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Efforts by India and Pakistan to Establish Protections Against Nuclear War

Since 1988, both India and Pakistan have had nuclear weapons capabilities. This is a concern, not only for the Southeast-Asia region, but for all of the world, as the diplomatic situation between them continues to be extremely volatile, and has a long history of violent disputes. While this historically grounded rivalry is different from the relationship between the United States and the Soviet Union, there are parallels to be drawn between the two situations, as the bilateral treaties drawn in both situations are essentially similar.

This paper aims to analyze the legal similarities and differences between the agreements formed between the United States and the Soviet Union during the Cold War and the agreements formed between India and Pakistan since their near simultaneous testing of nuclear weaponry in 1998. The first part will provide background to the nuclear arms race, and discuss the agreements formed between the United States and the Soviet Union during the Cold War, including the multilateral agreements then formed that India and Pakistan, either then or since, have, or more significantly, have not become signatories to. The second part will discuss the history of India and Pakistan's nuclear weapons programs, the bilateral agreements formed directly between India and Pakistan, their involvement in the multilateral treaties introduced in part one, and will analyze the similarities and differences between the United States and Soviet Union's treaties and India and Pakistan's treaties. The third part will provide an analysis of the effectiveness of and

confidence in the treaties that have been signed at present, and the role that international law and general concepts of deterrence have played in preventing nuclear war between Pakistan and India.

Part One: The US, the USSR, and Nuclear Treaties During the Cold War

History of US and USSR Weapons Programs

The Cold War needs little introduction. This conflict between the United States and the Soviet Union spanned decades, and the arms race between the two superpowers cast a shadow over the world during this time with its potential for global destruction. While the arms race ran rampant, there were bilateral attempts, as well as multilateral attempts that were largely led by the United States and the Soviet Union, to curb the proliferation and use of nuclear weapons globally.

The United States detonated its first nuclear weapon, nicknamed "Fat Man," in what is termed the Trinity Explosion, on July 16, 1945, near Alamogordo, New Mexico, giving rise to the nuclear age.[1] Less than a month later, this became a global concern, as between "Little Boy," dropped on Hiroshima on August 6, 1945, and another Fat Man, dropped on Nagasaki on August 9, 1945, approximately 110,000 people were killed.[2] While this is the only instance of a nuclear weapon actually being used in armed conflict, since then the

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[1] Lisa M. Schenck & Robert A Youmans, *From Start to Finish: A Historical Review of Nuclear Arms Control Treaties and Starting Over with the New START*, 20 Cardozo J. Of Int'l & Comp. L. 399, 400 (2012).
For footage of the Trinity Explosion, *see* Atomic Age – Trinity Explosion *available at* http://www.youtube.com/watch?v=0w6LsP3UBeM.
[2] Id.

enormous and obvious threat posed by these weapons has resulted in a major push for regulation and reduction, with some States seeking to abolish nuclear weapons entirely.[3]

Initially, the Truman administration introduced the Baruch plan, which proposed to establish the International Atomic Development Authority, an independent international authority which would have exclusive ownership and control of atomic resources production and destruction.[4] The United States would have had to hand over its existing arsenal and abandon its nuclear weapons program, "after all other states agreed to accept international control over their nuclear programs."[5] The Soviet Union, however, "declined to hand over its 'atomic future' to a majority vote of the United Nations Security Council and opposed the staging, ownership, and enforcement provisions of the Baruch Plan."[6] The first attempt of the international community to regulate nuclear weapons was thus a failure, not least due to the conflict of ideals between the United States and the Soviet Union.[7]

The Soviet Union then detonated its first nuclear weapon on August 29, 1949, thus beginning the race between the United States and the Soviet Union to develop the most powerful weapons.[8] By 1953, both countries owned and had exploded hydrogen bombs.[9] At this point, the theory of arms control centered around deterrence, "whereby the United

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[3] Darren Mitchell Baird, Note, *The Changing Posture of the International Community Regarding the Threat or Use of Nuclear Weapons*, 22 Suffolk Transnat'l L. Rev. 529, 529 (1999).
[4] Schenck, *supra* note 1, at 403-04.
[5] *Id*. at 404.
[6] *Id*. *See also* Baird, *supra* note 3, at 532 n21, "The Soviet Union did not trust the United States and did not like the idea of the Atomic Energy Commission prying into or trying to regulate Soviet industries." (quoting Benjamin B. Ferencz, NEW LEGAL FOUNDATIONS FOR GLOBAL SURVIVAL, 102 (1996)).
[7] Baird, *supra* note 3, at 533.
[8] Schenck, *supra* note 1 at 404.
[9] *Id.*

States would maintain peace by maintaining its ability to respond to a nuclear attack or any other form of aggression with an all-out nuclear attack upon the Soviet Union."[10] The negotiations that took place until 1959 mostly focused on complete disarmament, and were thus largely unsuccessful, as neither the United States nor the Soviet Union would really consider disarmament, as it was against both of their stated positions.

The arms control negotiations thus necessarily shifted from complete and comprehensive global disarmament to specific deterrence of use of nuclear weapons.[11] The idea became that by dividing disarmament into "pieces," gradual progress toward eventual complete disarmament could be made[12] - "the back-door route toward the elimination of nuclear weapons."[13] These nuclear arms control agreements have been categorized by a 1985 Congressional Report, The Fundamentals of Nuclear Arms Control, into three categories: "(1) non-armament agreements, which limit militarization from certain areas; (2) confidence building measures, which reduce the risk of war; and (3) arms-limitation agreements, which constrain development, testing, and deployment of nuclear weapons technologies."[14]

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[10] *Id*. at 405 (quoting the Secretary of State John Foster Dulles on the doctrine of "massive retaliation as the basis to deter war and Soviet aggression" in 1954).
[11] *Id*.
[12] *Id*. at 406.
[13] *Id.* at 408 (quoting Ambassador THOMAS GRAHAM, JR., DISARMAMENT SKETCHES: THREE DECADES OF ARMS CONTROL AND INTERNATIONAL LAW 19 (2002)).
[14] *Id*. (citing H.R. Foreign Affairs Comm., Subcomm. on Arms Control, International Security & Science, 99th Cong., Fundamentals of Nuclear Arms Control: Part 1 – Nuclear Arms Control: A Brief Historical Survey IX-X (Comm. Print 1985)).

