

The Urgency Of Nuclear Disarmament

By

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World Nuclear Forces, January 2014

Country	Year of first nuclear test	Deployed warheads ^a	Other warheads	Total Inventory
United States	1945	1920	5380	7300
Russia	1949	1600	6400	8000
United Kingdom	1952	160	65	225
France	1960	290	10	300
China	1964	..	250	250
India	1974	..	90–110	90–110
Pakistan	1998	..	100–120	100–120
Israel	80	80
North Korea	2006	..	6–8	6–8
Total		3970	12 350	16 300

Source:

SIPRI Yearbook 2014 (Oxford University Press: Oxford, 2014).

^a 'Deployed' means warheads placed on missiles or located on bases with operational forces.

At the start of 2014 nine states—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North Korea—possessed approximately 4000 operational nuclear weapons. If all nuclear warheads are counted, these states together possessed a total of approximately 16 300 nuclear weapons (see table below) compared to 17270 in early 2013.

Hiroshima & Nagasaki



The fissionable material in the atomic bomb dropped on Hiroshima was uranium 235. The Nagasaki bomb used plutonium 239.

The total energy released by the Hiroshima bomb was equivalent to approximately 16,000 tons of TNT. The Nagasaki bomb equalled 21,000 tons.

A 2km area from the hypocenter was totally destroyed after the A bomb of 1945 on Hiroshima. (see picture above) The total area affected from the hypocentre was 4km.

The area affected in Nagasaki was approx 43 square miles. All living things perished within 1 km from the point of detonation. However, the destruction was less due to the geographical layout of Nagasaki.



The A bomb dome which was once the Hiroshima Prefectural Commercial Exhibition Hall.

It is thought that approximately 350,000 persons were in Hiroshima when the bomb exploded. The precise number that perished in the bombing is not known. Hiroshima City estimates that by the end of December 1945, 140,000 ($\pm 10,000$) had died.

It is believed that there were 200,000 persons at the time the bomb was dropped in Nagasaki. 40,000 deaths and 60,000 injuries were initially estimated in 1945. The number of deaths increased in the years after the bombing.

Effects of Nuclear Conflict

Studies conducted in 2007/8 and thereafter by Professors Brian Toon and Alan Robock of the University of Colorado and Rutgers University show the following climatic effects of Nuclear conflict:

“Nuclear arsenals with 50 nuclear weapons, such as currently possessed by India and Pakistan and 6 other nations, threaten more fatalities than in previous wars to any nation attacked. With global delivery systems any such nation is as dangerous as any of the superpowers.

A nuclear war between any two countries using 50 Hiroshima-sized atom bombs, such as India and Pakistan, could produce climate change unprecedented in recorded human history. This is less than 0.05% of the explosive power of the current global arsenal.

Nuclear arsenals with 50 nuclear weapons can produce a global pall of smoke leading to global ozone depletion. The smoke, once in the stratosphere, heats the air, which speeds up reactions that destroy ozone, and also lofts reactive chemicals by altering the winds.

Effects of Nuclear Conflict

A nuclear war between the United States and Russia today, or even after reductions planned for 2012 under the SORT treaty, could produce nuclear winter, with temperatures plunging below freezing in the summer in major agricultural regions, threatening the food supply for most of the planet.

The climatic effects of the smoke from burning cities and industrial areas would last for several years, much longer than we previously thought. New climate model simulations, which have the capability of including the entire atmosphere and oceans, show that the smoke would be lofted by solar heating to the upper stratosphere, where it would remain for years. “

Source: Climatic Effects of Nuclear Conflict by Prof Alan Robock and Prof Brian Toon

Some Nuclear “Near Misses”

