

Nuclear-Free Security

*Refocusing Nuclear Disarmament and the Review of
the Nuclear Non-Proliferation Treaty*

Tarja Cronberg



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Executive Summary

This report is about a nuclear-weapon-free world, a political vision of President Obama and others for which there is an unusual window of opportunity. Nuclear weapons are losing their military meaning, and the proliferation of weapons of mass destruction is seen as the main threat to security in the world. In spite of this, change is not easy. States have investments in these weapons, often at great cost. Infrastructures such as weapons laboratories and production facilities are built around them. The world's leading scientists have invested their future in nuclear weapon activities. The nuclear industry is a powerful lobby.

Nuclear weapons have an important role in the security strategies of the nuclear weapon states. This report starts by examining this role in order to understand the preconditions for the elimination of these weapons. The tasks they perform have to be achieved by other means, whether it is a question of a military threat or a manifestation of power. Conclusions are drawn on the role nuclear weapons play both militarily and non-militarily. The potential to abolish nuclear weapons is examined in a country-specific context.

On the global level, access to and the ownership of nuclear weapons is guarded by the United Nations and its Nuclear Non-Proliferation Treaty (NPT), which designates the five nuclear nations (the US, Russia, the UK, France and China) and prevents the other signatories, the non-nuclear nations, from going nuclear. This is a task which is becoming increasingly difficult as technological know-how is more easily available and regional rivalries make nuclear weapons an attractive option. The concrete gatekeeper is the International Atomic Energy Agency (IAEA), which has at its disposal a safeguards system to which countries adhere voluntarily.

Some of the weaknesses of the NPT regime have become obvious and the treaty is up for review at the United Nations in May 2010. This report looks at the changes necessary in the regime if proliferation of nuclear weapons is to be prevented. Particular attention is devoted to two topics of the forthcoming review conference, namely nuclear weapon-free zones and proposals for a nuclear fuel bank under international or multilateral control.

Changing Threat Perceptions

In the security strategies of the five acknowledged nuclear weapon states, there are very few specific military threats to which nuclear weapons are the answer. New threats, such as the spread of weapons of mass destruction or terrorism, cannot be fought with nuclear weapons. The threat images for nuclear weapons anticipate future changes and potential hostilities. The current situation may change, the world is insecure. Nuclear weapons are a way to prepare for the worst case scenario. In the US the threats are posed by “multiple potential opponents” and “unprecedented challenges”. While no country is seen to pose a threat to the UK today, there is no guarantee that “such threats might not develop in the future”.

On the regional level, for states such as Israel or Pakistan, nuclear weapons still hold a military meaning. Nuclear weapons provide deterrence, even if the use of nuclear weapons in regional conflicts is unthinkable. Regional conflicts have also been the reason for acquiring nuclear weapons, as in the case of India and Pakistan. Elimination of nuclear weapons would have to be accompanied by regional conflict resolution and trust building.

An Insurance Policy

For the individual nuclear weapon state, nuclear weapons are an insurance policy, insurance against possible future threats, however unspecified. They provide a feeling of security. They may also bridge internal divides within a country or, as in the case of France, provide independence and the autonomy of decisions. Nuclear weapons are also an insurance against blackmail and political pressure.

Abolishing nuclear weapons in this kind of environment requires fundamental trust building. It requires completely new concepts of security and security guarantees to counteract the unspecified fears of the future. Or, as underlined by Trenin in the case of Russia: “It would require a fundamental change of its (Russian leadership) security perceptions and that of other major powers to acquire a comfortable degree of mutual confidence and trust.” Most of the major nuclear weapons countries agree with this assessment.

The threat of nuclear proliferation should promote this trust building. While nuclear weapons may be an insurance policy for an individual country, the concatenation of these policies is insecurity insurance for the world. Also the costs for this insurance policy will be prohibitive in the future. Not only do nuclear arsenals have to be maintained, weapons need to be modernised. Deterrence has been costly in nuclear arsenals, deterrence and defence as a security concept multiply the costs. Missile defences are expensive to develop, build and maintain.

Projecting Global Power

Nuclear weapons are a symbol of power. A state's great-power status may be dependent on possessing nuclear weapons or, in the words of Pierre Mendès-France: "If you do not have the bomb, you are nothing in international negotiations." Aspirations for global power are different for the major nuclear powers. The US and China will be global powers even without nuclear weapons due to their role in the world economy. For Russia and France the ability to project nuclear power is more critical.

The elimination of nuclear weapons requires that the link between great power and nuclear weapons is broken. The use of nuclear weapons has been a taboo and these weapons have not been used since 1945. The question is whether possessing nuclear weapons could become a similar taboo. Could possession of nuclear weapons be outlawed or criminalised? Could being or becoming a nuclear weapon state imply effective, global economic sanctions? The delinkage of nuclear and global power is a necessary precondition for a nuclear weapon-free world. Greater attention should be paid to concrete measures to effect this delinkage.

Technological Supremacy

Apprehension of future threats and the projection of global power are the main features of nuclear weapons. There is, however, a third dimension: technology. Nuclear technology and particularly the

mastery of nuclear weapon technology are symbols of a state's science and technology, its knowledge and learning level. Enrichment of uranium in Iran is not only a question of accessing the threshold of nuclear weapons but also a question of national pride in technology. Technological ambitions affect the willingness to abolish nuclear weapons.

Russia and China support President Obama's vision of a nuclear weapons-free world but only on condition that agreement may be reached on restrictions on missile defences and the weaponization of space. Also restrictions on the technological level of new conventional weapon systems are to be drawn into the negotiations. In part this is a question of military dominance and control of warfare, particularly to and from space, but only in part. The complementary factor is the technology involved. China's pride in "two-bombs, one-satellite" must be seen in this context.

The ultimate test of the political will to abolish nuclear weapons is the fate of nuclear laboratories. These represent the technological level of a state and the brain power of its best scientists and engineers. Consequently, some US writings supporting a responsive nuclear infrastructure and increased funding to weapon laboratories undermine the trustworthiness of nuclear disarmament. Global Zero means neither return to nuclear weapons nor a return to development and testing.

The Nuclear Bargain

The Nuclear Non-Proliferation Treaty is the global insurance policy. Its three pillars, disarmament, non-proliferation and the peaceful use of nuclear technology, should guarantee a balanced approach. The nuclear weapons nations commit themselves to nuclear disarmament and the non-nuclear nations will not access nuclear weapons, thus preventing proliferation. In return for this the non-nuclear nations are guaranteed the inalienable right for peaceful uses of nuclear technology.

This balance is not working today. While active in promoting proliferation, the nuclear nations have not honoured their commitment to nuclear disarmament. They have in fact a debt to

pay before key non-nuclear nations will consider further non-proliferation initiatives. The burden of fulfilling obligations must shift to the nuclear nations. Reducing nuclear stockpiles is not enough, since the remaining stockpiles are more than sufficient to inflict unacceptable damage.

In the review conference of the Nuclear Non-Proliferation Treaty in May 2010, the nuclear nations have to show concrete disarmament initiatives such as the will to ratify the Comprehensive Nuclear Test Ban treaty and to start negotiations on a Fissile Material Cut-Off treaty. Only through real disarmament initiatives is there a potential for further non-proliferation measures. These include a stronger, more universal and non-discriminatory mandate for the International Atomic Energy Agency.

Expectations for the 2010 Review Conference are high, given President Obama's vision of a nuclear-free world and his Nobel Peace prize. At the same time, U.S. representatives are fearful that with the "right policy" they will now be left alone and that some of its adversaries will sabotage the good intentions. Egypt, the sponsor of the nuclear weapon-free Middle East and the chair of some of the influential groups at the conference, will be in the driver's seat. Egypt has a lot of its international prestige tied to the outcome, at the same time as it wants to see tangible results on the nuclear weapon-free zone.

The Middle East and the Fuel Cycle

The Middle East Nuclear Weapon-Free Zone will be one of the most important topics on the review conference's agenda although one of the most controversial. Nuclear weapon-free zones are established on the initiative of the countries participating, which pledge not to access nuclear weapons. The nuclear weapons states in turn agree not use nuclear weapons against any of the participating states. Originally a proposal by Iran co-sponsored with Egypt in 1974 to the United Nations General Assembly, this proposal should, at the 2010 Review Conference, show some concrete progress.

Control of the fuel cycle has been at the core of negotiations with Iran. According to the NPT, countries not in disagreement with other

conditions in the treaty have the right to enrich uranium and to control the complete fuel cycle. In order to avoid states using civilian nuclear power as a way to access nuclear weapons technology, proposals for a fuel bank under international or multilateral management are under discussion at the IAEA. These will come up at the review conference in May 2010. It is, however, doubtful whether countries on the nuclear threshold will voluntarily make use of such a bank. Furthermore, many of the non-nuclear states see this as a further infringement of their rights and others see it as an intervention in the market.

Critical Questions

The fundamental question is whether the Nuclear Non-Proliferation Treaty is an adequate foundation to deal with the issues of nuclear disarmament and non-proliferation and whether the International Atomic Energy Agency is up to its task. The ratification of the treaty is up to the individual state. Some of the nuclear weapon states such as India and Israel have not signed the treaty and remain outside the regime. Countries party to the treaty have signed the safeguard agreement, declaring yearly both nuclear facilities and material. Many have not signed the additional protocol which gives the IAEA the right to inspections at undeclared facilities and on short notice.

Two conflicts are built in to both the NPT regime and the IAEA mandate. One is the relationship between state sovereignty and the policies necessary to prevent proliferation. As long as it is possible to remain outside the NPT and to withdraw from it, states wanting to access nuclear weapons are able to do so. As long as it is voluntary to join an international or multilateral fuel bank, no state aspiring to become a nuclear threshold state will do so. The other is the relationship between peaceful and military uses of nuclear technology. Nuclear power and nuclear weapons are Siamese twins. The question is whether it is possible for the same organisation, the IAEA, on the one hand to promote peaceful uses of a technology while on the other hand they hope to prevent the use of it.

A Finnish Profile

Finland as a nuclear energy country has a strong interest in preventing proliferation and safeguarding nuclear material and facilities. Within the NPT regime Finland has undertaken a more passive role than other Nordic countries, especially Sweden. The issues currently under discussion are of greater interest to Finland than in the past. A nuclear weapon-free world also implies the elimination of tactical nuclear weapons, although these are not part of any current negotiations and seldom play an important role in nuclear security strategies.

Finland should be a more active promoter of the removal of tactical nuclear weapons from Europe, including Russia. A nuclear weapon-free European Union would promote this aim and make the European Union's policies on non-proliferation more credible. Proposals for a fuel bank have direct implications for the Finnish nuclear industry and should consequently form part of the discussions on expanding the use of nuclear power.

Refocusing Nuclear Disarmament – an Introduction

After a long period of silence the vision a nuclear-weapon-free world is up to debate. Not only the U.S. President Obama but also leaders of other nuclear weapon states have supported the idea. The time to forward these ideas is in May 2010 when the Nuclear Non-Proliferation Treaty is up for review in the United Nations.

There are a number of proposals¹ of how to eliminate nuclear weapons. It is not a question of knowing how. It is a question of mobilizing the political will and an international atmosphere, which makes it possible. Another security environment has to be created. States, particularly the nuclear weapon states, have to have confidence that the balance of power is not disrupted. Verification procedures are needed to guarantee that no state is able to return to a nuclear weapon status.

In order to go forward we need an understanding of the role nuclear weapons play in the security of the nuclear weapon states. In part one in this report the security strategies of these states are reviewed and conclusions are drawn on military threats, the non-military role of the weapons as well as at the potential to abolish these weapons. Security strategies are, no doubt, not the final truth for a meaning of nuclear weapons to a state. Nevertheless, these documents reflect the thinking of a particular state and the specific challenges faced on the way towards a nuclear-weapon-free world.

The second part of the report deals with the global Nuclear Non-Proliferation Treaty (NPT). A treaty which requires the nuclear weapon states to disarm and the non-nuclear states to refrain from acquiring nuclear weapons. A treaty, which also guarantees the unlimited right to use nuclear technology for peaceful purposes. As nuclear weapons are proliferating and nuclear disarmament not proceeding the regime of the NPT-treaty has to be revised. Nuclear

¹ See Evans Gareth, Kawaguchi Yoriko, *Eliminating Nuclear Threats, A Practical Agenda for Global Policymakers*. Report of the International Commission on Nuclear Non-proliferation and Disarmament. Canberra/Tokyo, 2009, and Blechman Barry, Bollfrass Alexander (eds), *Elements of a Nuclear Disarmament Treaty. Unblocking the Road to Zero*. Stimson Center, Washington, 2010.

weapon states have to take steps towards disarmament and non-proliferation measures have to be strengthened. In part two the needed changes are reviewed and the political challenges analyzed. Expectations of the forthcoming 2010 NPT Review Conference are discussed together with potential outcomes.

In Annex I the concept of nuclear-weapon-free zones, a regional approach to a nuclear-weapon-free world, is analyzed and presented by two cases: the Latin American and Caribbean Nuclear-Weapon-Free Zone and the proposal for a Middle East Nuclear-Weapon-Free zone.

In Annex II proposals international fuel banks are discussed. The control of sensitive technologies of the fuel cycle has become a central measure to prevent proliferation. The question is whether countries aspiring to become nuclear weapon states will voluntarily join these banks.

In Annex III the challenges for Finland as a non-nuclear state bordering a nuclear neighbour are presented. Finland has traditionally not played an active role in the NPT-regime but has today a stake in the question of abolishing tactical nuclear weapons, in what happens to nuclear weapons in Europe and in the way the international efforts to control the fuel cycle proceed.

Part 1

Nuclear Weapons in Security

The role of nuclear weapons in security is, as a rule, defined in the state's national security or defence strategies. Some countries, like the U.S., have a documented nuclear posture while others have a specific nuclear doctrine. A number of the nuclear-armed nations such as India or Israel do not have documented strategies. In these cases, secondary sources and research reports are the main resources for information. An important source for information for the following descriptions has been the Stimson Center's Nuclear Security Series: *Unblocking the Road to Zero*.

1.1 Unacceptable Damage

Nuclear weapons are deployed to deter an enemy attack. Firstly, they prevent an enemy from attacking. Secondly, after the enemy's first strike, they enable retaliation. Nuclear forces should then be able to inflict unacceptable damage, making further attacks unlikely. Mutual destruction is assured if an attack occurs. Nobody wins.

Unacceptable damage is the key to understanding the logic of nuclear deterrence. What is unacceptable damage? The criteria for unacceptable damage are not static but change, for example, with a reduction in the number of nuclear weapons. The McNamara criterion was 400 warheads. The Brown criterion is only half of this, 200 warheads.² In the end, the minimum criterion for unacceptable damage is a balance between a state's security guarantees, its economic capability and its political ambitions.

Deterrence requires a stable geopolitical environment. The balance between the two superpowers during the Cold War was such a stable environment. Nuclear war was extremely unlikely as both parties followed the same logic of mutual assured destruction. Today the environment is not stable. Following the Cold War, two factors contribute to instability and destroy the old logic.

² Sukhorutchenko V.V., Kreydin S.V., *Topical Aspects of Nuclear Deterrence and Strategic Nuclear Sufficiency*. *Military Thought*, 2004, 13.3; pp. 11–19, p. 12.

Firstly, new actors, both state and non-state, aspire to be nuclear powers. Technological know-how is widely available, and civil nuclear power plants provide access to fissile material. Political ambitions become easier to realize and the number of nuclear-armed states is gradually increasing. While no example exists of a non-state actor's use of nuclear weapons, terrorist organizations are known to have shown interest. The spread of weapons of mass destruction is consequently becoming one of the world's main security concerns.

Secondly, a new logic is also created by missile defences. The idea of being able to shoot down incoming ballistic missiles carrying nuclear warheads is by no means new. Stability during the Cold War was, however, provided by the so called Anti-Ballistic Missile Treaty or ABM. This treaty regulated the two superpower's number of missile defences. Both deterrence and mutual assured destruction could still work. As the U.S. has unilaterally withdrawn from the treaty, missile defences are being built and planned. Deterrence is not guaranteed. Nuclear war has become winnable. Deterrence is the military objective for nuclear weapons. It anticipates an enemy attack and is based on insecurity. Deterrence *and* defence, the new concept for nuclear weapons, is also military and combines the goal of deterring the enemy with the possibility of defending against nuclear attacks.