Treaty Involvement

The earliest treaty is the multilateral Antarctic Treaty of 1959, which limits Antarctica to use only for peaceful purposes, and prohibits the testing of weapons, nuclear explosions, and the disposal of radioactive waste.[15] It was created by the United Nations as the result of a request from scientists from twelve countries who were working in Antarctica, and was intended to guarantee that "... Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord."[16] It was originally signed by those twelve countries, and fifty countries are now a party, including India (as of 1983) and Pakistan (as of March 2012).[17]

The Cuban Missile Crisis in October 1962 "stimulated a new willingness to explore bilateral approaches to tension reduction and crisis management,"[18] and directly resulted in renewed negotiations between the United States and the Soviet Union. The first bilateral treaty enacted between the United States and the Soviet Union was the Memorandum of Understanding Between the United States of America and the Union of Soviet Socialist Republics Regarding the Establishment of a Direct Communications Link, which entered into force June 20, 1963 and is also known as the "Hot Line" Agreement. This agreement was to "establish as soon as technically feasible a direct communications link between the two Governments," with specifications for the technology, location in Washington and

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[15] The Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71. (actually entered into force June 23, 1961)

[16] NUCLEAR THREAT INITIATIVE, *Antarctic Treaty*, http://www.nti.org/treaties-and-regimes/antarctic-treaty/ (last visited Dec. 18, 2012).

[17] *See* The National Science Foundation, The Antarctic Treaty, available at http://www.nsf.gov/od/opp/antarct/anttrty.jsp (last visited Dec. 19, 2012).

[18] Schenck, *supra* note 1 (quoting H.R. Foreign Affairs Comm., Subcomm. on Arms Control, International Security & Science, 99th Cong., Fundamentals of Nuclear Arms Control: Part 1 – Nuclear Arms Control: A Brief Historical Survey IX-X (Comm. Print 1985))..

Moscow, equipment, and costs included in the annex.[19] This communications link was to be direct, rapid, reliable, and for use during "a military crisis which might appear directly to threaten the security of either of the states involved and where such developments were taking place at a rate which appeared to preclude the use of normal consultative procedures."[20] This treaty was the first of many, and is an example of a confidence building agreement, intended to reduce the risk of accidental nuclear war.

This new understanding also led to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water (Limited Test Ban Treaty (LTBT) of 1963), which resulted from negotiations between the United States, the Soviet Union, the United Kingdom, China, and France, due to radioactive debris from both Soviet and United States nuclear testing falling over Japan.[21] As its name would suggest, it prohibits nuclear weapons tests "or any other nuclear explosion" in the atmosphere, in outer space, and under water, and prohibits tests underground if they cause "radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control" the tests were conducted. [22] A total of 116 countries have signed onto this treaty, including both India and Pakistan.

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[19] Memorandum of Understanding Between the United States of America and the Union of Soviet Socialist Republics Regarding the Establishment of a Direct Communications Link, US-USSR, June 20, 1963, 14 U.S.T. 825.
[20] Schenck, *supra* note 1, at 411 (quoting U.S., Working Paper on the Reduction of the Risk of War Through Accident, Miscalculation, or Failure of Communication (Dec. 12, 1962) (submitted to the Eighteen-Nation Disarmament Committee)).
[21] *Id*. at 412-13.
[22] U.S. Department of State, Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water, available at: http://www.state.gov/t/isn/4797.htm (last visited Dec. 18, 2012) (quoting Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water, August 5, 1963, 14 U.S.T. 1313, 480 U.N.T.S. 43). *See also* Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Oct. 10, 1967, 18 U.S.T. 2410.

Two more multilateral Nuclear Free Zone Treaties on non-armament which, like the Antarctic Treaty, focused on specific areas, came into being in 1967 – the Latin American Nuclear Free Zone Treaty of 1967 (also known as the Treaty of Tlatelolco) and the Outer Space Treaty of 1967. The Latin American Nuclear Free Zone Treaty prohibited the introduction, use, and threat of use of nuclear weapons in Latin America, and the Outer Space Treaty prohibited the presence and use of nuclear weapons in outer space, as well as limited the moon to peaceful uses.[23] The next treaty of this type was the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof (Seabed Arms Control Treaty of 1971). This treaty differs from the LTBT, which prohibited the testing (i.e. actual explosions) of nuclear weapons on the seabed – the Seabed Treaty prohibits the emplacement of weapons on the seabed, whether or not they are deployed. India is a party to this treaty, but Pakistan is not.