Date	Place	Incident
February 1958	Savannah, Georgia, USA	A Mark 15 hydrogen bomb was lost in the waters off Savannah, Georgia, USA when it was jettisoned during a practice exercise after a B-47 bomber carrying it collided in midair with a F-86 fighter plane. The Tybee Bomb as it is known, is presumed lost somewhere in Warsaw Sound off the shores of Tybee Island. The bomb contains conventional explosives and highly enriched uranium.
November 1961	USA	In 1961, all communication links between U.S. Strategic Air Command (SAC) and NORAD suddenly went dead, cutting off the SAC from three early warning radar stations in England, Greenland, and Alaska. The US suspecting a full-scale Soviet nuclear first strike put all SAC bases on alert, and made ready B-52 bombers to counterattack the Soviet Union with nuclear weapons. It was later found that a single motor had overheated causing the entire system to fail.
October 1962		Cuban Missile Crisis– U.S reconnaissance photographs revealed medium range Soviet missile sites in Cuba leading to a crisis in which both the US and the Soviet Union were prepared to use nuclear weapons.
June 1980	USA	A computer chip failure caused random missiles to appear on the screens of the Pentagon in 1980 causing the US to ready its bombers for a counter attack against the USSR.
Sept. 1983	USSR	In 1983, Soviet systems reported US ICBM launches which turned out to be the glare of the sun. Fortunately, the officer in charge did not take action considering it a false alarm.
January 1995	Russia	A US scientific probe sent out to investigate the northern lights was mistaken by Russian military technicians for a US missile launched from a submarine off the coast of Norway. Russian officials were ready to respond until the rocket was considered no threat to Russia.
January 1996		A French Mirage 2000-N nuclear bomber crashes in southern France after flying into a flock of birds. French officials claim that there were no nuclear missiles on board .
February 2009	Atlantic Ocean	Nuclear-armed submarines HMS Vanguard, Britain’s first Trident class nuclear-armed submarine and France’s Le Triomphant submarine which was also carrying nuclear missiles, collided deep under the Atlantic Ocean, causing minor damage to both vessels but releasing no radioactivity.

Bilateral and Multilateral Treaties

Key Bilateral treaties between the U.S.A and the Russian Federation:

- Anti-Ballistic Missile Treaty (ABM or ABMT Treaty)
Signed May 1972, US withdrew unilaterally in 2002
- Strategic Arms Reduction Treaty (START I)
Signed July 1991, Expires Dec 2009
- Strategic Arms Reduction Treaty (START II)
Signed January 1993. Treaty never entered into force as Russia withdrew on 14th June 2002
- Strategic Offensive Reductions Treat (SORT) also known as the Moscow Treaty
Signed 24th May 2002, Expires 31st December 2012
- New Strategic Arms Reduction Treaty (New START) – 2010. New START was signed by Russia and the United States in 2010.

Key Multilateral Treaties

- (1) Nuclear non-Proliferation Treaty (NPT) Opened for signature: July 1968 entered into force: 5th March 1970, signatories: 93 (including 5 permanent members of the UN Security Council who are nuclear weapon states recognized by the treaty). ratifications: 190 The four states possessing nuclear weapons but which remain outside the treaty are Israel, India, Pakistan and North Korea (the latter withdrew from the treaty in 2003). Duration of NPT extended indefinitely in 1995
- (2) The Comprehensive Nuclear Test Ban Treaty (CTBT)
Open for signature: 1996, signatories: 183, ratifications: 162 USA, China, Egypt, Iran and Israel have not ratified the treaty while India, Pakistan and North Korea have not signed the treaty
- (3) Fissile Material Cut off Treaty (FMCT) not yet negotiated
- (4) Nuclear Weapon Free Zone Treaties – Tlatelolco; Rarotonga, Bangkok; Pelindaba; Semipalatinsk; Mongolia

HORIZONTAL , VERTICAL & GEOGRAPHICAL NUCLEAR PROLIFERATION DEFINED

- Horizontal proliferation – The acquisition by non nuclear weapon states of nuclear weapons, technology and materials wittingly or unwittingly aided by nuclear weapon states or other non state groups. Eg/ The A.Q Khan network transferred nuclear technology to Iran, Iraq, North Korea and a number of other countries.
- Vertical proliferation – Nuclear weapon states increasing their arsenals and/or researching and developing new types of nuclear weapons, technology, materials and means of warhead delivery. Eg/ the use of tritium to “boost” fissionable devices.
- Geographical proliferation– The transfer of nuclear weapons owned by nuclear weapon states on to the territory of non nuclear weapon states allied to them while maintaining ownership and control of these weapons. Eg/ US tactical weapons located in Europe.