Today a number of non-military objectives are also associated with nuclear weapons. As we shall see later, these include achieving or maintaining superpower status. Autonomy and independence may be backed up by nuclear weapons. Nuclear weapons may also constitute the glue that holds a state together or they may be source of national pride and support for the governing regime.

The elimination of nuclear weapons and action to achieve zero nuclear armament means that both military and non-military aspects have to be taken into account. Concrete initiatives have to create a stable political environment, one of trust and confidence. Building trust must start now in the forums at which national and international talks are conducted.

1.2 Nuclear Weapons in Security Strategies

The abolition of nuclear weapons means that nuclear-armed states are able to guarantee their security and possibly the security of their allies by other means. Therefore it is of the utmost importance to understand the role played by nuclear arsenals in the nuclear-armed state's security strategies. Consequently, when reviewing security strategies below, I shall focus on the general goals of the strategy, the threat images of the state, the military – and non-military – goals associated with nuclear weapons, and the role of military alliances in guaranteeing the security of the state. In countries where missile defences are being either built or foreseen, these will be included. Finally, the policy of the state towards nuclear abolition, if any, is recorded.

There are five states acknowledged in the original document of the Nuclear Non-Proliferation Treaty (NPT) as nuclear weapon states. These are the U.S., Russia, Great Britain, France and China. In addition, there are states which are not party to the NPT or are not in compliance with its requirements. These states are Israel, India, Pakistan and North Korea. North Korea has withdrawn from the NPT. A special case is Iran. It has signed the NPT, but is expected to develop nuclear weapons.

1.2.1 The United States

After President Obama's speech in Prague in April 2009³, where he declared "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," changes in the U.S. nuclear policy were to be expected. Not only were results expected from START negotiations with Russia, steps towards a world free of nuclear weapons should be visible also in the coming U.S. Nuclear Posture Review. This document, which a new president submits to Congress, was already due in December 2009. At the time of this writing it has been postponed until March 2010. The delays were due to the president's own involvement in the process as well as differences of opinion within the administration, between the Pentagon and the White House. (At the time this report was going to the printer the Nuclear Posture Review was published in the beginning of April. The contents will be included in the analysis.)

³ Remarks by President Barack Obama. Hradcany Square. Prague. Czech Republic. The White House. Office of the Press Secretary. April 5, 2009.

Major changes in nuclear policy were made in the Nuclear Posture Review (NPR) released in January 2002⁴ by the Bush administration. Here, for the first time, conclusions were drawn from the end of the Cold War. Nuclear planning would no longer be based on the “Russian threat”. Instead of a threat from a single hostile country, the United States now faced threats from “multiple potential opponents, sources of conflict, and unprecedented challenges”. Consequently, force planning would no longer be threat – but capacity – based. The U.S. would identify the capacities needed to address these multiple contingencies. A new model of deterrence would replace the old model of offensive retaliation. This would combine offensive nuclear forces with missile defences and conventional strike forces. Missile defences would deny any aggressor the ability to attack the U.S. Conventional weapons would threaten targets in hostile nations without resort to nuclear weapons.

The United States would reduce its nuclear forces to 1,700–2,200 operationally deployed warheads by about 2012.⁵ This force structure would likely remain in place even in 2020 as the U.S. had no new land-, sea- or air-based systems in production. Priority would be given to funding life-extension programmes for existing systems. Maintaining the reliability of existing weapons would require a “responsive infrastructure” of research, design, testing and production facilities. Although the review made no recommendations about developing new warheads, the Defence Department was reviewing a number of alternative ways to destroy deeply-buried and hardened targets.

The U.S. nuclear forces protect not only the territory of the U.S. but also its allies in Europe. The U.S. has some 150–200 tactical nuclear weapons stationed in Europe. The Bush Nuclear Posture Review did not recommend any changes for these weapons, leaving decisions about their status to the members of the alliance.⁶

⁴ CRS Report for Congress. The Nuclear Posture Review: Overview and Emerging Issues. Library of Congress 2002 and Findings of the Nuclear Posture Review. January 9, 2002. Department on Defence. Washington.

⁵ Treaty between the United States of America and the Russian Federation on Strategic Offensive Reductions (SORT/Treaty of Moscow), 24 May, 2002.

⁶ Woolf Amy, Non-Strategic Nuclear Weapons. Congressional Research Service. Report for Congress. August 10, 2009. See also Annex III of this report, and for the debate on Germany Wolfgang Ischinger’s and Ulrich Weisser’s comments in International Herald Tribune. February 16, 2010.

The National Security Strategy of 2006⁷ translated these principles into security and nuclear strategy. Freedom, open societies and infrastructure for democracy and economic growth through free markets and free trade are the overall themes for security. The new concept for the nuclear dimension is deterrence and defence. Safe, credible and reliable nuclear forces are to play a critical role. As the U.S. withdrew unilaterally in 2002 from the ABM Treaty, missile defences would be an important way to secure American citizens from attacks by rogue states or terrorists with access to nuclear weapons. The Bush administration initiated the deployment missile defences in Alaska and California and made plans for a missile defence in Europe. Plans for the latter are being revised by the Obama administration.

Proliferation of nuclear weapons is seen as the greatest national security threat. Denying access to fissile material to aspiring nuclear states or nuclear terrorists is the best way to deal with this threat. Firstly, loopholes in the Nuclear Non-Proliferation Treaty permitting access to weapons-grade material through civil nuclear energy programmes would be closed. Secondly, nuclear and radiological materials have to be safeguarded better worldwide. Proliferation concerns are to be dealt with through international diplomacy. However, the use of force is not ruled out before attacks occur, even if there is uncertainty as to the time and place of the enemy's attack. Thus pre-emption is on the agenda.

The Bush doctrine has been criticized on several accounts.⁸ Although Russia is no longer a threat, the strategy is seen to continue Cold War thinking. Resources are taken away from combating terrorism and spent on nuclear forces and possibly even on the development of new nuclear weapons. Nuclear weapons would potentially be used in a wider range of conflict situations than before. New command structures would make it easier and faster to plan and launch nuclear attacks. The planned missile defence would be expensive and technologically unproven. Furthermore, international nuclear energy programmes carried out by the Department of Energy

⁷ The National Security Strategy of the United States of America. President of the United States. Washington. March 2006.

⁸ Norris Robert, Kristensen Hans, Paine Christopher, Nuclear Security. A Critique of the Bush administration's Nuclear Weapons Policies. Natural Resources Defence Council. September 2004.

would make fissile material more, not less, accessible. Finally, the combination of nuclear forces with conventional forces would blur the distinction between the two.

Pressure on President Obama to change the U.S. posture was enormous, especially after his receiving the Nobel Peace Prize. On the other hand, his critics were also becoming more vociferous. In an article in *Foreign Affairs* “The Nukes We Need”⁹ it was argued that, as the U.S. restructures its nuclear forces, it should ensure three distinct capabilities: high-yield nuclear weapons (although fewer), conventional counterforce weapons (to destroy nuclear targets) and lowest-yield nuclear warheads (to permit less collateral damage).

The Obama administration’s Nuclear Posture Review¹⁰ published in the beginning of April 2010 actually reduces the role of nuclear weapons in deterrence and military planning. The principle of first use is neither excluded nor will the role of nuclear weapons be limited only to deter nuclear attacks. Nevertheless, first use is being limited. The U.S. will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the Nuclear Non-Proliferation Treaty (NPT) and in compliance with their nuclear non-proliferation obligations. In the case of countries not covered by this assurance-states that possess nuclear weapons or are not in compliance with their nuclear non-proliferation obligations- “there remains a narrow range of contingencies in which U.S. nuclear weapons still play a role in deterring a conventional or CBW attack against the United States or its allies or partners.” The use of nuclear weapons would only be considered in extreme circumstances to defend the vital interests of the U.S. or its allies and partners. The posture states that while the United States at present time is not prepared to adopt a policy, where the “sole” purpose of nuclear weapons would be to deter a nuclear attack, the U.S. will work to “establish conditions under which such a policy could be safely adopted.” Other disarmament initiatives include the proposal to ratify the Comprehensive Test Ban Treaty and to start negotiations on the Fissile Material Cut-Off Treaty.

⁹ Lieber Keir, Press Daryl, *The Nukes We Need. Preserving the American Deterrent.* *Foreign Affairs.* Vol. 88. No 6, pp. 39-51.

¹⁰ Nuclear Posture Review Report, April 2010. Department of Defense. United States of America. Washington.

Table 1 World nuclear forces, by number of deployed warheads, January 2009.

Country ¹	Year of first nuclear test	Strategic warheads	Non-strategic warhead	Total deployed warheads
United States	1945	2 202	500	2 702 ²
Russia	1949	2 787	2 047	4 834 ³
United Kingdom	1952	160 ⁴	–	(160)
France	1960	300	–	(300)
China	1964	(186)	.. ⁵	(186)
India	1973	–	–	(60–70)*
Pakistan	1998	–	–	(60)*
Israel	(80)*
Total				(8 392)

All figures are approximate.

() = Uncertain figure.

- 1 North Korea conducted a nuclear test explosion in 2006 but there is no public information to verify that it has operational nuclear weapons.
 - 2 The total US inventory is c. 9,400 warheads, of which c. 5,200 are in the Department of Defence stockpile (c. 2,700 operational and c. 2,500 in reserve) and 4,200 warheads are scheduled to be dismantled by 2,022.
 - 3 The total Russian inventory contains c. 13,000 warheads, of which c. 8,166 are in reserve or awaiting dismantlement.
 - 4 Some warheads on British strategic submarines have sub-strategic missions previously covered by tactical nuclear weapons.
 - 5 The existence of operational Chinese non-strategic warheads is uncertain.
- * The stockpiles of Indian, Pakistan and Israel are thought to be only partly deployed.

Source SIPRI Yearbook 2009, Stockholm International Peace Research Institute, Oxford University Press. Oxford.

Preventing nuclear proliferation and nuclear terrorism is seen as the key objective of the nuclear weapons policy. The review confirms the need to reinvigorate the non-proliferation regime (NPT) and to strengthen the International Atomic Energy Agency and its safeguards system. It underlines that the fundamental bargain of the NPT regime is still sound. All parties have the right to peaceful nuclear power

and states without nuclear weapons should forsake them also in the future. Nuclear weapon states should work towards nuclear disarmament. This policy is a change from the Bush administration and will, no doubt, be a positive starting point for the forthcoming review of the Nuclear Non-Proliferation Treaty.

Based on the review Russia and the United States have agreed to a New Start, which limits the number of deployed strategic warheads to 1,550 and the strategic delivery vehicles to 700, a further reduction in relation to the SORT Treaty expiring in 2012. Strategic dialogue is to be pursued with both Russia and China due to their claim that U.S. missile defences and conventionally-armed missile programs are destabilizing. Contrary to expectations the review does not propose the elimination of one of the delivery systems (missile, submarine or bomber). Nor are there any changes in the alert posture of the nuclear weapons, although studies will be initiated that in the future might lead to such changes. Increased investment is foreseen in nuclear infrastructure and the related workforce.

Effective missile defences are seen as important for regional deterrence. The U.S. will therefore avoid any limitations on missile defences. This even if the nuclear deterrent is meant to cope with states with nuclear weapons or states not in compliance with their NPT commitments and the Department of Defense is working on defences against next-generation of chemical weapons and advanced biological weapons. There is no specific statement on the planned European missile defence system. The question of removal of the U.S. tactical weapons from Europe is referred to negotiations with NATO partners. Non-strategic or tactical nuclear weapons, together with the non-deployed nuclear weapons should, according to the review, in the future be included in reduction arrangements between the U.S. and Russia.

There is no doubt that the U.S. has much to gain from the abolition of nuclear weapons. It has the world's most advanced and technologically developed conventional army. The U.S. is also the most advanced country in the exploitation of space. It will be the world's leading military power even without nuclear weapons. The advantages for the U.S. of other countries not having nuclear weapons are clear. Many of the countries or terrorist groups trying to gain access to nuclear weapons are hostile to the United States.

1.2.2 Russia

The National Security Strategy of Russia, signed by President Medvedev, in May 2009 gives priority to economic development.¹¹ Threats to the nation's security come largely from within: the erosion of the state and of law and order, social differentiation in society, and ethnic tensions. Russia's overall goal is to protect Russian national interests.¹² National interests are defined as (1) to develop democracy, civil society and the national economy, (2) to protect the country's constitutional system, territorial integrity and sovereignty, and (3) to become a world power, oriented towards maintaining strategic stability and mutually beneficial partnerships in a multi-polar world. The means to become a world power is nuclear weapons, the only aspect of Soviet military strength that has survived the transformation somewhat intact. The creation of a multi-polar world has been a Russian goal since the fall of the Soviet Union as Russia sees itself as the main force to counter global U.S. domination.

No specific military threats are mentioned in the strategy. In fact, criticism has been raised that the strategy only lists political threats without any structured risk analysis.¹³ Although Russia is prepared to develop relations with NATO on the basis of equality, it is fearful of NATO extending its military infrastructure to Russian borders. NATO's efforts to become a global actor are viewed with apprehension. The strategy stresses that parity in strategic nuclear weapons should be gained or maintained with the U.S. New agreements should be reached, e.g. in disarmament and arms control, the reinforcement of confidence-building measures, and issues of non-proliferation of weapons of mass destruction.

While the U.S. is seen as a strategic partner, threats to Russian military security include "the policies of a number of leading foreign countries, directed at achieving predominant superiority in the military sphere, primarily in terms of strategic nuclear forces, but also by developing high-precision, informational and other

¹¹ National Security Strategy of the Russian Federation. Approved by Decree of the President of the Russian Federation. 12 May 2009, No 537.

¹² Morales Javier, Russia's New national Security Strategy: Towards a "Medvedev Doctrine". ARI. 135/2009. 25/9/2009.

¹³ Schröder Hemming, Russia's National Security Strategy to 2020. Analysis Russian Analytical Digest. 621/09, p. 9.

high-technology means of conducting armed warfare, strategic non-nuclear arms, by unilaterally creating a global missile defence system and militarizing space, which could lead to a new arms race, and likewise policies directed at the proliferation of nuclear, chemical and biological technologies, and the production of weapons of mass destruction, their delivery systems or components”.¹⁴ Having lost technological parity with the U.S. after the Cold War this is a sore point in the self-image of Russia and its military. Russian military industry is, consequently, especially mentioned in the strategy.

In terms of being a global actor and a superpower Russia is squeezed between the U.S. and China. The U.S. military budget is half of the Russian GDP. The U.S. leads not only in technological development of conventional weapons but also in modernization of its nuclear weapons and in the militarization of space. According to Trenin¹⁵ there is a near-consensus among the Russian leaders that “the one thing that protects Russia from direct U.S. intervention is its nuclear weapons”. The same applies to deterring China militarily. Like NATO and the U.S., China is also seen as a partner. The National Strategy stresses the political potential of the Shanghai organization, an organization for co-operation in Central Asia, in which Russia and China are the leading partners.

The Russian President signed on February 5th 2010, a new military doctrine¹⁶ together with a nuclear deterrence policy to 2020. The latter document is not yet available. In the military doctrine military dangers and threats are specified. Dangers may, under certain conditions develop to military threats. Military threats in turn imply a real possibility of a military conflict. For example NATO enlargement and its military infrastructure on Russian borders, are seen as a danger. Russia thus continues to oppose NATO enlargement but this “danger” is not translated into military planning. A military threat is posed for example by “the impeding of the operation of systems of state and military command and control of the Russian Federation, the disruption of the functioning of its strategic nuclear forces,

¹⁴ National Security Strategy to 2020, pp. 6–7.

¹⁵ Trenin Dmitri, Russian Perspectives on the Global Elimination of Nuclear Weapons. Publ. in Blechman Barry (ed.), *Unlocking the Road to Zero. Perspectives of Advanced Nuclear Nations.* United States/Russia. Stimson Center. Nuclear Security Series. Volume V. Washington, p. 3.

¹⁶ The Military Doctrine of the Russian Federation. 5 February 2010.

missile early warning systems, systems for monitoring outer space, nuclear munitions storage facilities, nuclear energy facilities, atomic and chemical industry facilities, and other potentially dangerous facilities.”¹⁷

Nuclear weapons are seen as an important factor in preventing the outbreak of nuclear wars and military conflicts. The 2010 Doctrine talks about “strategic deterrence, including the prevention of military conflicts”.¹⁸ Deterrence is still the focus but “strategic” deterrence which seems to indicate a less important role for the tactical nuclear weapons (see also Annex III). Furthermore, deterrence is not only provided by strategic nuclear forces but also by high precision conventional systems.