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) was signed into force in 1970, and was the first major international effort to limit nuclear weapons.[24] At this point, there were five nuclear powers – the United States, the Soviet Union, the United Kingdom, China, and France, and they all agreed not to give nuclear weapons to non-weapon states.[25] The non-nuclear signatories agreed not to accept any nuclear weapons, and to accept safeguards for verification of fulfillment of treaty obligations. The treaty does allow for "research, production, and use of nuclear energy for peaceful purposes"[26] and

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[23] Schenck, *supra* note 1, at 407.
[24] *Id*. at 408.
[25] Treaty on the Non-Proliferation of Nuclear Weapons, Mar. 5, 1970, 21 U.S.T. 483, T.I.A.S. 6839.
[26] *Id*. art. IV.

allows for sharing of "potential benefits from any peaceful applications of nuclear explosions."[27] The parties undertook to "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control."[28] Only four countries are non-parties to the NPT – India, Pakistan, and Israel, which have never been parties, and North Korea, which withdrew. The NPT is still the most adhered-to arms control agreement, and despite the increase in the number of nuclear states, is still the "cornerstone of international efforts to prevent the further spread of nuclear weapons."[29]

The next group of bilateral agreements between the United States and the Soviet Union were focused on preventing nuclear war, including by preventing accidents and improving communication. Two agreements were entered on September 30, 1971 – the Agreement on Measures to Reduce the Risk of Nuclear War Between the United States of America and the Union of Soviet Socialist Republics (Accident Measures Agreement) and the Measures to Improve the Direct Communications Link. The Accident Measures Agreement focused on maintaining and improving the "existing organizational and technical agreements to guard against the accidental or unauthorized use of nuclear weapons"[30] and contained multiple notification provisions, giving situations in which one party would undertake to notify the other.[31] The Measures to Improve the Direct

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[27] *Id*. art. V.
[28] *Id*. art. VI.
[29] Schenck, *supra* note 1, at 409.
[30] Agreement on Measures to Reduce the Risk of Nuclear War Between the United States of America and the Union of Soviet Socialist Republics art. 1, US-USSR, Sept.30, 1971, 22 U.S.T. 1590.
[31] *Id*. art. 2-5.

Communications Link detailed ways in which the direct link between the United States and the Soviet Union was to be improved for better communication, such as opening more circuits.[32]

The Strategic Arms Limitation Talks I (SALT I) took place between the United States and the Soviet Union between 1969 and 1972, to address "this phenomenon of an all-out, uncontrolled, dangerous nuclear arms race."[33] SALT I resulted in two more bilateral treaties, which entered into force on October 3, 1972 – the Limitation of Strategic Offensive Arms[34] and the Limitation of Anti-Ballistic Missile Systems.[35] The Limitation of Strategic Offensive Arms was an interim agreement, intended to last for five years, and was a response to the growing delivery technology for nuclear warheads, as the United States and the Soviet Union were rapidly increasing their ability to deliver nuclear weapons. While it did not alleviate the uncertainty of just how many weapons the Soviet Union had, and was a challenge to negotiate as the parties had different defense needs and weapons systems, it was intended to "freeze" production of additional weapons.[36] The treaty centered on limitation of land-based intercontinental ballistic missile (ICBM) launchers, submarine-launched ballistic missile (SLBM) launchers, however it did allow for modernization and

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[32] Measures to Improve the Direct Communications Link, US-USSR, Sept. 30, 1971, 22 U.S.T. 1598

[33] Schenck, *supra* note 1, at 415 (quoting Ambassador THOMAS GRAHAM, JR., DISARMAMENT SKETCHES: THREE DECADES OF ARMS CONTROL AND INTERNATIONAL LAW 19 (2002)).

[34] Interim Agreement between the United States of America and the Union of Soviet Socialist Republics on Certain Measures with Respect to the Limitation of Strategic Offensive Arms, US-USSR, October 3, 1972, 23 U.S.T. 3462 (hereafter "Limitation of Strategic Offensive Arms").

[35] Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, US-USSR, October 3, 1972, 23 U.S.T. 3435 (hereafter "Limitation of Anti-Ballistic Missile Systems").

[36] Schenck, *supra* note 1, at 417. "The United States was obligated to defend overseas allies, while the Soviets had nearby allies." Also, the United States was bound to NATO, and the Soviet Union to the Warsaw Pact.

replacement of strategic offensive ballistic missiles and launchers.[37] It also committed the two countries to "continue active negotiations for limitations on strategic offensive arms."[38]

The Limitation of Anti-Ballistic Missile Systems did precisely what its name suggests – limited defensive anti-ballistic missile (ABM) systems, and provided very specific locations (only near the nations' capitals), situations, and ways in which they could be employed.[39] Excess ABM systems or their components were to be "destroyed or dismantled within the shortest possible agreed period of time."[40] It also banned the "development, testing, or deployment of 'sea-based, air-based, space-based, or mobile land-based' ABM systems or components."[41] This was the more significant of the two SALT I treaties, and was not an interim agreement, so it had an unlimited duration, subject to review every five years.[42] Both sides had the right of withdrawal with six months notice, which the United States exercised in December of 2011.

Next was the Prevention of Nuclear War Treaty, which entered into force June 22, 1973, in which "[t]he United States and Soviet Union agree[d] that an objective of their policies is to remove the danger of nuclear war and of the use of nuclear weapons."[43] Accordingly, they agreed to "act in such a manner as to prevent the development of situations capable of causing a dangerous exacerbation of their relations, as to avoid military confrontations, and as to exclude the outbreak of nuclear war between them and

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[37] Limitation of Strategic Offensive Arms, art. I-IV.
[38] *Id*. at art. VII.
[39] Limitation of Anti-Ballistic Missile Systems, art. I, III.
[40] *Id*. at art. VIII.
[41] Schenck, *supra* note 1, at 419.
[42] *Id*.
[43] Agreement Between the United States of America and the Union of Soviet Socialist Republics on the Prevention of Nuclear War, art. 1, US-USSR, June 22, 1973, 24 U.S.T. 1478.

between either of the Parties and other countries."[44] Essentially, it set forth a code of conduct, including making no threat of force against any country, giving it multilateral implications, and committed the parties to consultation in the event of nuclear confrontation.[45]

