruction. This position is tied to a number of historical and political reasons: Algeria has suffered, and continues to suffer, from the effects of the French nuclear tests in 1962-1963 in the Algerian Sahara (Aïn Necker and Aïn Salah in particular). In addition, though not covered by WMD conventions, Algerians suffered attacks with incendiary weapons (napalm) during their war of independence (1954- 1962) and, there remain hundreds of kilometres of antipersonnel mines along the East and West borders. More recently, during the 1990s, Islamist radicals tried to use biological weapons against populations and infrastructure through poisoning of water towers and dams in the East of the capital Algiers On the nuclear side, Algeria has two experimental nuclear reactors for civil and scientific use, in Draria and Aïn Oussera, which are subject to regular controls of the International Atomic Energy Agency (IAEA). In 2007 Algeria concluded nuclear cooperation agreements with both the United States and France and also renewed ones signed in the mid-1980s with Argentina and China. Algeria signed the Treaty on Non-Proliferation of Nuclear Weapons (NPT) in 1995. Furthermore, following approval from the Board of Governors of the International Atomic Energy Agency (IAEA) it undertook to sign the additional protocol of the Treaty on the Non-Proliferation of Nuclear Weapons, although this is still under negotiation

Egypt

Egypt has not engaged in significant efforts to develop a nuclear weapons capability. Evidently, Egypt has decided to concentrate on increasing conventional forces, and chemical and biological weapons, rather than developing nuclear weapons. The Egyptian nuclear program was launched in 1954. Egypt acquired its first nuclear reactor from the Soviet Union in 1961. The two megawatt reactor was opened by President Gamal Abdel-Nasser at Inchass, in the Nile Delta. The Soviets controlled the disposal of this small nuclear research reactor's spent fuel, which in any event was not capable of producing a significant amount of weapons-grade material. Egyptian nuclear ambitions were discarded following the 1967 defeat at the hands of Israel. Egypt signed the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 1968 but delayed ratifying it, presumably because the government had evidence that Israel had embarked on a nuclear weapons program. Subsequently, Egypt lost many of its nuclear experts who had to travel abroad to seek work opportunities. Some emigrated to Canada and others joined the Iraqi nuclear program. Egypt ratified the NPT in 1981, in order to be able to conclude agreements with other countries for the construction of atomic energy production facilities. A number of Egyptian scientific projects are being carried out under the aegis of the IAEA. There are bilateral agreements in the area of the peaceful use of atomic energy with Germany, the United States, Russia, India, China, and Argentina. There are, moreover, agreements with Great Britain and India to provide assistance in training national cadres for scientific research and work on the country's atomic enterprises.

JAPAN

By 2015 Tokyo had amassed 9 metric tons of plutonium, enough for as many nuclear weapons as the US has. Highquality plutonium is the preferred bomb material for asophisticated nuclear weapons program. It is even possible to make a crude nuclear explosive with low-quality plutonium, such as is found in power reactors. Japanese Prime Minister Shinzo Abe said 06 August 2016 the country will never possess, or even consider possessing, nuclear weapons. Abe spoke after a memorial ceremony for the atomic bombing of Hiroshima. Its geographically concentrated industry, and the close proximity of potentially hostile powers all render the country vulnerable to a nuclear strike. North Korea's attempts to develop nuclear weapons coupled with its capability to target Japan with any weapon that it developed, is a matter of great concern to Japanese military strategists.

South Africa

South Africa Department of Minerals and Energy (DME) statistics indicate that South Africa is ranked fourth in world uranium reserves and tenth in uranium production. DME estimates that South Africa's recoverable reserves of uranium