While the detail text of the nuclear doctrine is not known, the military doctrine states: “The Russian Federation reserves the right to utilize nuclear weapons in response to the utilization of nuclear and other types of weapons of mass destruction against it and (or) its allies, and also in the event of aggression against the Russian Federation involving the use of conventional weapons when the very existence of the state is under threat.”¹⁹ This is a tighter formulation of the doctrine than in the previous one from 2000. The latter foresaw the resorting to nuclear weapons in situations critical for the national security of Russia.²⁰

A first use of nuclear weapons is still on the agenda. Contrary to expectations there is no first use policy in relation to “threats” of the use of nuclear weapons. Nor will nuclear weapons be used in local conflicts (only in regional and large scale conflicts) as anticipated in the preparatory phases of the doctrine. In general the 2010 Doctrine seems to place less importance on the nuclear forces than the previous 2000 one indicating that the modernization of the armed forces is underway together with military reform.

In accordance with the security strategy the creation and deployment of strategic missile defence systems is seen to undermine global stability and violate the established correlation of forces in the

¹⁷ Op.cit. article 10b.

¹⁸ Op.cit. article 27.

¹⁹ Op.cit. article 22.

²⁰ Sokov Nikolai, The New, 2010 Russian Military Doctrine: The Nuclear Angle, http://cns.miis.edu/stories/100205_russian_nuclear_doctrine.htm.

nuclear-missile sphere. The militarization of outer space is opposed as is the deployment of strategic non-nuclear precision weapon systems.

Russia's nuclear forces, like its army, need modernization. The Russian strategic nuclear forces²¹, under the START I Treaty, are comprised of 530 intercontinental ballistic missiles, 16 nuclear-powered submarines armed with 272 submarine-launched ballistic missiles, and 78 nuclear-capable heavy bombers, with a total of 4,162 warheads (SIPRI estimate 4,834, see Table 1). Under the terms of the U.S.-Russian SORT agreement, by the end of 2012 Russia's strategic nuclear arsenal would amount to 1,800-2,000 weapons. After that it would be maintained within the range of 1,700-2,200 operationally deployed weapons. What then would be the minimum deterrent for Russia? According to Trenin, a thousand nuclear weapons "would be the psychological barrier below which the Russian leadership believes any further reductions could be destabilizing".²² The figure would, however, be dependent on the future of U.S. ballistic missile defences.

Russia's superpower status is extremely dependent on nuclear weapons. Nevertheless President Medvedev has agreed to President Obama's proposal of a nuclear-weapon-free world. Medvedev²³, however, added three conditions to the phasing out of nuclear weapons. Firstly, the prevention of deployment of weapons in outer space. Secondly, the prevention of a build-up of non-nuclear strategic systems to compensate for reductions in nuclear forces. Thirdly, a guarantee that a "nuclear return potential" would not be created.

All these conditions are not likely to be accepted by the U.S. Therefore it is easy to agree with Trenin's assessment that the abolition of nuclear weapons for the Russian leadership "would require a fundamental change of its security perceptions and that of other major powers to acquire a comfortable degree of mutual confidence and trust".²⁴ This is true, especially as many Russian security analysts

²¹ Trenin, *op.cit.* pp. 14-15.

²² *Op.cit.* p. 12.

²³ *Op.cit.* p. 12.

²⁴ *Op.cit.* p. 12.

believe that the de-nuclearization of Russia is a supreme U.S. security interest.

1.2.3 The United Kingdom

Of all the nuclear-armed states, the UK has the most minimalist approach to nuclear weapons. Britain has a strategy of minimum deterrent, defined as the smallest force sufficient to retaliate in the event of an attack on the United Kingdom. The UK has both strategic and non-strategic nuclear weapons. Deterrence is based on the former. Warheads are submarine-based and one of four Trident submarines is supposed to be on patrol at all times. The number of warheads is less than 200 (Sipri estimate 160 see Table 1)²⁵

The missiles are not kept on quick alert and are not targeted on anyone in particular. Since the fall of the Soviet Union, Russia is not seen as a threat. The rationale for British nuclear forces seems to be an unspecified worry about the future. Nuclear weapons are seen as an insurance policy. In the National Security Strategy Update for 2009 it is stated that the “Government continues to judge that no country currently has the capability and intent to pose a direct threat to the UK with nuclear, chemical or biological weapons. However, it would be premature to conclude that such threats might not develop in the future, either from states or terrorist groups, some of whom we know are trying to develop such capabilities.”²⁶

Non-military goals such as greater political status are not attached to nuclear weapons in the UK, nor are they seen as a question of patriotism, national pride or destiny. Given the right kind of political climate it would seem that the UK could abolish nuclear weapons without much pain. Debates in Parliament also suggest that, particularly in the Labour party, there are views that the nuclear arsenal has little military value. On the other hand, money has been

²⁵ Freedman Lawrence, British Perspectives on Nuclear Weapons and Nuclear Disarmament. Publ. in Blechman Barry (ed.). Unblocking the Road to Zero. Perspectives of Advanced Nuclear Nations. Stimson Center. Nuclear Security Series. France/United Kingdom. February 2009, p. 28-30.

²⁶ The National Security Strategy of the United Kingdom: Update 2009. Security for the Next Generation. Cabinet Office. June 2009, pp. 94-95.

committed, the bill for Trident has been paid and Trident is seen as part of Britain's commitment to NATO.

The UK is one of the countries that has recently spoken out strongly in favour of abolishing nuclear weapons. In a speech in summer 2007 Foreign Secretary Margaret Beckett spoke in favour of the total abolition of nuclear weapons, so did Defence Secretary Des Browne at the Geneva Conference on Disarmament in February 2008 and Prime Minister Gordon Brown in a speech in New Delhi in January 2008. However, Britain faces a dilemma. Given its minimum deterrent nuclear force, Britain is not for unilateral nuclear abolition. On the contrary, she considers that Russia and the U.S., with over 95% of the world's strategic nuclear weapons, should go first. There is also the question of modernization of its nuclear forces, a decision which is expected to be taken in 2010.

1.2.4 France

Of all nuclear-armed states, France is the least inclined to abolish nuclear weapons. For France nuclear weapons are a question of independence and of global status. This has historical roots. After the Second World War it was important for France to be seen as an equal partner to the U.S. and Britain. Pierre Mendès-France, the head of government, when returning from a UN meeting is known to have said in 1954: "if you do not have the bomb, you are nothing in international negotiations".²⁷ This culture is still alive. Nuclear weapons make a nation free and independent.

Nuclear weapons also have a security dimension in France. They are seen as an insurance policy, a fundamental guarantee of the national security. The French logic is that even in the absence of a major threat, nuclear weapons protect against the possibility of future threats as long as the cost of doing so remains bearable.²⁸ The French nuclear deterrent is defined as one of strict sufficiency, the sole purpose of which is "to prevent any state-originating aggression

²⁷ Tertrais Bruno, French Perspectives on Nuclear Weapons and Nuclear Disarmament. Publ. in Blechman Barry (ed.), *Unblocking the Road to Zero. Perspectives of Advanced Nuclear nations.* France/United Kingdom. Stimson Center. Nuclear Security Series. February 2009, p. 4.

²⁸ *Op.cit.* p. 2.

against the vital interests of the nation wherever it may come from and in whatever shape or form”.²⁹ Vital interests include not only the mainland but also the overseas departments and territories and allied countries. Vital interests are to be protected, also when threatened with blackmail.

An attack on France’s vital interests would be countered by a nuclear response to inflict “unacceptable damage” regardless of the nature of the threat, the identity of the state concerned or the means deployed. France has consistently rejected the “no first-use” posture and sees nuclear retaliation as consistent with the right to self-defence as defined by article 51 of the UN Charter. France has been a staunch defender of the Anti-Ballistic Missile Treaty but has lately pointed to missile defence as a complement to nuclear deterrence.³⁰

The French nuclear deterrent is both sea- and air-based. According to the White Paper on Defence and National Security published in 2008, nuclear attack submarines carrying cruise missiles are a priority. The target is six submarines. There are currently three in service, with some 250–260 warheads, and the fourth is due in 2010. The air-based capacity is being reduced. One of the three existing nuclear-trained squadrons is to be disbanded.

Although French nuclear weapons carry a positive symbol of independence, France is not opposed to nuclear disarmament “but the will to make progress must be unanimously shared” according to President Chirac.³¹ Like the UK, France has pointed to the arsenals of the U.S. and Russia and considers that these should be reduced first. After significant reductions and “if there were a serious proposal initiated or supported by the U.S. to seek multilateral and proportional reductions, the French position might change. For political reasons, France would probably not ignore a general trend toward drastic nuclear reductions – especially if the British, Chinese and French participation was a precondition for Moscow and Washington to move in this direction.”³² Even in such case, France would not go to zero

²⁹ The French White paper on Defence and National Security. *Président de la République*. Odile Jacob/La Documentation française. Juin 2008, Paris, p. 2.

³⁰ *Op.cit.* p. 9.

³¹ Allusion de M. Jacques Chirac. *Président de la République*, lors de sa visite aux forces aérienne et océanique stratégiques, Landivisiau–l’île Longue, Brest. 19. January 2006.

³² *Tertrais*, *op.cit* p. 16.

but maintain the four submarines with a stockpile of no more than 150–200 warheads.

1.2.5 China

According to China's National Defence in 2008 China is still confronted with long-term, complicated, and diverse security threats and challenges.³³ China is faced with the superiority of developed nations in economy, science and technology, as well as military affairs. It faces containment from the outside as well as separatist forces from the inside. As China is in transition, social stability is a challenge at the same time as terrorism, natural disasters, economic insecurity and information insecurity is on the rise.

Facing these challenges China “will hold high the banner of peace, development and co-operation... At the same time it will persist in pursuing the new security concept featuring mutual trust, mutual benefit, equality and coordination, and advocating the settlement of international disputes and hotspot issues by peaceful means.... China will never seek hegemony or engage in military expansion now or in the future, no matter how developed it becomes.”³⁴

These principles are also visible in China's nuclear policy. Its nuclear forces are only intended to retaliate following a nuclear attack. China has made an unconditional pledge not to be the first to use nuclear weapons. It will not use or threaten to use nuclear weapons against any non-nuclear-armed state under any circumstances. China actively supports nuclear-free zones in various regions. As China's objective is to deter a nuclear attack, it does not possess a large arsenal. Its warheads are not deployed and are not targeted on specific locations. As the sole purpose is to retaliate against cities, China has no war-fighting capability and is not developing nuclear weapons for non-strategic uses. A number of regional nuclear powers have emerged on China's periphery. These are not seen as strategic threats but rather as proliferation concerns.

The military threat in China's nuclear posture is posed by the United States. Even after the Cold War, China is assumed to be on

³³ China's National Defence in 2008. Information Office of the State Council of the People's Republic of China. Beijing. January 2009, p. 6.

³⁴ Op.cit. p. 7.

Washington's list of potential nuclear strikes in its war planning.³⁵ With its small nuclear arsenal, China was very apprehensive of President Bush's plan to withdraw from the ABM Treaty and saw the plan to build a missile defence as a way to undermine China's nuclear deterrent. In spite of intensive diplomatic efforts from the U.S. to convince the Chinese that this was not the case, the Chinese maintain: "that the global missile defence programme will be detrimental to strategic balance and stability, undermine international and regional security, and have a negative impact on nuclear disarmament".³⁶ The Chinese government, like the Russian, has been very critical of U.S. plans for the military uses of outer space. The two countries have jointly submitted to the Geneva Conference on Disarmament a draft treaty to prevent weapons in outer space.

China continues to modernize its nuclear arsenal in a modest way. It is increasing its number of warheads and building more mobile intercontinental-range ballistic missiles as a response to the U.S. missile defence plans. China's current nuclear arsenal is estimated at 190–200 warheads. It is believed to have 130 land-based ballistic missiles and be testing a nuclear submarine. The bomber force consists of 20 old medium-range aircraft.³⁷

Even though China does not seek hegemony and is not attaching great power symbolism to its nuclear arsenal, nuclear weapons are a question of pride in China as in other countries. Developing national defence is a question of self-reliance in science and technology. China's present international standing is seen as a result of the atomic bomb, the hydrogen bomb and the satellites it has launched. In 2000 this "two-bombs, one-satellite" spirit was regarded as a symbol for reform, development of the industry and of learning.³⁸

Since 1964 China has backed the abolition of nuclear weapons. Mao and China's inner circle of decision-makers considered these weapons inhumane; they posed a threat to all humankind and should

³⁵ Zhenqiang Pan, *China's Nuclear Strategy in a Changing World Strategic Situation*. Publ. in Blechman Barry (ed.), *Unblocking the Road to Zero. Perspectives of Advanced Nuclear Nations*. India/China. Stimson Center. Nuclear Security Series. March 2009, p. 13.

³⁶ *China's National Defence in 2008*, op.cit. p. 76.

³⁷ No official data exist. These estimates are from Evans Gareth, Kawaguchi Yoriko, op.cit. See also Table 1.

³⁸ Zhenqiang, op.cit. p. 52.

be completely eliminated and totally prohibited.³⁹ China has been firmly opposed to the proliferation of nuclear weapons. Against this background, China could be a constructive partner for the U.S. in its efforts to abolish nuclear weapons. However, due to its small arsenal China, like the UK and France, maintains that the two superpowers should reduce their arsenals first.

1.2.6 Israel

Israel has a National Security Concept and a National Defence Policy. These are not public and may not even exist in written form. In 2006–2007, in the aftermath of the Second Lebanon War, evaluations of what went wrong and how the Security Concept should be updated were conducted by the Reut Institute, an Israeli think tank.⁴⁰ According to this source, the basic task of the Israeli National Security Concept is to strengthen Israel as a Jewish and democratic state. The leading logic is based on military supremacy on every arena and reliance on its alliance with the U.S. In this security concept, the Palestinian's struggle against Israeli occupation and the establishment of a Palestinian state are Israel's negotiating cards. Terror is a nuisance but not an existential threat. The way forward is "two states for two nations".

The evaluation concludes that this concept is irrelevant. The new enemy is a 'resistance network'. This refers to a plurality of actors, with various aims and targets, but all of which aspire to bring about the collapse of Israel. The goal is to disrupt every political initiative seeking to strengthen Israel, to delegitimize Israel, to erode Israel's military option and to use terror as an efficient tool to cause political and military failure. This resistance network sees the continued occupation as a way to accelerate Israel's collapse.

Iran is the hegemonic head of this network and its hegemony is being established through containment of Israel's power and by ousting the U.S. from the region. Consequently, new security and foreign policy concepts are needed which acknowledge the new situation and which move from a harder military security sphere

³⁹ Op.cit. p. 32.

⁴⁰ Israel's National Security Concept is Irrelevant. Fundamental Early Warning. The Reut Institute 15 January 2007. In the appendix (pp. 12–13) gaps between Israel's National Security Concept are reviewed in relation to the emerging reality.

into a softer area of diplomacy, politics, legitimacy and international law.⁴¹ The extent to which these changes have been implemented is not known.

The nuclear policy of Israel is described as opaque. It is a nuclear power but does not admit it.⁴² Nuclear weapons were developed in order to prevent existential threats to the new state. The nuclear option is an insurance policy, one of last resort. Iran is the main threat and its potential for nuclear weapons is a serious concern. The “Begin Doctrine” – a preventive military counter-proliferation doctrine used in Iraq⁴³ – may be too costly, not only in effort but also due to global repercussions and Iranian reprisals. Israel therefore strives towards a political solution, an Iranian nuclear programme short of weapons capacity. If the political negotiations fail, there is either the military option or the option of living with an extremely hostile nation in the region armed with nuclear weapons.⁴⁴

There is no authoritative information on the Israeli nuclear arsenal. Estimates vary from 60–200 warheads (SIPRI estimate 80, see Table 1).. There is a question of whether Israel has a credible second strike capability with the necessary means of delivery. It has a fleet of F-51 and F-16 aircraft, ballistic missiles and possibly submarines equipped with cruise missiles.⁴⁵

Israel’s nuclear option does not carry any aspirations of becoming a world power or building up global prestige. It has a superpower for an ally, but is concerned about its relations with emergent superpowers such as China, India and the EU. The only way nuclear disarmament would be acceptable to Israel is a formal defence treaty with the U.S. and/or membership of NATO. Israel is concerned about nuclear

⁴¹ Reorganization of Foreign Policy in Israel’s National Security Strategy. The Reut Institute. August 2007 and Dror Yehezkel, A Break-out Political-Security Grand Strategy to Israel. Israel Affairs. Vol. 12 No 4, October 2006, pp. 843–879. Both deal with the failures of Israel Foreign Policy and Security Strategy and propose changes in policy.