The Threshold Test Ban Treaty of 1974 (TTBT) was a bilateral treaty signed on July 3, 1974, however it was not ratified until 1990. It put a 150 kiloton limit on weapons testing, and both the United States and the Soviet Union had to declare their weapons test sites (with their own countries) to distinguish between weapons tests and peaceful nuclear explosions.[46] These limits were actually followed prior to ratification, which was delayed because of technical questions regarding the seismic measuring of explosions.[47] Then, in 1974, the Peaceful Nuclear Explosion Treaty (PNE) came to limit explosions outside the designated weapons testing locations designated by the TTBT.[48] It set yield limitations – 150 kilotons for a single explosion, and an aggregate yield of 1,500 kilotons for a group explosion, and allowed for PNEs to occur in territories outside that of the country testing.[49] It also was ratified in 1990. Together, these treaties expanded the limitation on testing to include underground explosions, helping to cap the power of nuclear weapons.[50]

SALT II was the result of the continued negotiation promised in the Limitation of Strategic Defensive Arms, and was an agreement to permanently reduce strategic nuclear

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[44] *Id.*
[45] Schenck, *supra* note 1, at 415.
[46] Edward Ifft, *The Threshold Test Ban Treaty*, ARMS CONTROL ASSOCIATION (March 2009), http://www.armscontrol.org/print/3547.
[47] *Id.*
[48] *Peaceful Nuclear Explosions Treaty,* ARMS CONTROL ASSOCIATION, http://www.armscontrol.org/documents/pnet (last visited December 19, 2012).
[49] *Id*.
[50] Schenck, *supra* note 1, at 423.

launch vehicles to 2,400 (with a further reduction to 2,250). It was signed by President Carter, but consideration was suspended after the Soviet Union invaded Afghanistan in 1979. While it never entered into force, President Reagan never deployed troops exceeding the SALT II limits, on the condition that the Soviet Union also stayed within the terms,[51] so it did effectively limit the strategic nuclear launch vehicles that each country possessed.

The Strategic Arms Reduction Talks (START) began in 1982, and a few more agreements came into existence during the 1980s, prior to the end of the Cold War. The multilateral Nuclear Material Convention was signed in 1980, and undertook to establish rules for the physical protection of nuclear materials, as well as establish measures to prevent, detect, and punish offenses.[52] 1984 saw an expansion and upgrade of the Hot Line Agreement to include fax machines and improve communications equipment speed.[53] In 1987, the Nuclear Risk Reduction Centers Agreement led to the opening of the Nuclear Risk Reduction Centers (NRRCs) in Washington and Moscow in 1988, to reduce the risk of conflict or accidental nuclear war by establish direct 24-hour communications.[54] The Ballistic Missile Launch Notification Agreement of 1988 was a bilateral agreement between the United States and the Soviet Union in which the parties agreed to notify each other, "through the [NRRCs] ... no less than twenty-four hours in advance, of the planned date, launch area, and area of impact for any launch of a strategic ballistic missile: an

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[51] *Id*. at 421.
[52] *Convention on Physical Protection of Nuclear Material*, INTERNATIONAL ATOMIC ENERGY AGENCY, http://www.iaea.org/Publications/Documents/Conventions/cppnm.html (last visited Dec. 19, 2012).
[53] Schenck, *supra* note 1, at 423-24.
[54] *Nuclear Risk Reduction Centers*, FEDERATION OF AMERICAN SCIENTISTS, http://www.fas.org/nuke/control/nrrc/index.html (last visited December 19, 2012).

intercontinental ballistic missile ... or a submarine-launched ballistic missile... "[55] This was again an attempt to eliminate the risk of outbreak of nuclear war due to a "misinterpretation, miscalculation, or accident."[56]

The final treaty before the fall of the Berlin Wall and the beginning of the end of the Cold War in 1989 was the bilateral Intermediate-Range Nuclear Forces (INF) Treaty in 1988. It obligated the parties to eliminate its intermediate-range (1000-5500km) and short-range missiles (500-1000km), and no longer have such systems.[57] This objective was achieved within the three year range specified – a total of 2,692 missiles were destroyed by the implementation deadline of June 1, 1991.[58] Significantly, the treaty introduced on-site inspection, a huge step forward in the relations between the two countries, as they had never before opened their doors to inspection.[59]

Part Two: Treaties Between India and Pakistan

History of India and Pakistan, and their Weapons Programs

India and Pakistan have a long history of political turmoil. When colonial India gained independence in 1947, it was partitioned into India, with a Hindu majority, and Pakistan, with a Muslim majority. This resulted in the largest mass migration of human history, with over ten million people relocating, and over one million civilians dying in the

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[55] Agreement Between the United States of America and the Union of Soviet Socialist Republics on Notifications of Launches of Intercontinental Ballistic Missiles and Submarine-Launched Ballistic Missiles, US-USSR, May 31, 1988.
[56] *Id*.
[57] Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles, US-USSR, June 1, 1988.
[58] *The Intermediate-Range Nuclear Forces (INF) Treaty at a Glance*, ARMS CONTROL ASSOCIATION (Feb. 2008), http://www.armscontrol.org/factsheets/INFtreaty.
[59] Schenck, *supra* note 1, at 427.

ensuing riots and fighting, especially in Punjab, where the border was located.[60] Tensions have persisted, especially regarding the disputed territory of Kashmir, for which both countries claim ownership. The two countries have gone to war four times, three of those over Kashmir, since their independence: in October 1947 (ending January 1, 1949) over Kashmir; in April 1965 (ending with a UN-sponsored ceasefire in September) which began as a clash between border patrols in a sparsely populated region along the border and spread into Kashmir; in 1971, civil war in Pakistan (then split into two parts – West Pakistan and East Pakistan, which became Bangladesh) during which India invaded East Pakistan; and in May 1999, again over Kashmir.[61] While peace talks have been ongoing, the issues have continued, most recently with the 2008 Mumbai attacks by the Pakistani extremist group Lashkar-e-Taiba, in which Pakistan's intelligence agency ISI was implicated.[62] The diplomatic instability between the two countries creates a vital need for measures to prevent nuclear war.