total 298,000 metric tons. At the peak of world uranium demand in 1980, South Africa was the world's leading producer at 6,147 metric tons of contained uranium (i.e., uranium contained in oxide) per year, accounting for as much as 18% of global production. Since, South African production had fallen to just 12% of its historic peak and 3% of global production. In 1983, South Africa boasted 21 uranium oxide concentration plants that produced 6,060 metric tons of uranium contained in oxide. This situation did not last long. In the late 1980's, South Africa abandoned its nuclear weapons program and, in 1994, the country became a signatory to the Nuclear Nonproliferation Treaty (NPT). Since, uranium oxide production fell precipitously. By 2004, South Africa was producing only 890 metric tons of uranium oxide (or 750 metric tons of contained uranium). South Africa developed the ability to produce and to deploy chemical and biological weapons during the mid-1980s, although Pretoria then acknowledged only that it was developing defensive countermeasures against such weapons. Military officials then believed that chemical or biological weapons were being used by Angolan government forces in that country's festering civil war. South Africa's Chemical and Biological Warfare program (known as Project Coast) included work on Cholera, botulism, anthrax, chemical poisoning and the large-scale manufacture of drugs of abuse, allegedly for purposes of crowd control. Chemicals, poisons and lethal micro-organisms were produced for use against individuals, and 'applicators' (murder weapons) developed for their administration. In 1993, after South Africa's involvement in the Angolan war had ended, President de Klerk ordered the destruction of any remaining chemical and biological substances. His government also joined more than forty other African nations in signing the international Convention on Chemical Weapons. In October 1994, South Africa hosted the first conference in Africa on the implementation of the Convention on Chemical Weapons.

LIBYA

Libya acceded to the Biological and Toxin Weapons Convention [BWC] in 1982. But Libya has never filed confidencebuilding data declarations with the United Nations. While Libya is believed to have had a biological warfare program for many years, it remains in the early research and development stages, primarily because Libya lacks an adequate scientific and technical base. The program also suffers from the difficulty Libya has acquiring needed foreign equipment and technical expertise, partly due to current UN sanctions. However, Libya is trying to develop an indigenous capability and may be able to produce laboratory quantities of agent. Given the overall limitations of the program, it is unlikely that Libya will be able to transition from laboratory work to production of militarily useful quantities of biological warfare agent until well after the turn of the century. The US believes that Libya has continued its biological warfare program. Although its program is in the research-and-development stage, Libya may be capable of producing small quantities of biological agent. Libya's BW program has been hindered, in part, by the country's poor scientific and technological base, equipment shortages, and a lack of skilled personnel, as well as by UN sanctions in place from 1992 to 1999. U.S. intelligence estimates throughout the 1990's maintained that Libya actively pursued an offensive biological capability. Libya's biological weapons program may be centered in the General Health Laboratories, a medical facility in the Tripoli area. It reportedly was built with Iraqi assistance, and for a time employed former South African scientists. Unconfirmed reports suggested that in 1997 about a dozen Iragi BW experts arrived in Libya to help develop a BW complex under the guise of a medical facility called General Health Laboratories. The secret program, code named "Ibn Hayan," was said to aim to produce bombs and warheads filled with anthrax and botulinum toxin Libya's supply of mustard gas was completely destroyed in January 2014. The United States and Libya destroyed the arsenal of chemical arms. The arsenal included hundreds of bombs and artillery rounds filled with deadly mustard agent dating back to the regime of Moamer Gaddafi. The weapons were destroyed using a special oven in the desert. The technology came from a Swedish company, and the Libyan contractors were trained in Germany. Libya's nuclear program's progress has suffered from mismanagement, lack of spare parts, and the reluctance of foreign suppliers to provide assistance, particularly since the UN embargo went into effect in 1992.

Syria

Syria was a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). Syria had a standard safeguards agreement with the IAEA but, like Iran, had not yet signed or even begun negotiations on the IAEA Additional Protocol. The Additional Protocol was an important tool that, if fully implemented, could strengthen the IAEA's investigative powers to verify compliance with NPT safeguards obligations and provides the IAEA with the ability to act quickly on any indicators of undeclared nuclear materials, facilities and activities. Syria had historically called for an area free of all weapons of mass destruction in the Middle East.

Although Syria had long been cited as posing a nuclear proliferation risk, prior to 2007 the country seemed to have been too strapped for cash to get far. Syria allegedly began a military nuclear program in 1979 and had not provided the IAEA with full information on all its nuclear activities. Syria had claimed that it was interested in nuclear research for medical rather than military purposes, but Israel and the United States opposed sales of a reactor to Syria on the grounds that it would serve as an important step toward the building of a nuclear weapon.