⁴² Brom Shlomo, Israeli Perspectives on the Global Elimination of Nuclear Weapons. Publ. in Blechman Barry (ed.), Unblocking the Road Zero: Pakistan and Israel. Perspectives of Advanced Nuclear Nations. Stimson Center. Nuclear Security Studies. April 2009, p. 37.

⁴³ Op.cit. pp. 40–41, refers to the Israel attack and destruction of Osiraq, the Iraqi reactor in 1981.

⁴⁴ Op.cit. p. 42.

⁴⁵ Op.cit. pp. 45–46.

proliferation, not only in Iran but also in other Middle Eastern states that have expressed an interest in civil nuclear energy. In Global Zero Israel would participate only under pressure from the U.S. and would probably hope that other actors would shoot it down.⁴⁶

1.2.7 India

No Indian nuclear doctrine or security strategy is publicly made available. A Draft Nuclear Doctrine was published in 1999⁴⁷ but this turned out to be highly controversial and was later denounced by the government. According to this source India's nuclear weapons are not military tools but a political insurance policy. The nuclear doctrine is not expansive but minimal, and India is committed to a no-first-use policy. There is deep discomfort with nuclear weapons among Indian leaders and the country is committed to disarmament. This creates ambiguity in the Indian position, as despite its minimalist approach the country is building an increasingly large nuclear arsenal.

India's nuclear weapons, estimated deployed warheads 60–70 (see Table 1) are meant for deterrence and for punishment, not for waging war. What then is to be deterred? Nuclear weapons play a role in Indo-Pakistani rivalry and the territorial disputes between these two countries. Should Pakistan be the first to use nuclear weapons, according to an Indian analyst “the logic of Pakistan's nuclear (posture) rests in the assumption that the only way to counter India's size and might rests in acquiring a first-strike nuclear capability, forgetting that Pakistan cannot survive even a second strike option that the Indian nuclear doctrine has reserved for itself”.⁴⁸

Although India's nuclear tests in 1998 were explicitly said to be in response to China and even though the two states have territorial disputes, India does not see China as a serious threat. The territorial disputes are marginal to both countries' strategic concerns. There is not likely to be even a conventional war between them, let alone a nuclear one.⁴⁹ However there are strategic uncertainties and,

⁴⁶ Op.cit. p. 56.

⁴⁷ Tellis Ashley, India's Emerging Nuclear Doctrine: Exemplifying the Lessons of the Nuclear Revolution. The National Bureau of Asian Research. NBR Analysis. Volume 12, Number 2. May 2001.

⁴⁸ Op.cit. p. 29.

⁴⁹ Op.cit. pp. 30–33.

according to an Indian scholar: “There is one major strategic rationale for the construction of a credible and effective Indian nuclear weapon posture: to provide a hedge – an insurance policy – against the possibility of a belligerent China in an uncertain anarchic world.”⁵⁰

India does have global aspirations and nuclear weapons are significant in this respect. India recently made a highly controversial deal with the U.S.⁵¹ The agreement is about civil co-operation in the nuclear field, on the condition that India separates its military and civilian nuclear activities and brings the latter under the IAEA safeguards systems. Given this the U.S. will deepen its strategic partnership with India and allow for trade in nuclear technology and assistance in building India’s nuclear energy capabilities. Since India has never signed the NPT treaty, this trade and co-operation is in violation with the existing rules of the non-proliferation regime.

With this deal India has become an accepted partner in the international regime for the governance of nuclear weapons without being a party to the NPT. This has caused concerns not only in the U.S. but also in Pakistan, a traditional ally of the U.S., which has not received similar acceptance. Not only does the deal undermine the legitimacy of the NPT but it has also raised fears that civil co-operation in nuclear technology will enable India to divert its uranium stocks and other resources to military uses.

India is committed to disarmament and the total elimination of nuclear weapons, but underlines that this must happen in a non-discriminatory and universal way. India might even see an opportunity to take a leadership role in the movement towards the elimination of nuclear weapons.⁵²

⁵⁰ Op.cit. p. 31.

⁵¹ Overview of the India Civilian Nuclear Agreement. United States Senate. Republican Policy Committee. November 15, 2006.

⁵² Basrur Rajesh, Indian Perspectives on the Global Elimination of Nuclear Weapons. Publ. in Blechman Barry (ed.). *Unlocking the Road to Zero; India and China. Perspectives of Advanced Nuclear Nations*. Stimson Center. Nuclear Security Series. Marc 2009, pp. 19–21.

1.2.8 Pakistan

Pakistan's national security strategy focuses on protecting its territorial boundaries by ensuring its socio-economic viability against internal dissent (ethnic, separatist and religious-political insurgencies) and external threats (India) within a constitutional democratic system that is an accidental (and not a desired) outcome. According to Mullick⁵³ Pakistan "at its core is a security state fearful of India, wary of democracy, intolerant of religious-ethnic strife, inclined to use religion (Islam) as a unifier, and dependent on the United States, China and the Middle East for military and economic aid". Given Pakistan's national security problems, nuclear weapons do little to bring stability to the country.

Pakistan is not seen as a primary driver for nuclear proliferation in South Asia.⁵⁴ Competition between India and China is viewed as the main driving force. Pakistan's nuclear arsenal, an arsenal it can hardly afford, is seen as a result of its security environment. The high level of military insecurity has led the state to develop nuclear weapons in order to guarantee the permanence of the state itself. The purpose of Pakistan's nuclear forces is to offset the larger conventional forces and military threats posed by India. Pakistan is also fearful of possible Indian preventive strikes against its military installations. Pakistani forces are for deterrence and last resort, and will be used for waging war when threats to the state's security are manifested. Pakistan has rejected the no-first-use concept.

With the end of the Cold War Pakistan lost its superpower alliances and became more exposed to regional conflicts and security competitions. Pakistan is still an ally of the U.S. but the relationship is strained due to U.S. pressure on Pakistan to deal with the transnational Taleban insurgency. The U.S.-India nuclear deal was in Pakistan seen as nuclear discrimination. Pakistan's alliance

⁵³ Mullick Haider Ali Hussein, *Helping Pakistan Defeat the Taliban: A Joint Action Agenda for the United States & Pakistan*. Institute of Social Policy and Understanding. August 2009. Clinton Township, Michigan p. 10.

⁵⁴ As a source for Pakistani Strategy on nuclear weapons and disarmament I have used: Khan Feroz, *Pakistan's Perspectives on the Global Elimination of nuclear Weapons*. Publ. in Blechman Barry, *Unblocking the Road to Zero: Pakistan and Israel. Perspectives of Advanced Nuclear nations*. Stimson Center. Nuclear Security Series Vol. III. April 2009.

with the U.S. is adversely affected by growing distrust and potentially could break down.⁵⁵

Pakistan does not have any global ambitions. Its nuclear policy deals strictly with its own survival and defence. Pakistan is affected by the ambitions of others. It believes that India is trying to encircle the country through Afghanistan and Central Asia. Iran's quest for nuclear weapons is also something which causes Pakistan to value its arsenal, although the two countries currently have good relations. China seems to be the only major powerful ally which also helped Pakistan in developing its weapons. Although Z.A. Bhutto in 1979 talked about the "Islamic Civilization Bomb"⁵⁶, Pakistan has taken a very low profile on being an Islamic nuclear power.

Pakistan is assumed to have around 60 nuclear weapons, which may be delivered to target by ballistic missiles and by fighter aircraft. The missile systems are ground-mobile. A ground-based cruise missile is undergoing testing and will be developed in both air and sea-based versions.⁵⁷

Pakistan acquired its nuclear weapons in an environment of global proliferation. It has also contributed to proliferation through the A Q Khan network.⁵⁸ The network has damaged Pakistan's reputation as its activities have no doubt been known to at least some government and military officials.

It would be in Pakistan's interest to support the move to eliminate nuclear weapons. From Pakistan's point of view⁵⁹ three interrelated steps are required: regional conflict resolution, conventional forces arms control, and nuclear arms restraint. But like France and the UK, it would like to see the major powers come down to reasonable numbers first. Also the U.S. would need to have a clear concept of what it is proposing and to guarantee fair play.

⁵⁵ Op.cit. p. 21.

⁵⁶ Op.cit. p. 12.

⁵⁷ Quoted from Evans Gareth, Kawaguchi Yoriko, op.cit. p. 23.

⁵⁸ A Q Khan was the Pakistani scientist working in the Netherlands offering services not only to its homeland but also to countries like Libya, Iran and North Korea. His network consisted of suppliers and intermediaries in various countries and evolved into a private criminal enterprise. Op.cit. p. 14, 25.

⁵⁹ Khan, op.cit. pp. 28-31.

1.2.9 North Korea

Does North Korea have a National Security Strategy? This question was asked by John Merrill at a Stanford seminar in late October 2009.⁶⁰ According to him North Korea has pursued four interrelated goals that might be considered an implicit security strategy:

- 1 reviving the economy
- 2 buttressing domestic support at a time of leadership transition
- 3 widening North Korea's "diplomatic space" through 360-degree diplomacy
- 4 shoring up the country's aging military.

North Korea is highly militarized and has pursued a nuclear programme due to insecurity.⁶¹ The main reason for this is the "hostile policy" of the United States and the purpose of its sizable military machine is "deterrence and defence" against the U.S. North Korea's understanding of the "hostile policy" of the U.S. is broad and includes not only nuclear strikes. This has historical roots; North Korea has been subject to U.S. nuclear threats more than any other country in the world, seven times since 1945.⁶² President Bush included North Korea in "the axis of evil" in his State of the Union address in 2002, and the 2001 Nuclear Posture Review names North Korea as a potential target for a nuclear strike.⁶³

In 2005 the Foreign Ministry declared that Pyongyang "had manufactured nukes and was compelled to bolster its nuclear weapons arsenal".⁶⁴ North Korea has tested two nuclear explosive devices, one in 2006 and another in 2009. Little is known about the size of the North Korean arsenal. It consists of over 600 short-range

⁶⁰ Does North Korea have a National Security Strategy? Shorenstein Asia-Pacific Research Center, KSP Seminar Series. Stanford University. October 30.

⁶¹ Analysis based on Sigal Leon, Wit Joel, North Korea's Perspectives on the Global Elimination of Nuclear Weapons. Publ. in Blechman Barry (ed.). *Unblocking the Road to Zero: North Korea and Iran. Perspectives of Advanced Nuclear Nations*. Stimson Center. Nuclear Security Series. Vol. IV. May 2009.

⁶² Op.cit. p. 2.

⁶³ Op.cit. p. 5.

⁶⁴ Cited from North Korea's Nuclear and Missile Programmes. International Crisis Group. Asia Report No 168-18. June 2009. p. 2.

Scud variants and 320 medium-range Nodong missiles. The former can reach South Korea, the latter Japan. Long-range missiles which might reach the U.S. are under development and are being tested. The estimate is that North Korea possesses from six to twelve nuclear weapons or “devices”.⁶⁵ Experts are divided on whether these can be mounted on missiles. North Korea has sold missiles and missile components, and it has been co-operating with Iran to develop long-range missiles and space launch vehicles.

The de-nuclearization of the Korean Peninsula and halting the North’s missile programmes are policy objectives not only for the U.S. but also for neighbouring countries. North Korea has been noncompliant not only with its responsibilities within the NPT but also with a number of statements in which it has agreed to end its nuclear weapons programme.⁶⁶ Nevertheless, North Korea underlines that: “The ultimate goal of the DPRK is not ‘de-nuclearization’ to be followed by its unilateral disarmament but one aimed at settling the hostile relations between the DPRK and the U.S. and removing the very source of all nuclear threats from the Korean Peninsula and its vicinity.”⁶⁷

Pyongyang no doubt wants to improve both its relations with the U.S. and to hold on to its arsenal. It would like to be included in the class of “approved” proliferators.⁶⁸ Nuclear weapons have been an important asset when building support for the current regime among the population. It has also strengthened Kim Il Jong’s control over the army. Under these circumstances a U.S. initiative to abolish nuclear weapons would, in order to receive support from North Korea, require fundamental improvements in relations with the North’s long-time enemies, the U.S, South Korea and Japan.

⁶⁵ Op.cit. p. 4.

⁶⁶ The Beijing Six-Party Talks (including the U.S., the Koreas, Japan, China and Russia) have been ongoing since 2003. In a Statement of Principles from 19 September 2005 the DPRK agreed to abandon “all of its nuclear programmes” in exchange for negative security assurances and positive inducements from the other parties. In 2006 North Korea tested its first nuclear explosive device.

⁶⁷ Op.cit. Sigal et.al., p. 5.

⁶⁸ Op.cit. p. 14.

1.2.10 Iran

There is a wealth of reports and analysis on Iran's nuclear weapons development. Unfortunately, there are no definitive answers as to whether or not Iran has designed and is building a bomb. Nor are there any authoritative documents on the Iranian government's strategic intentions for nuclear weapons. Iran underlines that its development programmes are for civilian applications and claims its right to control the nuclear fuel cycle. The fact that it has concealed uranium enrichment facilities raises Western suspicions about its real intentions.

A Joint Threat Assessment produced by U.S. and Russian Technical Experts⁶⁹ in May 2009 is probably the best analysis there is of the situation. According to this assessment Iran has been engaged in a serious nuclear programme and has made progress. By February 2009 it had produced 1.010 kg of low enriched uranium hexafluoride. If Iran were to withdraw from the monitoring of the International Atomic Energy Agency, it could produce a nuclear explosive device in a matter of one to three years and it might take another five years to produce a warhead capable of delivery by existing or future Iranian missile systems.

As for Iranian missile development, the assessment concludes that Iran could in perhaps six to eight years develop a ballistic missile capable of delivering a 1,000 kg nuclear warhead with a range of 2,000 km. Today the Shahab-3 can deliver a payload of 1,000 kg 1,100 km. The experts were asked whether Europe faced a threat from Iran and whether a missile defence system could defend Europe. It was not assumed that Iran was planning to attack Europe with nuclear-armed ballistic missiles. Nor would the missile defence system planned for Europe provide a reliable defence.

The Iranian case illustrates very clearly the basic ambiguity of the NPT. A country has the inalienable right to use nuclear technology for peaceful purposes. How absolute is this right, and does it include the right to control the fuel cycle? The extent to which Iran has not complied with its IAEA obligations has been debated. The IAEA General Director ElBaradei said in 2008: "We have managed to clarify all the remaining outstanding issues, including the most important

⁶⁹ Iran's Nuclear and Missile Potential. A Joint Threat Assessment by U.S. and Russian Technical Experts. East West Institute. May 2009. New York.

issue, which is the scope and nature of the enrichment programme.”⁷⁰ However, he did say that there was a confidence deficit on the part of the international community as to Iran’s future intentions.

In 2009 undeclared Iranian facilities for uranium enrichment were disclosed and inspected by the IAEA. For the first time, in a report dated 18 February 2010 the nuclear inspectors of IAEA raised concerns about the past or current undisclosed activities by the Iranian military to develop a nuclear weapon. The report concluded that “Iran needs to co-operate in clarifying outstanding issues which give rise to concerns about possible military dimensions to Iran’s nuclear programme”.⁷¹

Between 2006 and 2008 three UNSC resolutions implied sanctions on Iran as it had ignored previous Security Council demands. There is disagreement among the Security Council as to the best course of action. The U.S. wants harsher sanctions, whereas Russia wants to engage Iran in negotiations. Diplomatic efforts have taken place both by the EU3 and the 5 + 1 (the five permanent members of the UNSC plus Germany).⁷² Iran has not suspended its uranium enrichment in spite of promised security guarantees and economic aid. A key issue has been that Iran should suspend its activities before guarantees and aid. This has not been acceptable to Iran.

Two concerns are expected to be behind Iran’s intentions: an acute sense of insecurity and an interest in projecting power. The ruling Iranian establishment is vulnerable to the repeated calls from the U.S. for regime change and there is a long history of provocation and perceived injustices on both sides. Iran was named as one of the countries of the “axis of evil” by President Bush in 2002. Iran has ambitions to be taken more seriously and to play a larger, more global role.⁷³ Iran aspires also to a larger role in the region, a fact that

⁷⁰ Comments by ElBaradei are quoted from Ehteshami Anoush, *Iranian Perspectives on the Global Elimination of Nuclear Weapons*. Publ. in Blechman Barry (ed.). *Unlocking the Road to Zero: North Korea and Iran. Perspectives of Advanced Nuclear Nations*. Stimson Center. Nuclear Security Series. Vol. IV. May 2009. pp. 19–20.