States That Had Nuclear Weapons or Nuclear Weapons Programs at One Time:

Belarus, Kazakhstan, and Ukraine inherited nuclear weapons following the Soviet Union's 1991 collapse, but returned them to Russia and joined the NPT as non-nuclear-weapon states. South Africa secretly developed and dismantled a small number of nuclear warheads and also joined the NPT in 1991. Iraq had an active nuclear weapons program prior to the 1991 Persian Gulf War, but was forced to verifiably dismantle it under the supervision of UN inspectors. The U.S.-led March 2003 invasion of Iraq and subsequent capture of Iraqi leader Saddam Hussein definitively ended his regime's pursuit of nuclear weapons. Libya voluntarily renounced its secret nuclear weapons efforts in December 2003. Argentina, Brazil, South Korea, and Taiwan also shelved nuclear weapons programs.

Source: <http://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat>

The Three Pillars of The NPT

- (1) Nonproliferation
- (2) Disarmament
- (3) The Right to Peacefully Use Nuclear Technology

Nuclear non-Proliferation Treaty (NPT)

Article I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Nuclear non-Proliferation Treaty (NPT)

Article III

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfillment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this Article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.

3. The safeguards required by this Article shall be implemented in a manner designed to comply with Article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this Article and the principle of safeguarding set forth in the Preamble of the Treaty.

4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this Article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

IAEA SAFEGUARDS

What are safeguards and what role do they play?

- Safeguards are activities by which the IAEA can verify that a State is living up to its international commitments not to use nuclear programmes for nuclear- weapons purposes. The global Nuclear Non-Proliferation Treaty (NPT) and other treaties against the spread of nuclear weapons entrust the IAEA as the nuclear inspectorate. Today, the IAEA safeguards nuclear material and activities under agreements with more than 140 States.
- Within the world's nuclear non-proliferation regime, the IAEA's safeguards system functions as a confidence-building measure, an early warning mechanism, and the trigger that sets in motion other responses by the international community if and when the need arises.
- Over the past decade, IAEA safeguards have been strengthened in key areas. Measures aim to increase the likelihood of detecting a clandestine nuclear weapons programme and to build confidence that States are abiding by their international commitments.

Source: IAEA

IAEA Safeguards

What verification measures are used?

- Safeguards are based on assessments of the correctness and completeness of a State's declared nuclear material and nuclear-related activities. Verification measures include on-site inspections, visits, and ongoing monitoring and evaluation. Basically, two sets of measures are carried out in accordance with the type of safeguards agreements in force with a State.
- One set relates to verifying State reports of declared nuclear material and activities. These measures – authorized under NPT-type comprehensive safeguards agreements – largely are based on nuclear material accountancy, complemented by containment and surveillance techniques, such as tamper-proof seals and cameras that the IAEA installs at facilities.
- Another set adds measures to strengthen the IAEA's inspection capabilities. They include those incorporated in what is known as an "Additional Protocol" – this is a legal document complementing comprehensive safeguards agreements. The measures enable the IAEA not only to verify the non-diversion of declared nuclear material but also to provide assurances as to the absence of undeclared nuclear material and activities in a State.

Source : IAEA

The Additional Protocol

- Under an Additional Protocol (based on INFCIRC/540 (corr.)), which is the key to the strengthened safeguards system, a State is required to provide the IAEA with broader information covering all aspects of its nuclear fuel cycle-related activities, including research and development and uranium mining. States must also grant the Agency broader access rights and enable it to use the most advanced verification technologies. Specific measures provided for in an Additional Protocol include:
 - information about, and access to, all aspects of States' nuclear fuel cycle, from uranium mines to nuclear waste and any other locations where nuclear material intended for non-nuclear uses is present;
 - short-notice inspector access to all buildings on a nuclear site;
 - information on the manufacture and export of sensitive nuclear-related technologies and inspection mechanisms for manufacturing and import locations;
 - access to other nuclear-related locations; and
 - collection of environmental samples beyond declared locations when deemed necessary by the IAEA.

Status of Additional Protocols as of 21st Jan 2009: 128 IAEA Board approvals, 119 states have signed Additional Protocols with the IAEA, 90 in force. In March 2009, India won formal approval for its safeguards agreement with the IAEA.

Source : IAEA

Nuclear non-Proliferation Treaty (NPT)

Article IV

1. Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty.

2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also co-operate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.