According to a French intelligence report released 03 September 2013, the Syrian stockpile included:

- Several hundreds of tons of sulfur mustard, stockpiled in its final form,
- A Several tens of tons of VX. VX was the most toxic among the known chemical warfare agents,
- Several hundreds of tons of sarin, representing the bulk of the arsenal.

According to on 2013 report, Syria had chemical weapons stored at an estimated 40 locations across the country.

Syria was believed capable of producing several hundred tons of CW agents per year. Syrian production facilities are notoriously small in comparison to other CBW facilities in other states and are difficult to conclusively identify. Presently there are four suspected sites. One located just north of Damascus, and the second near the industrial city of Homs. The third, in Hama, was believed to be producing VX agents in addition to sarin and tabun, and a forth near Cerin. Several other sites are monitored by 27 intelligence agencies and are listed only as suspect. Syria was not able to internally produce many of the necessary precursors to create chemical weapons and was dependent upon importing production equipment. The CIA reports in nearly every declassified acquisition report to the US Congress over the last five years the efforts of Syria to obtain precursor chemicals and equipment from external sources. The chemicals were stockpiled prior to international export controls but those initials supplies have likely long been exhausted. Syria's principle suppliers of CBW production technology were reported to be large chemical brokerage houses in Holland, Switzerland, France, Austria and Germany.

Myanmar

In addition to being a party to the 1925 Geneva Protocol, Myanmar signed the Chemical Weapons Convention in 1993. Ahmet Uzumcu, head of the Nobel Peace Prize-winning Organisation for the Prohibition of Chemical Weapons, said in December 2013 that Myanmar was preparing to join the convention banning chemical weapons. Despite this, there have been repeated claims of Chemical Weapons (CW) use by the Tatmadaw dating back to the early 1980s, when a clandestine chemical weapons plant was apparently built by the Ne Win regime. These reports, however, have yet to be confirmed. Myanmar is thought to have produced chemical weapons. The current status of the chemical weapons program in Myanmar is unknown, though it is believed the country still holds a stockpile. In 2005, British-based rights group Christian Solidarity Worldwide said it interviewed five ethnic Karen rebels who suffered symptoms consistent with a chemical weapons attack, as well as two government soldiers who defected after the alleged attack took place. The soldiers told the rights group the use of chemical weapons was widespread, and one said he was ordered to carry boxes of chemical weapons to the front line. Myanmar's former junta, which handed power to a quasi-civilian government in 2011, has repeatedly denied accusations that it used chemical weapons against ethnic insurgent groups. On 14 February 2014 Myanmar police charged five journalists with "disclosing state secrets" after their newspaper carried a story about an alleged chemical weapons factory. The trial of four reporters and the head of Unity Journal began on Feb. 14 in Pakokku, a town in the country's central region where the military facility is located. Charges under the Official Secrets Act also included "trespassing on the restricted area of the factory". Government spokesman Ye Htut told local media that the factory did not produce chemical weapons. He could not be reached for comment later. The Unity Journal story claimed the secret facility built in 2009 consisted of tunnels burrowed under 3,000 acres (1,200 ha) of land and quoted workers as saying the factory produced chemical weapons, according to the Committee to Protect Journalists (CPJ), which noted reports that authorities confiscated copies of the publication.

Saudi Arabia

Saudi Arabia does not have weapons of mass destruction. It did, however, buy long-range CSS-2 ballistic missiles from China in 1988. More recently, Saudi officials have discussed the procurement of new Pakistani intermediate-range missiles capable of carrying nuclear warheads. Some concern remains that Saudi Arabia, like its neighbors, may be seeking to acquire nuclear weapons, apparently by purchase rather than indigenous development. While there is no direct evidence that Saudi Arabia has chosen a nuclear option, the Saudis have in place a foundation for building a nuclear deterrent. Saudi Arabia is widely believed to have bankrolled the Pakistani nuclear weapons program. In exchange, Riyadh reportedly expects Islamabad to provide missiles in times of trouble to defend the kingdom. Saudi Arabia first opened a nuclear research center in the desert military complex at Al-Suleiyel, near Al-Kharj, in 1975. Saudi Arabia reportedly offered to pay for reconstruction of the Osirak-reactor, destructed by Israel on 06 June 1981. By at least 1985 Iraqi and Saudi military and nuclear experts were cooperating closely. Saudi nuclear scientists were sent to Baghdad for months of training. South Sudan South Sudan do not possess any nuclear weapon. South Sudan is not part of NPT.