⁷¹ Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006), 1747 (2007), 1803 (2008) and 1835 (2008) in the Islamic Republic of Iran, IAEA GOV/2010/10, 18. February 2010, p. 9.

⁷² Ehteshami, *op.cit.* p. 21.

⁷³ *Op.cit.* p. 23.

has resulted in an increased interest in nuclear energy in the region. Iran's uranium enrichment enjoys a great deal of support among its own population.

Based on past history, Iran is a strong advocate of disarmament. Also, proliferation is seen as bad for Iran. At the same time Iran is offering nuclear technology assistance to its Arab neighbours in obvious conflict with IAEA rules. Although the above mentioned Joint Assessment indicated that Iran does not threaten Europe, European countries, particularly France, have also expressed fears of regional powers armed with weapons of mass destruction.⁷⁴ Regional proliferation is definitely not in Iran's interest. According to Ehteshami, nuclear disarmament must first be made an international priority. Under such conditions further steps could be taken based on the Paris Agreement of EU3 and Tehran.

1.2.11 Nuclear and Non-Nuclear Alliances

In addition to the nuclear weapon states, also alliances define strategies for nuclear weapons. The U.S. deploys non-strategic nuclear weapons in Europe under NATO. The Alliance has a strategic concept which also specifies the role of nuclear weapons. The European Union does not have a common defence but has a security strategy and a strategy for the proliferation of weapons of mass destruction. A number of regions have become what is called nuclear-weapon-free zones. The treaties for these zones specify security guaranties against the use of nuclear weapons.

NATO is currently redefining its strategic concept, including the role of nuclear weapons in the alliance's force structure. The current strategic concept is from 1999. According to this the essential purpose of NATO is to "safeguard the freedom and safety of all its members by political and military means. Based on common values of democracy, human rights and the rule of law, the alliance has striven since its inception to secure a just and lasting peaceful order in Europe."⁷⁵ The security challenges constitute a wide variety of military and non-military risks which are "multidirectional and often difficult to predict". These include inter alia the existence of powerful nuclear

⁷⁴ Op.cit. p. 37.

⁷⁵ The Alliance's Strategic Concept. Approved by the Heads of State and Government participating in the meeting of the North Atlantic Council in Washington D.C. 24 Apr. 1999, article 6.

forces outside the alliance, the proliferation of weapons of mass destruction and the global spread of technology that can be used in the production of weapons.⁷⁶

The purpose of NATO's nuclear forces, provided by the nuclear forces of the U.S., and the independent forces of the UK and France is to "to preserve peace and prevent coercion and any kind of war".⁷⁷ Some 150–200 U.S. tactical nuclear weapons are placed in several member countries. During the revision of the strategic concept, the role of these forces has been called into question. In a letter dated 26 February 2010, the foreign ministers of Belgium, Germany, Luxembourg, the Netherlands and Norway, in welcoming the initiatives of President Obama to strive towards substantial reductions in strategic armaments, propose that NATO should discuss how to move closer to this overall political objective. The removal of the tactical nuclear weapons from Europe is a stated goal in the new German government's policy statement (see also Annex III).

NATO's strategic concept will be revised during 2010. An expert group lead by Madeleine Albright is conducting a series of seminars and drafting the background for a new strategic concept. The role of NATO's tactical forces will be defined here. The role of article 5 (an attack on one is an attack on all) will be emphasized at the same time as the global role of the alliance will be enhanced.⁷⁸

Missile defences are on the agenda both of the old and of the new strategic concept. A feasibility study was launched already in 2002 to examine options for protecting "alliance forces, territory and population against the full range of missile threats".⁷⁹ Discussions are ongoing. At the 2008 Bucharest summit the U.S. missile defence system in Europe was on the agenda. The U.S. decision to deploy interceptors in Poland and a radar in the Check Republic had not before been up to negotiations among the Allies. The Obama administration has later cancelled the plans for these installations.

⁷⁶ Op.cit. articles 20–24.

⁷⁷ Op.cit. article 62.

⁷⁸ No official documents are available but extracts of speeches by key officials have been compiled e.g. by Rozoff Rick, 21st Century Strategy: Militarized Europe, Globalized NATO. <http://www.Opednews.com/articles/21st-Century-Strategy-Mil-By-Rik-Rpozoff-100228-870html>.

⁷⁹ Missile defence. http://www.nato.int/cps/en/natolive/topics_49635.htm.

Instead a more mobile sea-based system is under consideration with land-based installations in Rumania and possibly Bulgaria.

The links between NATO plans and the U.S. missile defence system are not yet defined. NATO plans seem to cover Allied territory not covered by the U.S. missile defence. NATO Secretary General Anders Fogh Rasmussen sees a common capability as more effective and considers missile defence as a strategic imperative: “To my mind, missile defence makes most sense in an alliance context. That way, you get forward-based sensors and infrastructure. Allied defence systems can fill the gaps in the U.S. system’s coverage.”⁸⁰

The European Union, while not a military alliance, is moving towards a common security and defence strategy. A clear indication of this is the so-called mutual assistance article in the Lisbon Treaty which states that “If a Member State is the victim of armed aggression on its territory, the other Member States shall have towards it an obligation of aid and assistance by all the means in their power, in accordance with Article 51 of the United Nations Charter. This shall not prejudice the specific character of the security and defence policy of certain Member States.”⁸¹

This is an obligation to all member states, not to the EU. For the majority of the EU countries defence co-operation is arranged through the common defence of NATO. Although two of its member countries are nuclear weapon states, the EU has no common nuclear posture or strategy to abandon nuclear weapons in Europe. These questions are a matter for the individual member states. This applies also to the plans of building a missile defence in Europe, a matter which is negotiated directly between the European countries involved (currently Romania and Bulgaria) and the U.S.

The European Security Strategy from December 2003 looks at global challenges and key threats. Large-scale aggression against any member state is seen as improbable. Instead Europe faces threats more diverse but less visible or predictable. Terrorism, regional conflicts, state failure and organised crime are all seen as threats to European security, the greatest threat of which is the proliferation

⁸⁰ Speech by NATO Secretary General Anders Fogh Rasmussen at Georgetown University. http://www.nato.int/cps/en/natolive/opinions_61647htm?selectedLocale=en.

⁸¹ Consolidated Version of the Treaty on European Union, article 42/7, Official Journal of the European Union. 9.5.2008.

of weapons of mass destruction. Proliferation of these weapons in the Middle East, the spread of missile technology and the risk of terrorist groups accessing weapons of mass destruction put Europe at increasing risk.⁸²

The tools available to the Union in the fight against weapons of mass destruction, including nuclear weapons, are a general call for all the member countries and all the EU institutions to work for the prevention of proliferation.⁸³ Concrete measures in the nuclear field include the Union's support for strengthening the International Atomic Energy Agency and for tightening export controls, control of illegal shipments and illicit procurement. Furthermore, the EU is committed to multilateral treaty regimes such as the Nuclear Non-Proliferation Treaty and supports the creation of nuclear weapon-free zones, particularly the one in the Middle East. The European Union has also committed funds to establish a fuel bank under multilateral or international control. Furthermore, there is a "non-proliferation clause" in EU treaties with third countries.⁸⁴

Treaties on nuclear weapon-free zones are a regional approach to abolishing nuclear weapons and to counter proliferation. These zones are seen to enhance global, regional and national security and to strengthen the regime of the Nuclear Non-Proliferation Treaty. These zones are established by consensus of the states of the regions which commit themselves not to access nuclear weapons. Nuclear weapon states are consulted to establish the legally binding status of the regions as the nuclear weapon states agree not to use nuclear weapons against any of the states party to the treaty in question.

Today 116 states are covered by these agreements. In Annex I these zones and their importance for a nuclear weapon-free world are analysed through two examples: the Latin American and Caribbean Nuclear-Weapon-Free Zone, the treaty of which was ratified in 1977, and the proposal for a similar zone in the Middle East, a process which has been on-going since 1974. The proposal on Middle East

⁸² A Secure Europe in a Better World. European Security Strategy. Brussels, 12 December 2003.

⁸³ Fight against the proliferation of weapons of mass destruction – EU Strategy against Proliferation of Weapons of Mass Destruction, Brussels, 10 December 2003. 1578/3.

⁸⁴ Note on the implementation of the WMD Clause. Brussels, 19 January 2009. 5503/9.

will be on the agenda of the Nuclear Non-Proliferation Treaty Review Conference in the UN in May 2010.

1.3 Towards Zero?

The vision of a nuclear free world is, in fact, far away. There is a lack of trust and a security environment which is not conducive to universal nuclear disarmament. Although most nuclear weapon states support the idea in general terms, there is very little serious commitment. Much has to change in the political and security environment before we approach Global Zero.

1.3.1 Building Trust

The acknowledged nuclear weapons states with smaller nuclear arsenals – the UK, France and China – are not willing to reduce their arsenals before the U.S. and Russia cut theirs substantially. With over 95% of the world’s nuclear arsenal in these two countries, this is a reasonable position. Looking at the abolition of nuclear weapons in this way, the dynamics of nuclear disarmament is reduced to merely a question of numbers. It would make the U.S. and Russia the sole actors on the international scene for years to come. Rather than focusing on the number of weapons, the process of nuclear abolition should focus on reducing threats and building trust.

Russia, with its superpower status, is the most dependent on nuclear weapons and it therefore has most to lose by nuclear abolition. Trenin assesses the conditions under which this would be possible: “it would require a fundamental change of its (Russian leadership) security perceptions and that of other major powers to acquire a comfortable degree of mutual confidence and trust”.⁸⁵ A totally different political climate is also a prerequisite for France’s participation in nuclear disarmament, being a country in which nuclear weapons are a symbol of independence.

The elimination of nuclear weapons would require an immense amount of work on confidence building, not only on the global but also on the regional level. It would require completely new concepts

⁸⁵ Trenin, *op.cit.* p. 12.

of security related to trust and not to military s threats and new kinds of security guarantees able to maintain trust and counteract evolving conflicts. Negotiations would also have to include questions of conventional forces and missile defences that is the whole new triad of the U.S. Nuclear Posture Review of 2002. Negotiations would have to be carried out both universally in a global context and regionally, involving all regional actors and their allies. (See Annex I for discussion of regional nuclear-weapon-free zones.)

1.3.2 Changing Threat Perceptions

In the elimination of nuclear weapons, military security is not the main problem. The contribution of nuclear weapons to security is no longer military in nature. In the national security strategies of the established nuclear weapon states, very few concrete military threat images or tasks are defined. Deterrence is still there but the threats and risks are general and vague. The U.S. faces threats from “multiple potential opponents, sources of conflict, and unprecedented challenges”.

Russia wants to create a multi-polar world and sees itself as the main force to counter global U.S. domination. Although former enemies have become partners, Russia fears their technological dominance. While no country poses any threat to the UK, the strategy concludes that it would be premature to conclude that “such threats might not develop in the future”. Also France, in the absence of a major threat, sees nuclear weapons as a hedge against potential future threats. Only China has fears about being still included in U.S. war planning at the same time as its nuclear deterrence capabilities are called into question by the U.S. missile defence deployment plans.

For the nuclear weapon states not parties to the NPT the situation is different. Regional conflicts dominate and create concrete images of military threats. Israel sees Iran as its major enemy and is apprehensive of its plans for nuclear weapon. The India-Pakistan conflict involves threats of first use of nuclear weapons and discussions of a second strike capacity. North Korea feels been threatened by the nuclear weapons of the U.S.

1.3.3 Nuclear Weapons an Insurance Policy

For the “nuclear five” military deterrence has given way to a vague and unspecific role for nuclear weapons as an insurance policy.

Something may come up in the future. The future is uncertain and impossible to predict. Nuclear weapons are a way to prepare for the worst case in the future, even in the absence of concrete military threats and risks.

As an insurance policy nuclear weapons may work for an individual state. They provide a feeling of security and may also bridge internal divides within a country. For the state's leadership they provide a powerful tool for national pride and autonomy of decisions. Nuclear weapons are also an insurance against blackmail and political pressure.

The costs of this insurance policy are huge, especially for countries under development. Also for the developed countries, the costs increase. Although the Trident has been paid for it has to be modernized. Both Russia and the U.S. are in the process of modernizing their arsenals. As more countries acquire nuclear weapons, missile defences will also proliferate unless an international regime like the ABM Treaty is able to regulate their deployment. The costs of worldwide missile shields are horrendous.

Nuclear weapons for an individual state may be a security insurance policy. The concatenation of these policies is insecurity insurance for the world.

1.3.4 Nuclear Weapons as Global Power

Nuclear weapons are not only for deterrence. They carry a lot of symbolism and prestige. They are seen as a symbol of great power status and of independence. Countries with nuclear weapons have more to say than those without. Pierre Mendès-France's famous comment: "If you do not have the bomb, you are nothing in international negotiations" carries weight even today.

Aspirations to global power are, of course, of a different nature for the nuclear weapon states. For Russia and France they present the critical dimension. Without nuclear weapons both countries would lose international prestige. Both the U.S. and China would be global powers due to their role in the world economy even without nuclear weapons. For some countries, such as Israel, Pakistan and even North Korea, nuclear weapons are a question of survival as a state and do not imply aspirations of prestige in world affairs.

Elimination of nuclear weapons requires breaking the link between nuclear weapons and a country's global status. The use of nuclear weapons has been an international taboo. Could possession of nuclear weapons become a similar taboo, and if so, under what conditions? Could having nuclear weapons be outlawed or criminalized? Could they imply economic sanctions?⁸⁶ More attention should be given to these possibilities in the visions of a nuclear-weapon-free world. At least for the non-nuclear weapon states, and particularly those that have voluntarily refrained from having these weapons, this could provide an additional incentive not to acquire them in the future.

1.3.5 A Race to Technological Supremacy

Confidence and trust are crucial to a security environment in which nuclear weapons could be abolished. Breaking the link between global power status and possession of nuclear weapons would be another important step. There is, however, a third dimension: technological supremacy. Advanced technological development is closely linked to military technology and particularly to nuclear and space technology.

National pride is attached to nuclear technology know-how. This is reflected in the Iranians pride over uranium enrichment and the Chinese symbol of "two-bombs, one-satellite". Nor is it a coincidence that both the Russian and the Chinese governments see international agreements on both missile defences and the weaponization of space as a requisite for the elimination of nuclear weapons. The U.S. leads in this field and would, if nuclear weapons were abolished, further enlarge the gap with other countries in high technology.

A case in point is the future of national laboratories in the nuclear field, particularly in the U.S. Would they disappear with the elimination of nuclear weapons? The Secretaries of Defence, State and Energy have issued a statement which suggests a "responsive nuclear infrastructure" and concluded "we must make process toward creating a nuclear weapons infrastructure that can respond quickly and effectively to emerging threats and to technological surprise. This will assure our ability to maintain deterrence over the long-term, and

⁸⁶This issue has been raised in Percovich George, Acton James M., *Abolishing Nuclear Weapons. A Debate.* Carnegie Endowment for International Peace. Washington DC. 2009, p. 320.

enable future reduction in both the operationally deployed force and the overall nuclear weapons stockpile.”⁸⁷

Also Schultz et al writing in the Wall Street Journal on the elimination of nuclear weapons have, in their third article, taken up the question of national laboratories and their need for additional investments: “These investments are urgently needed to undo the adverse consequences of deep reductions over the past five years in the laboratories’ budgets for science, technology and engineering programmes that support and underwrite the nation’s nuclear deterrent. The United States must continue to attract, develop and retain the outstanding scientists, engineers, designers and technicians we will need to maintain our nuclear arsenal whatever its size, for how long as the nation’s security requires it.”⁸⁸ The need for these investments is also underlined in the new Nuclear Posture Review.

As indicated by both Russian and Chinese reactions towards the U.S. vision of a nuclear-weapon-free world the questions of missile defences and the weaponization of space are critical. Missile defences and space weapons are not only indications of military supremacy. They also carry a stung message of technological supremacy. One of the reasons for the U.S. withdrawal from the ABM Treaty was that it set restrictions on technological development.⁸⁹

An agreement on abolishing nuclear weapons has to deal with the question of who controls advanced technology and whether the development of these technologies should be in some ways restricted. Since nuclear technology is the symbol of technological capabilities the discussion of what happens to the nuclear weapon laboratories will be, and should be, at the core of these debates.