Multilateral Approaches to the Nuclear Fuel Cycle

- Developments during 1990 to 2003 raised concerns over the nuclear fuel cycle eg/ the discovery of a IAEA secret nuclear weapons programme in Iraq, plutonium reprocessing in North Korea etc. Following attacks on the USA 11 September 2001, global action intensified to raise levels of security against terrorism, including potential acts involving nuclear material and equipment.
- In 2005, an expert advisory panel recommended that the IAEA administer a nuclear fuel bank in 2005.
- Mohamed ElBaradei, Director General, IAEA, proposed three principles for how such a fuel bank should be run:
 - 1) It should be non-political, non-discriminatory and available to all states in compliance with their safeguards obligations.
 - 2) Any release of material should be determined by non-political criteria established in advance and applied objectively and consistently.
 - 3) no state should be required to give up its rights under the non-proliferation treaty regarding any parts of the nuclear fuel cycle.
- The initiative for an IAEA-led fuel reserve was financially kicked off in 2006 by the Nuclear Threat Initiative (NTI) with a US million contribution. The offer was contingent on securing an additional US 0 million in matching funds. Kuwait's pledge in March 2009 adds to contributions and pledges made by Norway (million), the USA (million), the United Arab Emirates (million) and the European Union (€25 million).
- “the next step would be to agree that all new enrichment and reprocessing activities should be placed exclusively under multilateral control, to be followed by agreement to convert all existing facilities from national to multilateral control.” Mohamed ElBaradei, Director General IAEA

Proposals:

- Russia's President Vladimir Putin has supported the creation of a system of international centres under a "Global Nuclear Power Infrastructure (GNPI)" to provide nuclear fuel cycle services, including uranium enrichment, on a non-discriminatory basis and under the supervision of the IAEA.
- The Global Nuclear Energy Partnership (GNEP) is advocated by the US through which the US and international partners would develop a fuel services programme to supply developing nations with reliable access to nuclear fuel in exchange for a commitment to forego the development of uranium enrichment and plutonium reprocessing technologies.
- The World Nuclear Association has tabled a report, *Ensuring Security of Supply of the International Fuel Cycle* representing the position of a 28-member panel of nuclear industry experts, including the world's four leading uranium enrichment companies.
- An intergovernmental working group comprised of six countries with commercial enrichment activities has, under U.S. leadership, tabled a proposal to address the assurance of fuel supply issue through a multilateral mechanism.
- Japan has proposed to establish a system called the "IAEA Standby Arrangements System for the Assurance of Nuclear Fuel Supply" under the auspices of the IAEA, which incorporates both an information system to contribute to the prevention of the occurrence of market failure and the back-up feature for supply assurance proposed in the six-country proposal above.
- The Nuclear Threat Initiative is proposing to set up a stockpile of low-enriched uranium, under the Agency's auspices, to serve as a last-resort fuel reserve for countries that have elected not to build a national uranium enrichment programme.
- A German plan calls for multilateral uranium enrichment under the auspices of the IAEA and calls for a third-party State to provide an extraterritorial area for a uranium enrichment plant. The plant would be financed by countries who would act as buyers of the plant's nuclear fuel.

Article VI

- Each of the Parties to the Treaty undertakes 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.

The 1995 NPT Review and Extension Conference

The “Package” of decisions taken at the conference:

- **Decision 1 –Strengthening the Review Process** – Decision to hold a review conference every five years; three PrepCom sessions to be held prior to the Review Conference; each PrepCom to have three Main Committees with a coordinating role for the General Committee(the Main Committees have the authority to create subsidiary bodies focused on specific issues and a responsibility to look forward and back and to focus and address on what practical measures might be taken to strengthen/ improve the implementation of the treaty and to achieve its universality.)
- **Decision 2 – Principles and Objectives**– This decision laid out the “Principles and Objectives” (P &O) in relation to key issues of great concern to the state parties i.e: non proliferation; universality; safeguards; peaceful uses; nuclear disarmament; and nuclear–weapon–free zones.

The P & O included a “programme of action” for the implementation of article Vi of the NPT, negotiation of ;a CTBT by 1996 and a Fissile Material Convention. It also called on NWS to reduce nuclear weapons globally with the ultimate goal of nuclear disarmament and general and complete disarmament. In addition it also called for security assurances for NNWS.