India conducted its first nuclear test on May 18, 1974, "Smiling Buddha", in what the Indian government described as a "peaceful explosion."[63] The next test it conducted was in 1998 in a round of "tit-for-tat" public demonstrations with Pakistan, and it is estimated that

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[60] Dr. Crispin Bates, *The Hidden Story of Partition and its Legacies*, BBC (March 3, 2011), http://www.bbc.co.uk/history/british/modern/partition1947_01.shtml.
[61] *India-Pakistan: Troubled Relations*, BBC, http://news.bbc.co.uk/hi/english/static/in_depth/south_asia/2002/india_pakistan/timeline/default.stm (last visited Dec. 19, 2012).
[62] Chidanand Rajghatta, Rana, *Headley implicate Pak, ISI in Mumbai attack during ISI chief's visit to US,* THE TIMES OF INDIA (April 12, 2011, 12:13 IST), http://articles.timesofindia.indiatimes.com/2011-04-12/us/29409412_1_rana-and-headley-isi-tahawwur-hussain-rana.
[63] *Nuclear Weapons: India*, FEDERATION OF AMERICAN SCIENTISTS, http://www.fas.org/nuke/guide/india/nuke/index.html (last visited Dec. 19, 2012).

it has up to 100 plutonium nuclear warheads at present.[64] India's nuclear doctrine is based on the concept of "no first use" – one of the few countries to employ this doctrine - and Prime Minister Atal Behari Vajpayee declared in a policy statement in parliament in 1998 that India would maintain "a minimum but credible nuclear deterrent."[65] It claims that it is not engaged in an arms race, or that if it is, the opponent is actually China, not Pakistan.[66]

Pakistan tested its first nuclear weapon, Chagai-I in May of 1998 as well. With Chinese help, Pakistan built the Khusab research reactor at Joharabad, which became operational in April of 1998.[67] It is estimated that they currently possess between 90 and 110 nuclear warheads, which are thought to be made with highly enriched uranium.[68] President Pervez Musharraf in 2002 said Pakistan did not want conflict with India, but if it came to war between the two, he would respond with "full might."[69] Four main pillars of Pakistan's nuclear doctrine, as asserted by senior Pakistani government officials were described by Michael Krepon:

> First, they assert that Pakistan's nuclear deterrent is India-specific. Second, Pakistan has embraced a doctrine of credible, minimum deterrence, as noted above. Third, the requirements for credible, minimal deterrence are not fixed; instead, they are determined by a dynamic threat environment. And

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[64] *Nuclear Weapons: Who Has What at a Glance*, ARMS CONTROL ASSOCIATION (November 2012), http://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat.
[65] Gurmeet Kanwal, *Command and Control of Nuclear Weapons in India*, VOL. 23 NO. 10 STRATEGIC ANALYSIS 1707, Jan. 2000.
[66] *Pakistan and India: Race to the End*, PULITZER CENTER ON CRISIS REPORTING (Sept. 5, 2012), http://pulitzercenter.org/reporting/pakistan-nuclear-weapons-battlefield-india-arms-race-energy-cold-war.
[67] *Pakistan Nuclear Weapons*, FEDERATION OF AMERICAN SCIENTISTS, http://www.fas.org/nuke/guide/pakistan/nuke/index.html (last visited Dec. 19, 2012).
[68] *Nuclear Weapons: Who Has What at a Glance*, ARMS CONTROL ASSOCIATION (November 2012), http://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat.
[69] *Pakistan Nuclear Weapons*, FEDERATION OF AMERICAN SCIENTISTS, http://www.fas.org/nuke/guide/pakistan/nuke/index.html (last visited Dec. 19, 2012).

> fourth, given India's conventional military advantages, Pakistan reserves the option to use nuclear weapons first in extremis. [70]

Pakistan is also possibly leading India in the number of nuclear weapons possessed by each, as it has put a huge focus on its nuclear weapons program.[71] They claim, however, that there is not an arms race, with the Foreign Minister Abdul Sattar declared that, "[o]ur policy of minimum credible deterrence will obviate any strategic arms race." [72]

The potential results of a nuclear war between India and Pakistan are dire. Not only would the immediate effects of the weapons lay waste to the region, but it is estimated that over one billion people would die due to the world wide climate disruption and global famine that would occur.[73] Pakistan's ongoing "preoccupation with military parity" makes it unlikely that disarmament is an option, and this is especially a concern in light of the terrorist action in the region.[74] While the warheads are guarded while in facilities, they are apparently frequently moved – and this happens in lightly defended vehicles along public highways to escape the notice of Indian and American spy satellites.[75] The consequences of