⁸⁷ National Security and Nuclear Weapons: Maintaining Deterrence in the 21st Century. A Statement by the Secretary of Energy, Secretary of Defence and Secretary of State, July 2007.

⁸⁸ Shultz George, Perry William, Kissinger Henry, Nunn Sam, How to Protect Our Nuclear Deterrent, p. 4. The Wall Street Journal. January 19, 2010.

⁸⁹ See Cronberg Tarja, U.S. Missile Defence. Technological Primacy in Action. Published in Heurlin Bertel, Rynning Steen (eds), Missile Defence. International, Regional and National Implications. Routledge. Abingdon. 2005.

Part 2

Preventing Proliferation

“If the world does not change course, we risk self-destruction. Common sense and recent experience make clear that the regime based on the Non-Proliferation Treaty, which has served well since 1970, must be tailored to fit 21st century realities. Without threatening national sovereignty, we can toughen the non-proliferation regime.” Director General ElBaradei⁹⁰

Nuclear doctrines and nuclear weapons are the insurance policy of the nuclear weapon states. They guarantee the state against threats that may emerge in the future. They protect the national interests of the states. They also insure a state’s international status, even great power status. Nuclear weapons may also be a uniting element for a failing state.

The Nuclear Non-Proliferation Treaty, the NPT, is the global insurance policy. It should guarantee the world against inhumane weapons and massive destruction. It should guarantee global interests, if and when these are in conflict with those of individual states. It should be an instrument of peace and disarmament. It should guarantee the peaceful uses of a technology which may also threaten our survival.

This is not an easy task. It is not easy to toughen the non-proliferation regime without infringing on a state’s sovereignty. Do non-nuclear weapon states have the right to the fuel cycle? How do you limit a state’s right to withdraw from the NPT? Is it possible to manage the diversion of civil nuclear material to military uses? The borderline between peaceful uses of nuclear technology and nuclear weapons is subtle. In a global world, technology transfer is not easy to prohibit. Technology denial for some and not for others is viewed as discrimination.

Proliferation and non-proliferation are political issues. They have to be solved by political means. As seen in the previous section, military threats are receding. Access to nuclear weapons is more a question of power, prestige, independence and pride. These questions are deeply embedded in history, in culture and in current structures

⁹⁰ IAEA Director General ElBaradei, Saving Ourselves from Destruction, New York Times. February 2004.

of power in the world. They are not easy to change. Time is needed but the threats are immediate.

Technological issues mix with the political. Traces of certain isotopes may be proof of military intentions. Acquisition of large numbers of centrifuges may indicate a desire to enrich weapon-grade uranium. Banning tests should contain proliferation, and control of fissile material should reduce the risk of nuclear terrorism. Nevertheless, the solutions are political. At the same time, credible and reliable verification is an issue.

In this section I shall examine the dynamics of proliferation and non-proliferation in the context of the Nuclear Non-Proliferation Treaty and its Safeguards system. Is the NPT regime up to the task and is it possible to tailor it to the realities of the 21st century? This question will have to be answered at the 2010 Review Conference of the NPT in New York this May.

The Nuclear Non-Proliferation Treaty is not the only global insurance policy against the threats of a nuclear war. There are negotiations on the Comprehensive Nuclear Test Ban Treaty (CTBT).⁹¹ There are international pressures to start negotiations on a Fissile Material Cut-Off Treaty within the UN Conference on Disarmament at Geneva.⁹² There have been a number of international initiatives to curtail proliferation and nuclear terrorism.⁹³ Furthermore the Activities of the Nuclear Suppliers' Group are aimed at non-proliferation.⁹⁴ When looking at the wealth of initiatives, one cannot

⁹¹ The Conference on Disarmament concluded the negotiations on the CTBT in 1996. The Treaty has not been ratified.

⁹² Already in 1993 the UN General Assembly adopted a resolution to ban the production of fissile material for nuclear weapons or nuclear devices. Since then the topic has been on the agenda.

⁹³ Examples include inter alia the Global Nuclear Energy Partnership, the U.S. Co-operative Threat Reduction Initiative, the Nuclear Threat Initiative and the Global Initiative to Control Nuclear Terrorism.

⁹⁴ The Nuclear Suppliers Group (NSG), a group of 30 nuclear suppliers countries, has established two sets of guidelines for nuclear exports one for nuclear, the other for nuclear-related. The aim of these guidelines is to ensure that nuclear trade for peaceful purposes does not contribute to the proliferation of nuclear weapons/devices and that international trade is not hindered unjustly in the process. Guidelines are published by the IAEA (INFCIRC/254).

help but conclude that these should all be integrated into the NPT regime.

2.1 The Three Pillars of the Nuclear Non-Proliferation Treaty

The global insurance policy the Nuclear Non-Proliferation Treaty, the NPT, has three pillars: non-proliferation, disarmament, and the peaceful use of nuclear technology. When it came to force in 1970 there were five nuclear weapon states:⁹⁵ The U.S., Russia, the UK, France and China. The obligation to disarm was aimed at these states. The rest of the member states, currently 183, are non-nuclear states. By signing and ratifying the NPT they commit themselves to non-proliferation but retain the right to nuclear technology for peaceful purposes.

Since the ratification of the NPT in 1970 a third group of states has emerged, i.e., states that have nuclear weapons but are not acknowledged as nuclear weapon states. There are three states in this group: India, Pakistan and Israel. North Korea is on the borderline on the nuclear side. It has nuclear devices. Iran is on the borderline on the non-nuclear side. It will probably soon have the capability to produce a weapon. North Korea has withdrawn from the treaty. Iran is a party to the NPT.

The first objective of the Treaty is to limit the proliferation of nuclear weapons and related technology. The treaty commits non-nuclear states to refrain from accessing nuclear weapons: “...not to receive the transfer from any transfer or whatsoever of nuclear weapons or other nuclear 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”.⁹⁶ The nuclear states commit themselves not to help in any

⁹⁵ Treaty on the Non-Proliferation of Nuclear Weapons, IAEA/INFCIRC/140. April, 1976. According to the article IX of the Treaty “a nuclear weapon state is one which has manufactured or exploded a nuclear weapon or a nuclear explosive device prior to January 1, 1967”.

⁹⁶ Op.cit. article II.

way the non-nuclear states to circumvent this commitment directly or indirectly. This commitment is not unproblematic, as many of the new nuclear states have received help from these states to establish research reactors, plutonium reprocessing plants and uranium enrichment technology.⁹⁷

The nuclear states commit themselves “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”.⁹⁸ As I have documented in the first part the nuclear weapon nations are not committed to this article. Even if military threats no longer exist, nuclear weapons are an insurance policy against future threats. The number of warheads is being reduced, but their numbers still enable the total annihilation of the major cities of the world. Furthermore, some of the nuclear weapon states are building up their arsenals. Others are modernizing them, often at great cost.

For the non-nuclear nations to accept the non-proliferation bargain, the right to peaceful uses of nuclear technology is decisive. The treaty provides for “the inalienable right of all Parties to the treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination”. All parties of the treaty have also the right “to participate in the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy”.⁹⁹ This article is at the heart of the Iranian case. Iran claims it is only enriching uranium for civilian purposes. Others suspect military intentions.

The question is whether these three pillars are compatible in today’s world. There is a widespread interest for nuclear energy. With each new power plant, the technological know-how for nuclear weapons will also become more widespread. As a consequence, diversion of nuclear material to military use will be increasingly probable. Control of military intentions becomes more and more difficult. The concept

⁹⁷ Dunn, Lewis, *The NPT, Assessing the Past, Building the Future*. Non-Proliferation Review, 2009, Vol. 16 No 2, pp. 144-172. Nassauer Otfried. *Nuclear Energy a Proliferation*. Nuclear Issues Paper No 4. Heinrich Böll Foundation, 2005.

⁹⁸ Op.cit. article VI.

⁹⁹ Op.cit. article IV.

of preventing the proliferation of nuclear technology for military purposes while promoting its civilian use of nuclear energy is in a deepening crisis.¹⁰⁰

2.2 *Frustrated Alliances*

Within the NPT there is a fundamental bargain. The nuclear weapon states should disarm, and in return the non-nuclear weapons states will not access nuclear weapons and will not assist others to do so.

“The stark reality is that the nuclear-weapon states are in arrears and have a significant debt to pay before key non-nuclear weapon states will consider additional non-proliferation commitments. This stalemate also occurs in the context of a non-proliferation regime under pressure.”¹⁰¹

The non-nuclear states expect disarmament initiatives and are frustrated over the lack of progress. They feel that the burden of fulfilling obligations must shift to nuclear weapon states. As the nuclear weapon states, particularly the U.S., are pressing for non-proliferation initiatives, the non-nuclear weapon states are reluctant to move before there is progress on disarmament. Reductions in nuclear stockpiles are not enough. The remaining stockpiles represent a high level of deterrent and destructive power. Other disarmament initiatives have not been implemented. The CTBT has not been ratified. The U.S. withdrawal from the ABM Treaty was in fact a step backwards. The nuclear weapon states are modernizing their arsenals.

The conflict between the nuclear- and non-nuclear weapon states is not only about what tasks should be achieved and their order of priority. It is also about tone. The aggressiveness of the nuclear weapons states in pushing their non-proliferation agenda also causes

¹⁰⁰ Green Jim. Civil Nuclear Programs & Weapons Proliferation. Energyscience.org.au, Fact Sheet 09. 2009.

¹⁰¹ Choubey Deepti, Are Now Nuclear Bargains Attainable? Carnegie Endowment for International Peace. 2008. Washington, p. 4.

resentment among the non-nuclear weapon states. They feel as if they are treated like another Iran.¹⁰²

The conflict between the nuclear- and non-nuclear states is general and the sentiments of frustration are shared by most of the members in the non-nuclear group. Nevertheless, the non-nuclear states are by no means a homogenous entity: they are, in fact, subdivided into many alliances with somewhat different agendas.

- The Non-Aligned Movement (NAM) is a multilateral, transnational organization of heads of states with differing ideologies and political goals. NAM includes 118 of the states in the developing world, some of which possess nuclear weapons, and is loosely organized under a chair and a coordinating group. NAM, currently lead by Egypt, is insisting on progress in disarmament before any new initiatives on non-proliferation.
- The New Agenda Coalition: Established in Dublin 1998 by the Foreign Ministers of Brazil, Egypt, Ireland, Mexico, New Zealand, Slovenia, South Africa and Sweden. The coalition works towards a nuclear-weapon-free world and has presented its views on the 2010 Review Conference.¹⁰³
- The Middle Powers Initiative is a channel for 8 non-governmental organizations to work through “middle powers” in the non-nuclear group to “encourage and educate the nuclear weapon states to take immediate practical steps that reduce nuclear dangers and commence negotiations to eliminate nuclear weapons”.¹⁰⁴ The initiative is guided by an international steering committee and chaired by Sweden.

¹⁰² Op.cit. p. 11.

¹⁰³ Towards a Nuclear-Weapon-Free World: The Need for a New Agenda. See also the Working Paper submitted by Sweden on behalf of Brazil, Egypt, Ireland, Mexico, New Zealand, South Africa and Sweden as members of the New Agenda Coalition, Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. 29 April 2009.

¹⁰⁴ A Global Undertaking: Realizing the Disarmament Promise of the NPT. A Middle Powers Initiative Briefing Paper for the Atlanta Consultation III: Fulfilling the NPT. January 21–22, 2010 p.a.

The goal, a nuclear-weapon-free world, is common to all the three alliances. All three also press the nuclear power states for disarmament and stress the bridge between disarmament and non-proliferation (“what does not exist, cannot proliferate”).

The NAM countries failed to adopt a common position in 2005 Review Conference. One of the reasons was Egypt’s fundamental position on the 1995 resolution on the nuclear-weapon-free zone in the Middle East (see Annex I). The movement also includes many small countries that would have more good will towards the NPT than the two critical voices: Egypt and Iran. Iran has furthered its own agenda within the NAM and has received continuous support from friendly NAM countries. Nevertheless Iran in 2009 did not get consensus support from NAM for its resolution at the IAEA General Conference to prohibit military attacks on nuclear facilities.¹⁰⁵ Iran is taking over from Egypt as NAM chair in the summer 2012.

2.3 IAEA: *The Gatekeeper*

The international institution in charge of non-proliferation and the separation between civil and military nuclear activities is the International Atomic Energy Agency, the IAEA. Many of the problems inherent in the NPT and its implementation are due to the weaknesses of the IAEA mandate or its safeguards system. The same ambiguity which is built into the NPT is also present in the IAEA mandate: “The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose.”¹⁰⁶

The IAEA watches over the diversion of civil nuclear material and facilities to military uses. Its main tool is the Comprehensive

¹⁰⁵ Non-Aligned Movement (NAM) shows support for Iranian co-operation at IAEA Board of Governors meeting. <http://www.globalresearch.ca/index.php?context=va&aid=7430>.

¹⁰⁶ Statute of the IAEA, <http://www.iaea.org/article II>.

Safeguards Agreement.¹⁰⁷ States which have signed and ratified this agreement report to the IAEA on nuclear materials, the production and storage of these materials, and associated products. Also information on nuclear facilities and their design is to be submitted. The IAEA is entitled to verify this information through inspection. The Agreement obliges non-nuclear nations to provide this information. The agreement is voluntary for the nuclear nations. All the five official nuclear states have voluntary agreements in force. These apply only to materials, programmes and facilities for peaceful activities. No reporting or inspections are carried out on their military nuclear activities.

A number of examples are known where non-nuclear signatory states have not declared enrichment activities or sensitive nuclear facilities. After the first Gulf War in 1991 it turned out that Iraq had had a military programme to produce nuclear weapons not known to the IAEA. Due to this failure, the member states negotiated in 1997 an Additional Protocol. This allows IAEA inspections also in non-declared facilities, inspections on short notice, and environmental sampling.¹⁰⁸

In 2010 had 188 countries signed the NPT. Of these 163 had also signed the safeguards agreement. Of these, 84 had both the safeguard agreement and the additional protocol in force. The IAEA submits a yearly Safeguards Statement¹⁰⁹ summarizing the reports. In 2008 there was no indication of any diversion of nuclear material to military uses in 51 of the 84 states with both the agreement and the protocol in force. In the rest (33) there was no indication of diversion of declared material, but evaluations were ongoing regarding the absence of undeclared material or activities. In 70 of the states with only the agreement in force there was no indication of diversion of declared material from peaceful nuclear activities. The IAEA Secretariat in its report concluded “for 2008 declared nuclear material in Iran

¹⁰⁷ The Agency’s Safeguards. IAEA/INFCIRC/26. March 1961. Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards. IAEA, INFCIRC/540. September 1977.

¹⁰⁸ Op.cit.

¹⁰⁹ Safeguards Statement, IAEA, 2008 point 2, <http://www.iaea.org/OurWork/SV/Safeguards/es2008html>.

remained in peaceful activities. Verification of the correctness and completeness of Iran's declarations remained ongoing".

The reasons for a state to ratify the safeguards agreement but not the additional protocol differ. Iran has ratified the agreement but not the protocol. Iran has been engaged in clandestine nuclear activities not known to the IAEA. During 2009 Iran declared some of its secret facilities and IAEA inspections were carried out at these facilities. Brazil has ratified the safeguards agreement but not the protocol. In this case not ratifying the protocol is a protest within the regime.¹¹⁰ Brazil considers that the nuclear countries do not adhere to their part of the agreement, disarmament.

At the 2010 NPT Review Conference one of the critical questions to be discussed is the universalization of the additional protocol. Given this, the protocol would become an integral part of the safeguards agreement and obligatory for all non-nuclear weapon states with the safeguards agreement in force. An even stronger proposal is the universalization of the agreement to apply to the five nuclear nations and possibly even to the states outside the NPT. There is no consensus on this. On the contrary, universalization is seen as laying further burdens on the non-nuclear weapon states. It is seen as an infringement on a state's right to decide what may be inspected and what may not. On the other hand, this is a precondition for an efficient non-proliferation system, given the many examples of clandestine activities and emerging new nuclear weapon states.

The IAEA, after studying the country statements and its own inspection reports, reports on compliance and non-compliance. Non-compliance is reported to the Director General, who transmits the reports to the Board of Governors. The Board makes a formal finding on non-compliance and calls the state in question "to remedy forthwith any non-compliance which it finds to have occurred".¹¹¹ If compliance requirements are not met, the board reports non-compliance to all the member states and to the United Nations, both the Security Council and the General Assembly.