NUCLEAR Terrorism:

terrorists wishing to develop or acquire nuclear weapons, the greatest difficulty is to obtain weapons-usable fissile material. While there are reports that Pakistani nuclear scientists met with members of al-Qaeda, as far as is known terrorists have not acquired nuclear materials from existing nuclear weapon arsenals. It is unlikely that terrorist groups today could develop and manage the substantial infrastructure that would be required to produce enriched uranium or plutonium for weapons. However, nuclear weapons and weapon materials could be stolen by terrorists either from storage or during transportation. Since 1995, the IAEA has maintained an Illicit Trafficking Database, containing (as of December 2004) 662 confirmed incidents of theft, 18 of which involved highly enriched uranium or plutonium, including a few cases involving kilogram quantities. Much of the US Cooperative Threat Reduction program is intended to strengthen the physical security of Russia's nuclear

weapon-related facilities and weapons-usable nuclear materials, and to reduce the risk that weapon scientists will provide their specialized knowledge to terrorists. Terrorists could also attack nuclear facilities or nuclear materials in transit. This is a serious problem and calls for high standards of physical protection. Terrorist objectives could also be pursued through the use of a so called dirty bomb, a device designed to disperse radioactive materials. A terrorist group could obtain such materials from nuclear waste or radioactive substances used in hospitals and various industries. Although such weapons are not customarily viewed as WMD because they are not likely to produce very large numbers of fatalities, they are much easier to make than fission weapons and can cause terror and mass disruption, especially if detonated at the heart of major cities. Experts are divided on the magnitude of the bioterrorist threat. At one extreme, some believe that it may already be, or may soon become, comparable to the threat posed by nuclear weapons. Others are deeply sceptical of the probability of the large-scale use of such weapons by terrorists, given the many technical difficulties of managing such weapons and delivering them effectively. No major offensive use of chemical weapons was reported until the 1995 Tokyo subway attacks. The Japanese suicide cult, Aum Shinrikyo, launched a sarin gas attack in the Tokyo subway that resulted in the death of twelve people and the sickening of thousands more. The fear generated from Aum Shinrikyo's acquisition of chemical weapons currently plays a role in debates over the Syrian conflict, as fears of non-state actors acquiring lose chemical weapons are of particular concern to many western nations such as Israel Toxic chemical agents might be acquired by terrorists through attacks on industries, stocks or shipments. Terrorist groups might also produce such agents themselves. The most notorious case of terrorism involving chemical weapons occurred in 1995, when Aum Shinrikyo used sarin nerve gas in an attack in a Tokyo subway, killing 12 people and sending thousands to hospital. However, as is the case with biological terrorism, delivering toxic materials effectively enough to kill large numbers of people is more difficult than simply acquiring or making the weapon agents. Rather than seeking to attack large numbers of civilians directly, terrorist groups could choose to attack targets that would release dangerous chemical agents. Civilian industries that use or produce highly toxic materials are sitting targets.

Unfortunately, there are numerous potential sources of nuclear weapons and weapons materials worldwide and several types of shortcomings in current security and accounting measures, some of which we list below.