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[70] Michael Krepon, *Pakistan's Nuclear Strategy and Deterrence Stability*, THE STIMSON CENTER, http://cts.vresp.com/c/?TheHenryL.StimsonCen/02a443b42b/000652dc6c/0e0722122c (last visited Dec. 19, 2012)
[71] *Id*. at 5.
[72] *Id*. at 6.
[73] *Doctors Warn of Climate Havoc Resulting in Global Disease Epidemics and Famine*, MEDICAL NEWS TODAY (Oct. 3, 2007), http://www.medicalnewstoday.com/releases/84469.php. For an extremely detailed look at nuclear war between India and Pakistan, *see* Louis Rene Beres, *In a Dark Time: The Expected Consequences of an India-Pakistan Nuclear War*, 14 Am. U. Int'l L. Rev. 497 (1998). For a map of the estimated ranges of current ballistic missiles for both India and Pakistan, *see South Asia*, FEDERATION OF AMERICAN SCIENTISTS, http://www.fas.org/irp/threat/prolif97/so_asia.html (last visited Dec. 19, 2012).
[74] Felix Imonti, *Is Pakistan's Paranoia Pushing It Into a Nuclear War With India?*, INTERNATIONAL BUSINESS TIMES (Nov. 6, 2012 9:26 AM), http://www.ibtimes.com/pakistans-paranoia-pushing-it-nuclear-war-india-860868.
[75] *Id*.

a terrorist strike is an important concern, as it could lead to an accidental nuclear war between the two countries. India and Pakistan, however, much like the United States and the Soviet Union during the Cold War, have begun making agreements to limit the potential for an accidental nuclear war.

Treaty Participation

India and Pakistan are parties to some, but certainly not all, of the multilateral treaties discussed in Part One. As discussed, there are multiple treaties banning the testing and use of nuclear weapons in certain locations. India and Pakistan are parties to only one – the LTBT. The only Nuclear Free Zone Treaty (and non-armament treaty) that they have signed is the Antarctic Treaty. Neither have joined the Non-Proliferation Treaty – India sees it as having created a club of nuclear haves and nuclear have nots, based entirely on who had nuclear weapons in 1967 when the treaty was signed, and not signing was "in keeping with the basic objective of maintaining freedom of thought and action."[76] Pakistan has refused to sign until India does so.[77] This tit-for-tat approach to treaty signing has largely shaped what treaties the two countries are signatories to, despite their assurances that there is no arms race.

The Comprehensive Nuclear-Test-Ban Treaty (CTBT) has been opened for signature since September 24, 1996. The CTBT prohibits any nuclear explosion, whether for weapons or for peaceful purposes, and it establishes the CTBT Organization, located in

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76 Evolution of India's Nuclear Policy, Paper Laid on the Table of the Lok Sabha on May 27, 1998, available at http://www.fas.org/news/india/1998/05/980527-goi1.htm.
77 *Pakistan Nuclear Weapons*, FEDERATION OF AMERICAN SCIENTISTS, http://www.fas.org/nuke/guide/pakistan/nuke/index.html (last visited Dec. 19, 2012).

Vienna, to ensure its implementation.[78] India and Pakistan are both included in the treaty as drafted, as they are nuclear powers, however the treaty is yet to enter into force because they both (along with North Korea) refuse to sign. This is a hugely significant example of India and Pakistan's unwillingness to disarm – 183 countries, including Russia and the United States (however, the United States and China are the only two weapons states that have signed but not ratified the CTBT). India and Pakistan are two of the three holdouts on both the CTBT and the NPT, with North Korea as their auspicious company, and their refusal to sign can largely be blamed on their hostile rivalry. The concern is whether that rivalry will result in actual nuclear war.

India and Pakistan have begun to create a body of treaties to address the concerns and risk of nuclear war, much like the United States and the Soviet Union did in the 1960s-1980s during the Cold War. While Kashmir is still hotly disputed, and hostilities generally continue, the two nations have discussed and agree upon the importance of avoiding nuclear war. The Composite Dialogue is "alive and happening."[79] Disarmament, however, looks to be a far off ideal.

The Simla Agreement of July 2, 1972 is not a nuclear treaty (and predates any nuclear testing by either party), however it is a bilateral treaty between India and Pakistan that lays the foundation for their future interactions. Its stated goal was to

> put an end to the conflict and confrontation that have hitherto marred their relations and work for the promotion of a friendly and harmonious relationship and the establishment of durable peace in the subcontinent, so

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[78] Comprehensive Nuclear-Test-Ban-Treaty, NUCLEAR THREAT INITIATIVE, http://www.nti.org/treaties-and-regimes/comprehensive-nuclear-test-ban-treaty-ctbt/ (last visited Dec. 19, 2012).
[79] V.R. Raghavan, *Reducing Nuclear Risks in South Asia*, Washington, DC, October 18, 2012.

> that both countries may henceforth devote their resources and energies to the pressing task of advancing the welfare of their peoples.[80]

To achieve this end, they established the line of control in Kashmir resulting from the cease-fire in December 1971, and agreed to take steps to foster a friendly relationship between the two nations.[81] This is not the first treaty between the two – the Tashkent Declaration of January 10, 1966 predated it, but the Simla Agreement is more significant as the Lahore Declaration (discussed below) was in no small part an expansion of it. It also illustrates a key difference between the conflict in India and Pakistan with that of the United States and the Soviet Union in the Cold War – the underlying dispute here has nothing to do with nuclear weapons, and is only complicated by the shared borders and close proximity of the two countries.