¹¹⁰ De Azambuja Marcos C., A Brazilian Perspective on Nuclear Disarmament. Publ. in Blechman Barry (ed.), *Unblocking the Road to Zero. Perspectives of Advanced Nuclear Nations. Brazil/Japan/Turkey*. Stimson Nuclear Security Series. Volume VI. September 2009. Washington.

¹¹¹ Goldschmidt Pierre. *Exposing Nuclear Non-Compliance*. *Survival*, 51:1, 2009, pp. 143-164, p. 145.

What non-compliance actually means is not clear. According to Pierre Goldschmidt, a former Deputy Director General of the IAEA: “It is hard to believe that 35 years after the adoption of the Model Comprehensive Safeguards Agreement the meaning of ‘non-compliance’ is still uncertain and subject to debate”.¹¹² He also quotes a few cases, among them South Korea and Egypt, which in spite of non-compliance were not reported to the UN Security Council.

The Board is not obliged to make a formal finding of non-compliance if it judges that circumstances do not warrant it, even if the Director General has reported on a technical or legal non-compliance. Political decisions play a role on the Board’s decisions. So does its composition.¹¹³ Pierre Goldschmidt concludes: “there is a danger of setting bad precedents based on arbitrary criteria or judgements informed by political considerations”.¹¹⁴ This is all the more a matter of concern as the organization received the Nobel Peace Prize in 2005 due to its objectivity and impartiality when dealing with non-proliferation issues.

2.4 The 2010 Review Conference

Progress in relation to the treaty is reviewed every five years. At the 1995 Review Conference it was agreed to extend the NPT indefinitely after its initial 25 years of existence. The conference also agreed on principles and objectives for nuclear non-proliferation and disarmament. At the 2000 Review Conference the delegates agreed to an extensive document on thirteen practical steps for nuclear disarmament (see Table 2).

¹¹² Op.cit. p. 151.

¹¹³ For the 2009–2010 period, the composition of the 35-member IAEA Board is: Afghanistan, Argentina, Australia, Azerbaijan, Brazil, Burkina Faso, Cameroon, Canada, China, Cuba, Denmark, Egypt, France, Germany, India, Japan, Kenya, the Republic of Korea, Malaysia, Mongolia, the Netherlands, New Zealand, Pakistan, Peru, Romania, Russian Federation, South Africa, Spain, Switzerland, Turkey, Ukraine, the UK, and the USA, Uruguay, and the Bolivarian Republic of Venezuela.

¹¹⁴ Op.cit. p. 155.

Table 2 Summary of the Thirteen Practical Steps for Nuclear Disarmament agreed in 2000.

1	Early entry into force of the CTBT.
2	A moratorium on nuclear tests pending the CTBT's entry into force.
3	Conclude negotiations in the CD on a verifiable fissile materials treaty within five years.
4	Establish a subsidiary body in the CD to deal with nuclear disarmament.
5	Apply the principle of irreversibility nuclear disarmament and arms control.
6	An unequivocal undertaking by the nuclear-weapon states (NWS) to eliminate their nuclear arsenals.
7	Entry into force of START II; conclusion of START III; preserve the ABM Treaty.
8	Completion and implementation of the Trilateral Initiative.
9	Steps by the nuclear-weapon states leading to nuclear disarmament in a way that promotes international stability, based on the principle of undiminished security for all: <ul style="list-style-type: none">• Unilateral reductions• Increased transparency• The further reduction of non-strategic nuclear weapons• De-alerting• A diminishing role for nuclear weapons in security policies• The engagement by all the nuclear-weapon states in disarmament as soon as appropriate.
10	Arrangements by nuclear-weapon states to place fissile material no longer required for military purposes under IAEA supervision or other relevant international verification.
11	Reaffirmation that the ultimate objective is general and complete disarmament under effective international control.
12	Regular reports within the NPT's strengthened review process.
13	Improved verification of compliance with nuclear disarmament agreements.

Source Weapons of Terror Freeing the World of Nuclear, Biological and Chemical Arms. The Weapons of Mass Destruction Commission, 2006, p. 49.

These steps have been much debated and progress towards their implementation measured.¹¹⁵ At the following 2005 Review Conference the Bush administration maintained that the thirteen steps were obsolete and had no legal status.¹¹⁶ The U.S. refused to discuss the steps agreed earlier and the conference ended with a bleak common statement. Consequently, the NPT regime during the 2010 Review Conference is facing one of the toughest challenges of its lifetime. Either it will be successful and will be changed to meet the needs of the 21st century or it will collapse in the aftermath of the 2005 failure.

Choubey from the Carnegie Endowment for International Peace has reviewed the chances of progress and the risks of failure.¹¹⁷ She interviewed 35 officials and experts from 18 countries to find out whether and how the course could be reset in May 2010. The following comments are based on her interviews and interpretations.

When asked whether the 2010 is a make-or-break moment for the regime, the opinions differ. A South-African diplomat pointed to: “If nothing is achieved, people will disrespect the NPT: There would be no reason to uphold obligations that no longer exist.”¹¹⁸ A Russian diplomat was more optimistic: “2010 should not be viewed as a catastrophe if it doesn’t achieve the maximum results. It should be seen as a window of opportunity.”¹¹⁹ There is a feeling that putting too much pressure can be dangerous. In a British diplomat’s view “Egypt is already laying down markers that they expect concrete progress. In doing so, they are creating a make or break atmosphere”.¹²⁰

There is the reason to hope, due to the change of administration in the U.S. The Obama administration is trying to make the NPT work, and promises of nuclear disarmament have fostered high expectations. At international conferences the atmosphere is important but can also

¹¹⁵ Squassoni Sharon, *Grading Progress on 13 Steps Toward Disarmament*. Carnegie Endowment for International Peace. Policy Outlook. 2009. Washington.

¹¹⁶ Perkovich George, Acton James, *Abolishing Nuclear Weapons. A Debate*. Carnegie Endowment for International Peace. 2009. Washington DC. p. 207.

¹¹⁷ Choubey Deepti, *Restoring the NPT. Essential Steps for 2010*. Carnegie Endowment for International Peace. 2009. Washington DC, p. 9.

¹¹⁸ Op.cit. p. 8.

¹¹⁹ Op.cit. p. 8.

¹²⁰ Op.cit. p. 8.

change quickly. A Brazilian official noted that “the speeches made by leaders of nuclear weapon states are an important element because they create a positive psychological signal. This is important, we got an agenda in no time, whereas it took three weeks in 2005.”¹²¹

Faith in the security benefits of the NPT has deteriorated. The nuclear weapons states insure themselves against future threats by modernizing their nuclear arsenals. Many of the non-nuclear states have expressed an interest in civilian nuclear power. The critical question for the 2010 conference is whether these two elements can work together, or in the words of a French diplomat: “There is a problem with the message of ‘nuclear bargains’ where nuclear weapon states disarm and non-nuclear weapon states commit to non-proliferation. This misses the point that both kinds of activities are good for everyone.”¹²²

There are a number of delicate issues on the agenda. It is not enough to only discuss the thirteen steps and the lack of progress in relation to these, although Choubey concludes that there was consensus among the non-nuclear states that it was important to review past commitments.¹²³ The situation in Iran, the withdrawal of North Korea and the fuel cycle issues are all important. Egypt has been an active proponent of the Nuclear-Weapon-Free Zone in the Middle East. Consequently progress here is most important and most difficult.

What then are the conditions for avoiding failure? There are a number of diverse groupings working at the conference, many of them with internal divisions (see 2.2 Frustrated Alliances). Group leadership is a necessary precondition to overcome ideological divides. According to Choubey¹²⁴ no group has emerged clearly to play this role. While there are still opportunities, this is not a good starting point. Egypt, the current chair of the Non-Aligned Movement and the New Agenda Coalition, is under special pressure to demonstrate this kind of leadership.

Finally there is the threat of “spoilers” wrecking the conference. According to Choubey, many diplomats “expressed weariness with fractious positions emanating from states like Iran and Egypt”. A New

¹²¹ Op.cit. p. 15.

¹²² Op.cit. p. 12.

¹²³ Op.cit. p. 16.

¹²⁴ Op.cit. p. 30.

Zealand diplomat provided some advice on this: “You have to give them as few hooks as possible to latch onto. Nuclear weapon states need to show progress on disarmament, and the rest need to turn the other cheek and not respond to every utterance or working paper.” Name calling was seen as a failure by some German officials, who argued: “Avoid getting them so frustrated that they see there is only one role for them as spoilers. Give them good reason not to be spoilers.”¹²⁵

2.5 Realistic Outcomes or Groundless Hopes

In preparing for the 2010 Review Conference, the 2009 Preparatory Committee had a positive outcome. There was agreement on the agenda. A fact that reflected the positive expectations created by the Obama administration. The five nuclear states still disagreed, but they had a joint press release. The Non-Aligned Movement was also unable to reach consensus, but the conflicts were less heated than at previous preparatory committees. The 2009 Preparatory Committee was seen as a procedural success while a substantive failure.

The chairman presented three different drafts on substantive issues, none of which was adopted. Reading between the lines there are some interesting conclusions. The Middle East Nuclear-Weapon-Free Zone survived all drafts as did the proposal to set up a body to look at practical steps on how to proceed on this matter. The ratification of the CTBT was another consensus issue, as was the need to negotiate a verifiable Fissile Material Cut-Off Treaty FMCT. Nuclear abolition was on the agenda, although there was no consensus on the Nuclear Weapons Convention.¹²⁶ The full scope of the safeguard system should be universalized. The role of civil society and the NGOs should be enhanced. The 13 steps should be updated.¹²⁷

¹²⁵ Op.cit. p. 22.

¹²⁶ Model Nuclear Weapons Convention, Convention on the Prohibition of the Development, Testing, Production, Stockpiling, Transfer, Use and Threat of Use of Nuclear Weapons and Their Elimination. A/62/650, Updated from the Model Nuclear Weapons Convention circulated in November 1997 as United Nations document A/C.1/52/7.

¹²⁷ Johnson Rebecca, Towards 2010: Report of the 2009 NPT Prep. Com. Disarmament Diplomacy 91. Summer 2009, pp. 3-15.

Various proposals have been presented for the 2010 Review Agenda ranging from one by the Japanese Foreign Minister¹²⁸ to one by the Middle Powers Initiative, a group working for a nuclear free world.¹²⁹ I shall here take a closer look at two of these. One of them is a minimalist approach, the other maximalist list. This spectrum defines the negotiating space at the 2010 Review Conference regarding substantial progress.

The minimalist approach comes from the officials Choubey interviewed for the expectations.¹³⁰ According to her the following should be reflected in the final outcome:

Table 3 Outcomes according to Choubey.¹³¹

<ul style="list-style-type: none">• Reaffirm the vitality of the NPT• Reiterate the unequivocal undertaking• Acknowledge the right to peaceful uses of nuclear energy• Enhance transparency and factual accuracy• Contribute to the further progress of the nuclear-free zones• Encourage universalizing the additional protocol• Establish consequences for NPT violators• Address states that are not party to the NPT

While these outcomes may seem a repetition of what the NPT has tried to do in its 40 years of existence, the need to restate these shows the critical condition of the treaty.

The most extensive report on how to proceed has been presented by the International Commission on Nuclear Non-proliferation and Disarmament in November 2009.¹³² The report, called “a

¹²⁸ Squassoni, *op.cit.* p. 7.

¹²⁹ See: *A Global Undertaking: Realizing the Disarmament Promise of the NPT*. Middle Powers Initiative. Briefing Paper. January 21–22, 2010 and *Making Good on the Promises: From the Security Council Summit to the 2010 NPT Review*. Middle Power Briefing Papers. October 2009.

¹³⁰ Choubey, *op.cit.* p. 27.

¹³¹ Choubey, *op.cit.* p. 27.

¹³² Evans Gareth, Kawaguchi Yoriko, *Eliminating Nuclear Threats. A Practical Agenda for Global Policymakers*, *op.cit.*

practical agenda for global policymakers”, compiles a number of recommendations on all the three pillars of the NPT. It is a maximum list of actions on the short (to 2012), medium (to 2025) and long term (beyond 2025). The report is outstanding as it was unanimously agreed by high-level commissioners, among them the former U.S. Secretary of Defence William Perry.

Nuclear disarmament is addressed in two steps: the minimizing phase and the elimination phase. First, very low numbers should be reached no later than 2025, amounting to less than 10% of the current arsenal. This would limit the total to about 2,000 warheads, 500 to the U.S. and Russia each and the rest divided to the nuclear weapons states. Their sole use would be to deter others. There would be a universal commitment to “no first use”. The weapons would not be used against any of the non-nuclear weapon states who comply with the NPT safeguards. Furthermore, the test ban treaty, CTBT, should be ratified and a Fissile Material Cut-Off Treaty (FMCT) should be negotiated and in force. Progressive resolutions should be achieved on security issues affecting nuclear disarmament such as missile defence systems, space-based weapon systems, biological weapons and conventional arms imbalances.

The safeguards system and its verification need strengthening on non-proliferation. The additional protocol should be universalized. NPT-compliance should be enforced and the IAEA strengthened as an institution. The United Nations Security Council should deal with questions related to a state’s withdrawal from the NPT. The obligations of the regime should be extended to the nuclear weapons states outside the NPT. Nuclear terrorism is to be counteracted by improving safety and security of fissile and radioactive materials. New technologies for the plutonium cycle should make operations proliferation safe and fuel take-back arrangements should reduce the risk of access to nuclear material.

Within this larger context of eliminating nuclear threats the report gives also priorities for the short terms and for the 2010 NPT Review Conference. A new 20 point statement should replace the thirteen practical steps from 2000. The strengthening of the IAEA, its safeguards, verification, compliance and enforcement should not wait. Forward movement is required on the Middle East Nuclear-Weapon-Free Zone. Further support to the peaceful uses of nuclear

technology is recommended, at the same time strengthening the nuclear security measures to counter nuclear terrorism.

Beyond 2025, getting to zero, the longer-term action agenda deals with the political climate: the creation of stable and co-operative conditions to eliminate the deterrence utility of nuclear weapons and the implementation of verification conditions to ensure that any violation of the prohibition of nuclear weapons would be easily detected. The security environment should ensure that missile defences or conventional arms systems are not destabilizing. Nuclear scientists' know-how should not be misapplied. Fuel cycle management conditions should ensure complete confidence that no state will misuse uranium enrichment or plutonium reprocessing for military purposes.

2.6 Sustaining the Political Momentum

The nuclear-free world has gained political momentum. This is also reflected in the expectations for the 2010 Preview Conference. Although the atmosphere right now (February 2010) is positive, anything may happen before and at the conference itself.

2.6.1 Alternative Outcomes

There are three possible outcomes. The first is a minimalistic outcome, barely a guarantee for the treaty's survival, a de facto collapse. This is an outcome feared by the new U.S. Administration. A collapse is potentially of interest to many of its adversaries. The nuclear states outside the NPT may also see this as a better outcome than the strengthening of the treaty and their more or less forced integration into the regime. An outcome like this would no doubt lead many non-nuclear weapon states to consider not only plans for nuclear power, but also seriously to reflect on whether they need nuclear weapons as an insurance policy for the future.

The second is a more general affirmation of the basic principles the NPT. These would endorse the status quo and not undermine any of the elements of the NPT – but not bring many of them further either. Transparency is to be enhanced, violations should have consequences, and the peaceful use of nuclear energy is a right. The

NPT is an open window of opportunity, not to be closed given the challenges of nuclear terrorism or proliferation of nuclear weapons. Minor steps forward might be achieved to enhance compliance (and to define what it is!) with the safeguards system and even on practical steps to further the resolution on a nuclear-weapon-free zone in the Middle East. This outcome means that no one would lose face. On the other hand it would not bring the goal of global zero much closer. Nor would the non-proliferation regime be strengthened without major changes in the mandate of the IAEA.

The third option is to raise the political profile of the NPT through concrete steps forward. The first precondition is concrete initiatives on disarmament. The U.S.-Russia accord to reduce the number of warheads is a start but not enough. Progress should be made on the ratification of the CTBT and on the negotiations on the FMCT. Here the U.S. is the key actor. Given progress on disarmament, the non-proliferation agenda could proceed.

Steps should be taken to include all NPT states in the additional protocol and to deal with the nuclear and non-nuclear states according to the same rules. A further step would be a procedure under which the nuclear states outside the NPT would become parties to the treaty. The UN Security Council's role in non-proliferation should be strengthened. Its mandate in relation to both non-compliance and effective sanctions should be clarified. Finally, the steps along the way to a nuclear-weapon-free zone in the Middle East should be defined.