- **Decision 3—Indefinite Extension** – Owing to the preference of the majority of states a decision was take to extend to treaty indefinitely. The final decision was linked to a resolution on the Middle East which endorsed the creation of a zone free of nuclear weapons as well as other weapons of mass destruction in the Middle East.

The 2000 Review Conference

The following 13 steps were arrived at by member states of the NPT

1. Signing the CTBT
2. Stopping Testing
3. Negotiation of FMCT in the Conference on Disarmament (CD)
4. Establishing a subsidiary body in the CD with a negotiating mandate for a multilateral nuclear disarmament treaty
5. The principle of irreversibility
6. Unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination
7. Upholding Existing Treaties
8. Completion and implementation of the Trilateral Initiative
9. Steps by all the nuclear-weapon States leading to nuclear disarmament
10. Excess fissile materials under IAEA control
11. General and Complete Disarmament
12. Reporting
13. Verification

“The accelerating spread of nuclear weapons, nuclear know-how and nuclear material has brought us to a nuclear tipping point. We face a very real possibility that the deadliest weapons ever invented could fall into dangerous hands.

The steps we are taking now to address these threats are not adequate to the danger. With nuclear weapons more widely available, deterrence is decreasingly effective and increasingly hazardous.”

“Toward a Nuclear Free World” by George P. Shultz, William J Perry, Henry A Kissinger and Sam Nunn , The Wall Street Journal Op-ed, 15,January 2008

Obama's Prague Speech

April 5, 2009

- So today, I state clearly and with conviction America's commitment to seek the peace and security of **a world without nuclear weapons**. I'm not naive. This goal will not be reached quickly -- perhaps not in my lifetime. It will take patience and persistence. But now we, too, must ignore the voices who tell us that the world cannot change. We have to insist, "Yes, we can."
- Now, let me describe to you the trajectory we need to be on. First, the United States will take concrete steps towards a world without nuclear weapons. To put an end to Cold War thinking, we will reduce the role of nuclear weapons in our national security strategy, and urge others to do the same. Make no mistake: As long as these weapons exist, the United States will maintain a safe, secure and effective arsenal to deter any adversary, and guarantee that defense to our allies -- including the Czech Republic. But we will begin the work of reducing our arsenal.
- To reduce our warheads and stockpiles, we will negotiate a new Strategic Arms Reduction Treaty with the Russians this year. President Medvedev and I began this process in London, and will seek a new agreement by the end of this year that is legally binding and sufficiently bold. And this will set the stage for further cuts, and we will seek to include all nuclear weapons states in this endeavor.

NPT Review Conference 2010

- **Main achievements – 64 point Action Plan; humanitarian concerns re use of nuclear weapons and agreement on international conference in 2012 for WMDFZ in ME**
- **The 2010 Review Conference of the Parties to the Treaty on the Non proliferation of Nuclear Weapons (NPT) concluded on May 28, with the states parties agreeing to a final document that reiterated their commitment to nuclear disarmament. This expression of solidarity was important for reaffirming the treaty's legitimacy in the wake of the seventh review conference in 2005, which failed to yield a final document.**
- **The 2010 final document was also important in the face of long-standing tensions between the five nuclear weapon states (NWS) and the 185 non-nuclear weapon states (NNWS) that are party to the treaty and nuclear weapon-related developments that had raised serious questions about the treaty's efficacy as a non proliferation instrument.**
- **With all that weighed against it, the 2010 Review Conference benefited from a number of trends and developments, including an international atmosphere conducive to multilateralism in general and nuclear disarmament in particular.**

- Despite more propitious circumstances than in the past, the 2010 Review Conference opened amid great uncertainty and proceeded in three distinct phases—the plenary debate, the negotiations in the main committees, and the return to the plenary for a tense seesaw before the final denouement between pessimistic prospects of failure and optimistic expectations of success.
- Much of the discussion centered on debates between NWS and NNWS on the four main pillars of the NPT: nuclear disarmament, nuclear nonproliferation, access to peaceful uses of nuclear energy, and the creation of a weapons of mass destruction–free zone (WMDFZ) in the Middle East.
- Although the ultimate adoption of a final document was an important and welcome development for the future of the NPT, the central bargain of the NPT (disarmament, non-proliferation, and access to peaceful uses of nuclear energy) remains unfulfilled. Further, the conflict in the Middle East presents an increasingly significant obstacle to the treaty’s future effectiveness.