The India-Pakistan Non-Attack Agreement was also signed nearly ten years before the nuclear testing began in earnest. It entered into effect on January 1, 1991, and is a bilateral agreement that focuses, not on nuclear weapon attacks, but attacks by conventional (or any) weapons on nuclear installations or facilities. The parties agree to "refrain from undertaking, encouraging, or participating in, directly or indirectly, any action aimed at causing the destruction of, or damage to, any nuclear installation or facility in the other country."[82] Nuclear installation or facility is defined to include "nuclear power and research reactors, fuel fabrication, uranium enrichment, isotopes separation and reprocessing facilities as well as any other installations with fresh or irradiated nuclear fuel and materials in any form and establishments storing significant quantities of radioactive

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[80] Simla Agreement art. 1, India-Pakistan, July 2, 1972. Available at http://www.kashmir-information.com/LegalDocs/SimlaAgreement.html
[81] *Id*. art. 2-4.
[82] India-Pakistan Non-Attack Agreement art. 1(i), India-Pakistan, Dec. 31, 1988.

materials."[83] The agreement also included a commitment for each party to inform the other on January 1st of every year of the latitude and longitude of its nuclear installations and facilities.[84] Incredibly, starting in January 1992, they have exchanged these lists, however both sides have questioned the completeness of the other's list.[85] India has attempted to get Pakistan to agree to extend the agreement to include not attacking civilian or economic targets, however Pakistan has declined to agree to do so.

The Lahore Declaration of 1999 reaffirms the sentiments and goals of the Simla Agreement in regards to a peaceful resolution in Kashmir, and is a confidence building agreement. This agreement came after both nations had conducted their nuclear testing, and thus recognized "the nuclear dimension of the security environment of the two countries adds to their responsibility for avoidance of conflict..."[86] Both sides undertook to "engage in bilateral consultations on security concepts, and nuclear doctrines, with a view to developing measures for confidence building in the nuclear and conventional fields, aimed at avoidance of conflict."[87] They also undertook to provide advance notification for ballistic missile flight tests and agreed to conclude a bilateral agreement to that effect, and to undertake national measures to reduce the risks of accidental or unauthorized use of

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[83] *Id*. art. 1(ii).
[84] *Id*. art 2.
[85] *India-Pakistan Non-Attack Agreement*, NUCLEAR THREAT INITIATIVE, http://www.nti.org/treaties-and-regimes/india-pakistan-non-attack-agreement/ (last visited Dec. 19, 2012)
[86] The Lahore Declaration, India-Pakistan, Feb. 21, 1999.
[87] *Id.* art. 1.

nuclear weapons under their control.[88] The Declaration is considered a foundation for the continuing dialogue between the two countries.[89]

Next came the Agreement on Pre-Notification of Flight Testing of Ballistic Missiles, in 2005, again a confidence building agreement. The two agreed to notify each other in advance of tests of ballistic missiles, as promised in the Lahore Declaration. The agreement included at least 72 hours of notice, and trajectories of tested missiles are not to approach (within 40 km) or land (within 70 km) close to either their accepted borders of the Line of Control in Kashmir.[90] While some of this agreement is similar to the LTBT, in that it prevents nuclear testing outside the borders of a signatory country, it goes further, by specifying the disputed borders, as well as including the advance notice for all tests of ballistic missiles. This move was designed to reduce tension between the two, and the limitations "covered by the agreement reflected mutual reservations."[91]

The final nuclear agreement between India and Pakistan is the Agreement on Reducing the Risk from Accidents Relating to Nuclear Weapons in 2007, also a confidence building agreement. Both parties agreed to maintain and improve existing measures to guard against accidents involving nuclear weapons.[92] This agreement mirrors Measures Agreement between the United States and the Soviet Union in many ways, as it focused on the avoidance of nuclear war due to an accident relating to nuclear weapons. There are

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[88] *Id*. art. 2-3.
[89] For a list of all developments, including non-nuclear treaties, *see India-Pakistan Non-Attack Agreement*, NUCLEAR THREAT INITIATIVE, http://www.nti.org/treaties-and-regimes/india-pakistan-non-attack-agreement/ (last visited Dec. 19, 2012)
[90] Erin Creegan, *India, Pakistan Sign Missile Notification Pact*, ARMS CONTROL ASSOCIATION, Nov. 2005, http://www.armscontrol.org/act/2005_11/NOV-IndiaPak.
[91] *Id*.
[92] Agreement on Reducing the Risk from Accidents Relating to Nuclear Weapons art. 1, India-Pakistan, Feb. 21, 2007.

multiple similarities between the two in the language and the purposes of the agreements, and the overall idea – to prevent nuclear accidents leading to nuclear war – is largely the same. The agreement also includes use of the language "hotline," which also brings to mind a United States – Soviet Union series of agreements – the Hotline Agreements. Again, this mirrors goals of that agreement, with a focus on improvement of communication to prevent nuclear war. This agreement was renewable every five years, and has been renewed as of February 12, 2012, despite the suspension of talks due to the 2008 Mumbai attacks.[93] The recent renewal does indicate an intent for both nations to avoid nuclear war, although disarmament still is clearly not on the table.

While there have been meetings since, including the Expert Level Meeting on Conventional and Nuclear CMS in December 2011, there have been no other treaties signed between the two. The only other agreements of note are between India and the United States – the United States – India Peaceful Atomic Energy Cooperation Act, which came into force in 2008. This agreement gives access to inspectors from the International Atomic Energy Association for India's civilian nuclear program.[94] It also includes some of the requirements of the NPT, so that India does have some of those limitations, but critics claim it is overly beneficial for India, and does not sufficiently prevent India from using the technology and materials shared by the United States and others to continue producing nuclear weapons.[95]

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[93] Baqir Sajjad Syed, *Accord on Reducing Risk of Nuclear Accidents Extended*, DAWN PAKISTAN (Feb. 22, 2012), http://dawn.com/2012/02/22/accord-on-reducing-risk-of-nuclear-accidents-extended/.
[94] *The U.S.-India Nuclear Deal,* COUNCIL ON FOREIGN RELATIONS (Nov. 5, 2010), http://www.cfr.org/india/us-india-nuclear-deal/p9663
[95] *Id*.