- Several countries possess large stockpiles of civil plutonium for use in nuclear power reactors. Civil stockpiles
 stored in Belgium, France, Germany, India, Japan, Russia, and the United Kingdom comprise more than 230
 metric tons of plutonium. Despite these enormous stockpiles, France, India, Japan, Russia, and the UK
 continue reprocessing in order to produce more civil plutonium. While civil plutonium is not "weapon-grade,"
 it can still be used to make nuclear weapons.
- The United States has a relatively small amount of civil plutonium compared with these other countries because it decided in the 1970s to suspend the separation of plutonium from civil spent nuclear fuel.
- Russia and the United States possess enormous stockpiles of military plutonium from dismantled nuclear weapons. Russia's stockpile comprises some 150 metric tons and the U.S. stockpile comprises 100 metric tons. Each country has pledged to dispose of 34 metric tons, but neither effort has gotten off the ground. Moreover, the method they have chosen—turning the plutonium into fuel for nuclear reactors—could actually increase the risk of plutonium theft unless stringent security measures are applied.
- HEU is used to fuel well over 100 research reactors worldwide in dozens of countries. Many of these facilities are in academic or industrial settings with inadequate security—making them even more attractive targets for terrorists seeking nuclear weapons materials.
- In 2005, the U.S. Congress eliminated long-standing restrictions on exporting HEU to other countries for the purpose of making medical isotopes.
- Russia and the United States possess enormous stockpiles of military HEU. Russia has more than 1,000 metric tons, half of which it now considers "excess" to its security needs and is being converted to low-enriched

uranium that cannot be used for weapons. The United States has more than 700 metric tons, of which it has declared 174 metric tons as excess. The HEU conversion and disposal programs in both countries are proceeding slowly, and even after their completion, each country will be left with more than 500 metric tons of HEU—enough for 10,000 simple nuclear weapons.

- Thousands of so-called tactical nuclear weapons—many of which are quite small and do not have electronic locks to prevent their unauthorized use—are stored in Russia, some in poorly secured locations. In addition, the United States maintains some 150 tactical nuclear weapons in Europe as part of NATO forces, and stores roughly 1,000 such weapons within its own borders.
- Tons of Russian nuclear materials are stored under inadequate security. During the Soviet era, the state limited access to cities in which these materials were stored, but did not keep strict account of the material or worry about theft by citizens who did have access. Since the collapse of the Soviet Union, that is no longer a viable strategy. Security upgrades (such as fences and controlled access) have been made to many sites, but not all.
- Even in countries such as France, Japan, and the United States, security measures for protecting weaponusable materials from theft are probably inadequate to protect against contemporary terrorist threats

FACTORS AND ACTIONS THAT HAVE <u>INCREASED</u> THE RISK OF NUCLEAR TERRORISM

- Inexorable advance of science and technology, diffusion of nuclear know-how.
- North Korea's growing nuclear stockpile, seen as a validation for rogue states that nukes = security.
- Metastasis of terrorists: $AQ \rightarrow ISIL \rightarrow Affiliates \rightarrow ?$
- U.S. airstrikes and special forces raids in seven Muslim-majority countries.
- Pakistan's growing nuclear arsenal and development of tactical nukes.
- Collapse of U.S.–Russia nuclear security cooperation after Russia's invasion of Ukraine in 2014.
- Erosion of confidence in the nonproliferation regime.
- Potential for large-scale reprocessing of plutonium in China and Japan.
- Growing possibility that the Trump Administration will let Iran escape the constraints on its nuclear ambitions.

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Uses of Chemical Weapons in Syria

The war in Syria, starting in 2011, is highly complex. It has killed more than 470,000 and displaced more than 6.3 million. What adds more fuel to the fire is the use of chemical weapons against civilians by Bashar Al Assad's regime in 2013. This revelation marks serious challenges to international humanitarian law, as targeting civilians indiscriminately is a grave violation the Geneva Conventions (also known as the laws of 30 war) and accounts to War Crimes. This means that Assad and his regime could be prosecuted under the International Criminal Court and that intervention by the international community could be justified. However, this was not the action that took place, and instead a series of negotiations took place leading to the believed destruction of Assad's Nuclear Arsenal in 2014. Additionally, there have been further accusations that chemical weapons have been used in gas attacks in 2015. The recent 2017 Chemical

attacks in April 2017 led to the US decision to bomb Assad's nearby alShayrat airfield. These events challenge the legitimacy of international humanitarian law in preventing the worst crimes against innocent people.

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