SOME OF THE RECCOMENDATIONS OF THE WEAPONS OF MASS DESTRUCTION REPORT “WEAPONS OF TERROR”(1 JUNE 2006):

- Reviving disarmament negotiations and affirming policies that give states the confidence that they have no need to acquire WMD;
- Reducing the danger of existing arsenals by making deeper reductions in them, as well as taking weapons off high alert status;
- Accelerating efforts to secure weapons and nuclear material from theft, especially by terrorist groups;
- Preventing proliferation and enhancing disarmament through entry into force of the CTBT;
- Encouraging the realization of nuclear weapon-free zones, especially in the Middle East, and gaining no-first-use pledges by those states who possess nuclear weapons;
- Engaging in negotiations with North Korea and Iran to verifiably ensure their non-nuclear weapon status, while assuring them of the security and right to the peaceful uses of nuclear energy;
- Developing international arrangements for the supply of enriched uranium fuel and disposal of spent fuel in order to discourage the spread of nationally-controlled facilities capable of producing weapons-usable nuclear material;
- Working purposefully for a ban on the production of fissile material for weapons; and
- Strengthening the safeguards system, especially by gaining adherence to the 1997 Model Additional Protocol by states with nuclear programs

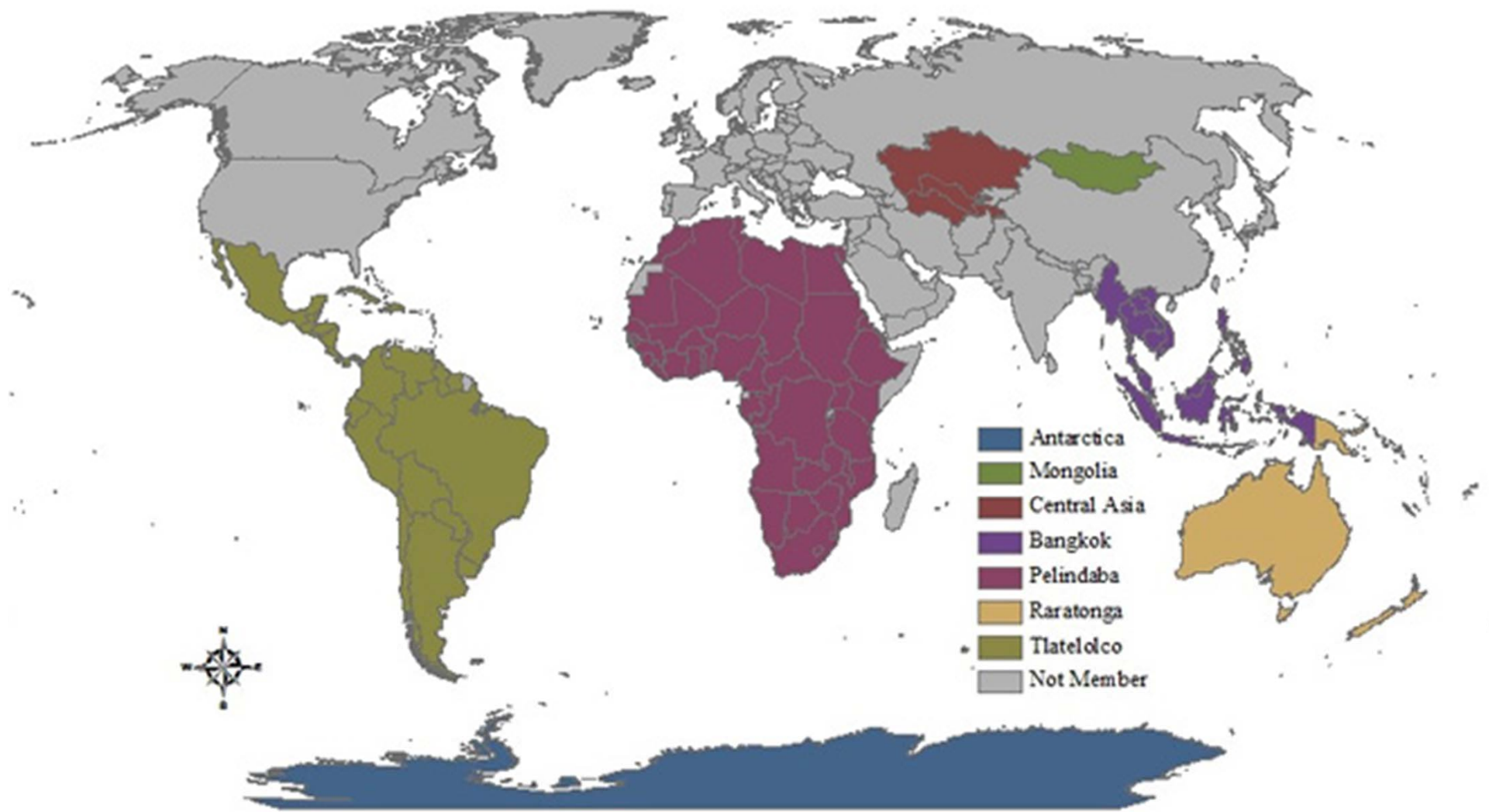
“Nuclear weapons are held by a handful of states which insist that these weapons provide unique security benefits, and yet reserve uniquely to themselves the right to own them. This situation is highly discriminatory and thus unstable; it cannot be sustained. The possession of nuclear weapons by any state is a constant stimulus to other states to acquire them. “