Part Three: Beyond the Treaties

The evolution of the treaties between India and Pakistan followed a route that is not dissimilar to that of the treaties between the United States and the Soviet Union during the Cold War, though it is important to note that India and Pakistan did not and have not signed on to many multilateral treaties that are and have been in effect that the United States and the Soviet Union were drafters of and are parties to. The attempts to prevent conflict have not been in vain, and there is a long standing ceasefire on the Line of Control in Kashmir, though that conflict is far from resolved.[96] Both sides have "often reiterated that they are not in an arms race for matching numbers or systems,"[97] however they both continually pursue nuclear doctrines and are treaty signatories based on the actions (or non-actions of the other).

Pakistan has some interesting arguments arising from the comparison of its conventional forces to India's – since it is one-sixth the size of India, with much smaller military spending and lesser armed forces, does that give it greater right to use nuclear weapons in self-defense in a conflict if it were to arise? Does the rule of necessity allow for Pakistan to use nuclear weapons to defend its territory, if faced with an Indian force it could not otherwise repel? In terms of proportionality, if the objective was defense of Pakistan and its borders (or what it viewed as belonging to Pakistan, i.e. Kashmir), would the introduction of nuclear weapons into the conflict be reasonable? While none of these questions have firm answers (and this paper does not have the space to consider them!), when looking at general principles of international law, the idea of customary international law is also implicated – the NPT and CTBT have both been signed by the overwhelming

[96] Raghavan, *supra* note 79.
[97] *Id*.

majority of the world, so at some point, theoretically, they should become customary international law, which India and Pakistan (among others) would be violating.

Most concerning is the question of what would push India and Pakistan over the edge into actual nuclear war? Raghavan points to the idea of nuclear security and safety for prevention – much like during the Cold War, "while both sides sought perfect security through nuclear deterrence, they needed to work it with imperfect humans inside imperfect organization."[98] However, perfect humans and perfect organizations are never a real possibility, only conjecture. While the concept of mutually assured deterrence, as introduced in the Cold War, conceptually assures that it is in no one's best interest to detonate and initiate nuclear conflict, this is contingent on those with the power to initiate refraining from doing so. The accident control measures instituted in both the Cold War and by India and Pakistan are examples of imperfect humans and imperfect organizations working to minimize the risks of nuclear war, which is the best that can reasonably be expected.

Raghavan also brings up how the role of the international community differs in the India/Pakistan relationship than in the United States/Soviet Union relationship.

> The US and Soviet Union were autonomous nuclear players with no other restraining influence, other than perhaps, domestic public opinion. India and Pakistan are, to use a football parlance, in the junior league where major powers will be referees, capable of issuing yellow and red cards. South Asia will thus not have autonomous nuclear players using nuclear weapons arbitrarily. [99]

Raghavan's view is that the nations have too much riding on their larger national interests,[100] however others have painted the portrait of Pakistan as paranoid, with the

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[98] *Id*. (quoting Scott Sagan, *Beyond Denial*).
[99] *Id*.
[100] *Id*.

potential result being full-scale nuclear war.[101] When the possibility of nuclear war is thought through, however, the only real possibility for the two is absolute devastation, as both countries have enough nuclear capabilities to not just destroy much of one another, but to send the entire world into a global temperature change and famine. The hope is that this possibility would be enough to deter the use of nuclear weapons, as it seems to have been with the United States and Soviet Union.

While the confidence building dialogues continue, the Expert Level Meeting on Conventional and Nuclear CMS in Islamabad in December 2011 constituted the fifth round of talks on conventional CBMs and the sixth round on nuclear CBMs. The question is whether these talks and the treaties are of any use – or if they demonstrate "a deficiency in approach" and are only, in the words of Vice Admiral Shankar "a perfunctory ritual than an instrument to bring about stability and understanding."[102] Many of the nuclear war prevention treaties discussed in this paper have not included concrete objectives (like the Prevention of Nuclear War Agreement, and unlike, for example, the treaties limiting nuclear testing in various locations), and the only real test of whether or not they have been observed and successful is whether or not nuclear war has occurred or actual, legitimate threats have been made. If they have not, is that the result of the treaty, or a result of the legitimate fear of the results of nuclear war?

Ultimately, that is a question that applies to both the treaties between the United States and the Soviet Union and between India and Pakistan. In a way, the India/Pakistan

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[101] Felix Imonti, *Is Pakistan's Paranoia Pushing It Into a Nuclear War With India?*, INTERNATIONAL BUSINESS TIMES (Nov. 6, 2012 9:26 AM), http://www.ibtimes.com/pakistans-paranoia-pushing-it-nuclear-war-india-860868.

[102] Tanvi Kulkarni, *Indo-Pak Nuclear CBMs: Where Talks Fear to Tread*, INSTITUTE OF PEACE & CONFLICT STUDIES (Jan. 20, 2012), http://www.ipcs.org/article/india/indo-pak-nuclear-cbms-where-talks-fear-to-tread-3560.html.

conflict can be considered behind the times, as the current situation parallels early days in the Cold War, with neither side willing to consider disarmament or even reduction in arms. The effect is that all the current treaties between India and Pakistan are confidence building treaties, with no commitments in disarmament and little limitations in testing (beyond the limited multilateral treaties that have been signed). While there is no out-and-out arms race, as during the Cold War, the United States and the Soviet Union did not have the decades of tension and historical conflict that India and Pakistan possess (and in fact, were former allies during WWII), nor were they geographic neighbors of disproportionate size. However, nuclear war in that regard is a great neutralizer, as with enough force, the size of one country or its conventional force is no longer at issue. Hopefully, India and Pakistan continue to develop along the lines of the United States and the Soviet Union, and consider meaningful reduction in their nuclear weaponry, but they have greater historical tension to overcome, and true progress will be hard won.