Canberra Commission on the Elimination of Nuclear Weapons, August 1996

International Court of Justice

- Advisory opinion 1996 –” It follows from the above-mentioned requirements that the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law;However, in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defence, in which the very survival of a State would be at stake;”
- “There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control”.Re Article VI of NPT
- Marshall Islands Case – On April 24, 2014, the Republic of the Marshall Islands (RMI) filed applications in the International Court of Justice (ICJ) to hold the nine nuclear-armed states accountable for violations of international law with respect to their nuclear disarmament obligations under the 1968 Nuclear Non-Proliferation Treaty (NPT) and customary international law.

Nuclear Weapons Free Zones



Treaty Status

- **Treaty of Tlatelolco** - sig by all 33 Latin America & Caribbean states. Prot 1 rati: by France, Netherlands, US & UK .Prot II rati: by all NWS
- **Treaty of Rarotonga** – rati by all 13 states. Prot 1: sig & rati by France & UK while the US has sig nor rati it. Prot II rati by China, France, the UK, & S.U. Prot: III rati by China, France, UK, & the SU . US has submitted protocols 2 & 3 to the Senate for ratification.
- **Treaty of Bangkok** –rati by all 10 members. Not ratified by the NWS China has expressed willingness to ratify the protocol in the past. In Nov 2011 Asean members and the NWS reached agreement on the outstanding substantive issues related to the zone, paving the way for the NWS to sign and ratify the updated protocol once some additional procedural arrangements have been concluded.
- **Treaty of Pelindaba** -(Rati: 31 Sig 52) Prot I & 2 sig & rati by China, France, the UK, & the Russian Federation. US has sig but pending rati of prot 1 & 2 by US Senate. Prot 3 sig & rati by France but Spain has neither sig nor rati prot 3
- **Treaty of Semipalatinsk** - Rati by all 5 Sig. Not ratified by NWS.US has declared intent to work with parties to sign the protocol

Other treaties :

- **Antarctic Treaty**
- **Outer Space Treaty**
Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies
- **Moon Agreement**
- Agreement Governing the Activities of States on the Moon and Other Celestial Bodies
- **Seabed Treaty**
Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof

- A total of 114 countries are party to NWFZ
- *22 states are not part of a NWFZ or a collective security bloc nor nuclear weapons states,*

12 in the Middle East,

6 in South Asia,

4 in the former Soviet Union.

Proposed Zones:

Several new NWFZ have been suggested :

- 1975-Pakistan's proposal for the establishment of a NWFZ in South Asia.
- 1974, Iran and Egypt's proposal for the establishment of a Middle Eastern NWFZ and WMDFZ.
- proposal to declare the entire Southern Hemisphere a NWFZ.
- suggestions to establish a NWFZ in Northeast Asia. 1992- North and South Korea signed a Joint Declaration on the Denuclearization of the Korean Peninsula.
- Arctic Ocean NWFZ proposed by NGOS & Academics