2.6.2 The Main Actors

The out-come of the 2010 Review Conference seems to depend on two actors. One is the U.S. and its role in promoting a positive atmosphere in the negotiations. Already at the 2009 Preparatory Committee meeting, the change of mood from the Bush to the Obama administration was visible. The second actor is Egypt. Egypt has tied a lot of its international prestige to the outcome of the review conference. It has a chance to provide group leadership as the chair of both the Non-Aligned Movement and the New Agenda Coalition.

Egypt wants to move the resolution on the Nuclear-Weapon-Free Zone for the Middle East forward. This resolution was part of the agreement in 1995 when the decision to make NPT permanent

was made. It was included in the 2000 review conference's final document and, although the U.S. in the 2005 tried to back from previous commitments, Egypt successfully resisted the adoption of a document to weaken earlier commitments in this particular case. It is definitely in Egypt's interest to achieve progressive steps on the Middle East Resolution and at the same time to strengthen rather than weaken the NPT regime. On the other hand, Egypt's view's that Israel should disarm and join the NPT as a non-nuclear weapon state before any peace settlement is hardly a constructive starting point for further progress.

In my own interviews within the Obama administration in December 2009, it was obvious that the U.S. and Egypt were engaged in a frustrated dialogue. There were frequent contacts. Egypt was pressing the U.S. for progress in disarmament in the Middle East and particularly for the nuclear-weapon-free zone. The U.S., on the other hand wanted, to see a major commitment to the NPT, not only damage control. In the words of a U.S. official: "Now we have the right policy. Now everybody expects us to do everything and to do it alone. This gives adversaries a good chance, in the best case not to do anything and in the worst case to sabotage U.S. intentions."¹³³

The dialogue between the U.S. and Egypt in the months ahead is the key element. This does not mean that other actors are without influence. The U.S. should not be left alone. Support from the NAM countries is especially needed, particularly from Indonesia, the chair of the NAM Disarmament Committee. Group leadership can only succeed in a positive atmosphere. It is the responsibility of all that "spoilers" are left a minimum of space.

2.6.3 Internal Divisions

The negotiating power of the non-nuclear nations is reduced by their internal divisions and divergent views on priorities. Disarmament and the nuclear-weapon-free world is an agreed priority. It is also a priority not to make any infringements on the "inalienable" right to peaceful uses of nuclear technology. Furthermore, there is consensus on that disarmament initiatives and actions are needed before any further progress on non-proliferation is possible.

¹³³ Interviews at the U.S. State Department. December 2009.

The developing countries in the Non-Aligned Movement and the New Agenda coalition disagree on whether a time limit should be set for disarmament. Differences of opinion exist also on whether the nuclear states outside the NPT should sign the NPT and place their nuclear facilities under the safeguards of the IAEA. There are also different views on Iran, which the developing countries tend to support. While working for disarmament, a number of the NAM-countries have not signed and ratified the CTBT, one of the priorities on the disarmament agenda.

Egypt's leadership of the non-nuclear group, as both the chairman of the Non-Aligned Movement and the New Agenda Coalition is controversial as Egypt has forwarded its own agenda on the Middle East resolution. Due to pressures on Egypt's international prestige and its own need to show results, the situation at the 2010 NPT Review Conference may be different. As Iran is taking over the NAM chair in 2012, progress on disarmament and non-proliferation should be achieved at the 2010 conference. Iran has even more than Egypt furthered its own agenda and by 2012 Iran may already be a nuclear state or at least be on the threshold of accessing nuclear weapons.

2.6.4 Technology Denial as a Tool

In the NPT-regime there are many divisions and double standards. These weaken the regime. Nuclear weapons in Israel are dealt with in a different way than in Iran. India gets an exception from the Nuclear Suppliers Group's export list but not Pakistan. Discriminatory practices are present in the IAEA, where political considerations are involved when judging compliance and non-compliance.

All the nuclear-armed states, both acknowledged and those outside the NPT, are in favour of non-proliferation. Others should not have what we have. It is, no doubt, easier to reach consensus among these states on the non-proliferation issue than on the elimination of nuclear weapons. On the other hand, all these states have helped other states to build nuclear weapon capabilities, directly or indirectly. Some are even doing so today.

In relation to non-proliferation of nuclear weapons technology denial is a doubled edged sword. On the one hand the NPT Treaty guarantees all non-nuclear nations the unrestricted use of nuclear technology for peaceful purposes. On the other hand restricting

the spread of nuclear weapons requires the control of sensitive technologies such as the reprocessing of nuclear waste and the enrichment of uranium. The control of the fuel cycle is at the core of this problem (see Annex II for a discussion on the proposals of an internationally controlled fuel bank).

Among others the U.S. sees technology denial as the most important tool for controlling proliferation. Loopholes on the civil use of nuclear energy should be tightened and fissile material should be better guarded worldwide. At the same time, the U.S. has signed an agreement with India on nuclear technology, a country not part of the international agreement on non-proliferation.

In order to strengthen the non-proliferation regime the question of double standards must be solved. There are not “good” or “bad” proliferators, only proliferators. The same rules must apply to all and the regime for dealing with the elimination of nuclear weapons must be universal and non-discriminatory.

2.6.5 Critical Questions

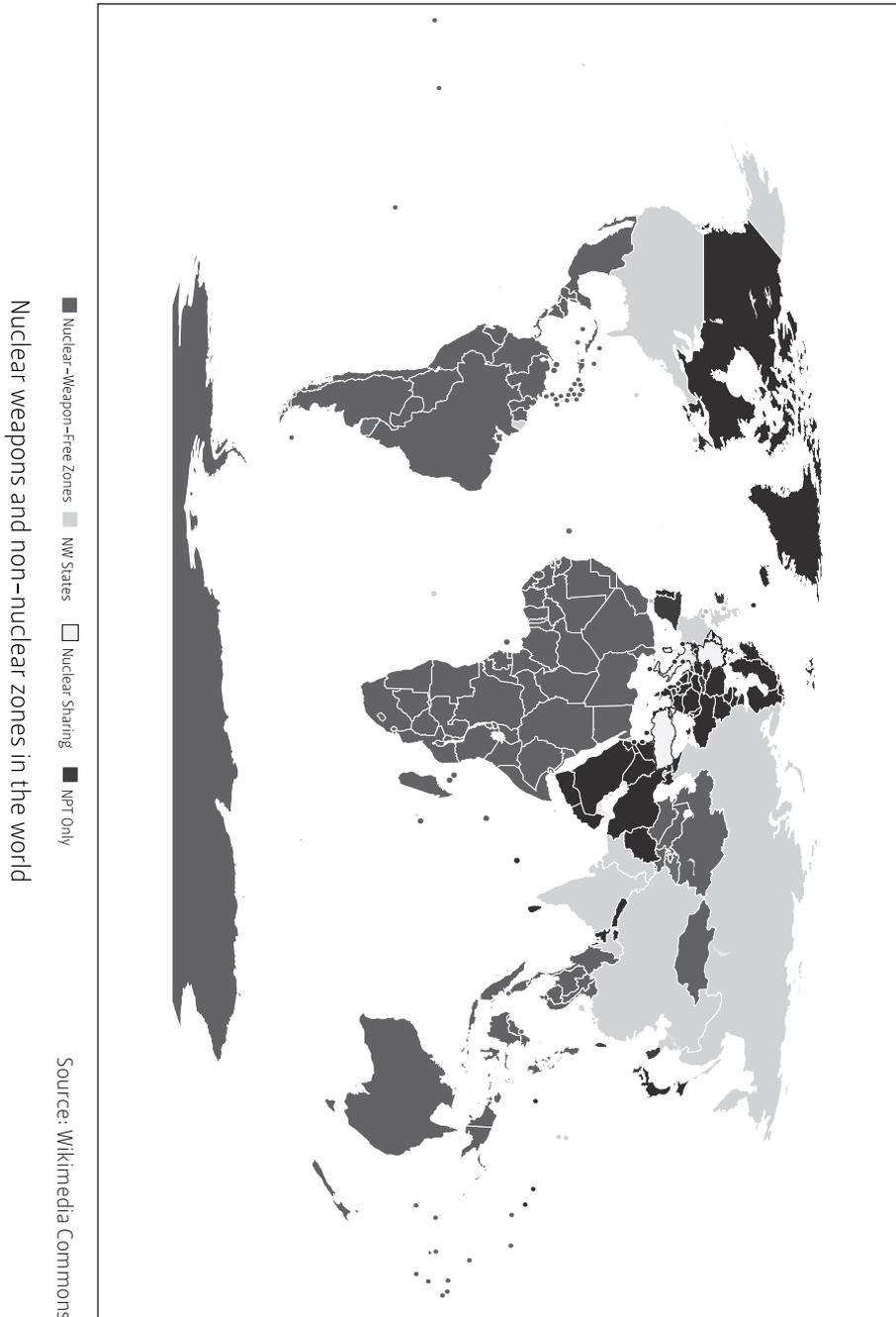
The NPT regime is not up to its task as it is today. The Iranian case, and the hurdles on whether Iran was complying with the safeguard requirements or not, demonstrates this very clearly. It is, of course, desirable to universalize the safeguards system with its additional protocol to include all states, so that all states – both nuclear and non-nuclear – would follow the same rules without discrimination and without double standards. But is this a realistic prospective without fundamental changes in the regime?

There are two questions on the future of the NPT which will not be asked or discussed at the NPT Review Conference. The first is the one raised in the initial quote from ElBaradei, i.e., the relationship between state sovereignty and policies necessary to prevent proliferation. In his view it is possible to toughen the non-proliferation regime without threatening state sovereignty. The Iranian fuel cycle dispute is an example of the opposite.

The second question is the link between peaceful uses of nuclear technology and proliferation. There is already an increased interest in nuclear power, not only due to climate change but also due to the worsening security situation in the Middle East. Unless the review conference shows clear progress on both disarmament and non-

proliferation, many states will try to become threshold states, i.e. to be able on short notice to design and build a nuclear bomb.

The line between the military and civilian uses of nuclear technology is extremely fine. The question is whether it will be possible – or desirable – within the same organization, the IAEA, to both promote the peaceful uses of nuclear energy and prevent its diversion to military uses. If these two functions were in separate organizations the dynamics between the two might guarantee a more effective non-proliferation regime in the future.



Annex I

A World of Nuclear-Weapon-Free Zones

“Nuclear-weapon-free zones provide tangible security benefits. They help reassure the larger international community of the peaceful nuclear intentions of countries in these regions. They provide their members with security assurances against the use, or threat of use, of nuclear weapons by a nuclear-weapon state. They include control mechanisms for dealing with non-compliance in a regional setting. And in all cases, they prohibit the development, stationing or testing of nuclear weapons in their respective regions.” Director General ElBaradei¹³⁴

UN Guidelines

In 1999 the UN Disarmament Commission approved guidelines¹³⁵ for the establishment of nuclear-weapon-free zones. These zones are seen to enhance global and regional security and to strengthen the non-proliferation regime of the NPT. These principles confirm that the initiative must come from the states concerned and that they are free to form these zones. Nuclear weapon states should be consulted to establish the legally binding status of the region. The nuclear states should commit themselves not to use or to threaten to use nuclear weapons against any of the states party of the treaty. It is especially underlined that the treaty does not prevent the use nuclear of technology in science and research, in energy production or any other peaceful use.

Nuclear-Weapon-Free Zones are recognized as important tools of international nuclear non-proliferation and disarmament. Elimination

¹³⁴ IAEA Director ElBaradei, 26. April, Conference of States Parties and Signatories of Treaties that Establish Nuclear-Weapon-Free Zones, Tlatelolco, Mexico.

¹³⁵ Report of Disarmament Commission. Annex I, Establishment of Nuclear-Weapon-Free Zones on the basis of arrangement freely arrived at among the States of the Regions concerned. United Nations. New York, 1999.

of nuclear weapons could – at least in theory – proceed region by region as nuclear-weapon-free zones. The latest newcomers include the Treaty of a Nuclear-Weapon-Free Zone in Central Asia signed at Semipalatinsk and the Treaty of Pelindaba, which established an African Nuclear-Weapon-Free Zone. Today, 116 countries are covered by these treaties.

This approach to abolition of nuclear weapons has some obvious advantages. It improves regional security and brings to the negotiation table regional adversaries with potential nuclear ambitions. It is a voluntary agreement for states close to each other. An agreement of this kind reduces hostilities and creates conditions for regional economic development. It has great preventive impact as countries do not have to second guess each others' intentions. On the other hand, if a region includes a nuclear weapon state, negotiations may be lengthy and difficult – if successful at all. Nor do these zones as such reduce the risk of a regional arms race. This may take place in relation to conventional arms instead.

The Latin American Success Story

The Latin American and Caribbean Nuclear-Weapon-Free Zone is an example to follow. Including all countries of the region this zone has been able to exhibit all the advantages of absence of military rivalry. The two rival countries, Brazil and Argentina, have established not only a free-trade zone but also a common market. Running parallel to the dismantling of nuclear and missile programmes the two states started to build MERCOSUR, a regional trade agreement.¹³⁶

It is of course true that the aspirations of these two countries to become nuclear weapon states were more symbolic than strategic in nature. More than seeking to threaten one other, each state sought to enhance its position on the world scene. If their nuclear programmes were successful, this could even gain legitimacy for their unpopular military regimes. When the civilian rule returned in both countries by the late 1980s, one of the priorities for their civilian leaders was

¹³⁶ See Azambuja Marcos. A Brazilian Perspective on Nuclear Disarmament. Publ. in. Blechman Barry (ed.). Unblocking the Road to Zero. Perspectives on Advanced Nuclear Nations. Brazil/ Japan/Turkey. Stimson Nuclear Security Series. Volume IV. September 2009. Washington.

to get rid of their “parallel nuclear programmes” Each wished also to differentiate their military and civilian activities in accordance with the IAEA’s safeguards.¹³⁷

Initiated by the Cuban missile crisis in October 1962, the first UN resolution to de-nuclearize Latin America was introduced by Brazil. This resolution was the starting point of a process that in 1972 led to the Treaty of Tlatelolco, in Mexico City. While nuclear weapons had previously been banned in the Antarctic, this was the first nuclear-weapon-free zone covering a populated area.

The treaty was ratified by 1977. Argentina became a full member first in 1994, which meant that it had no protection under the Falklands War. In 1994 also Brazil accepted fully the obligations of the treaty. Cuba had for a long time reservations about the hostility of U.S. and the placement of nuclear weapons at the Guantanamo Bay military base. Cuba ratified the treaty in 2002. Under the treaty, the states agree to prohibit and prevent the testing, use, manufacture, production or acquisition by any means whatsoever of any nuclear weapons and the receipt, storage, installation, deployment and any form of possession of any nuclear weapons.¹³⁸

There are two additional protocols to the treaty: The first one binds those overseas countries with territories in the region to the terms of the treaty. The second requires the declared nuclear weapons states to refrain from undermining in any way the nuclear-free status of the region. The treaty also provides for a comprehensive control and verification mechanism, overseen by the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean based in Mexico City.

The Latin American and Caribbean Nuclear-Weapon-Free Zone has been successful. Although a long time in the making, all 33 states have not only signed the NPT but also created an atmosphere of trust and peace. Countries like Brazil are unlikely to go back on their commitment to non-proliferation, although Brazil has not ratified the additional protocol.

¹³⁷ Op.cit. p. 7.

¹³⁸ Treaty of Tlatelolco, http://www.opanal.org/opanal/Tlatelolco/p_Tlatelolco-c.htm.

A Nuclear-Weapon-Free Middle East?

Efforts to establish a nuclear-weapon-free zone in the Middle East have not been equally successful. In spite of almost four decades of activity, the security environment is worse than ever. The process is illustrative of the problems encountered when one of the states possesses nuclear weapons.

The development of the Israeli Dimona plant, the initiation of Israel's nuclear weapons development, caused seven members of the Israeli Atomic Energy Commission to resign in 1961. Two of these set up a committee for the de-nuclearization of the Middle East, calling also for a nuclear-weapon-free zone to be established. The proposal was rejected by the Israeli government and a policy of nuclear opacity evolved.¹³⁹

In 1974 Iran, cosponsored by Egypt, presented a resolution to the United Nations General Assembly on a nuclear-weapon-free zone in the Middle East. The resolution called for the states to refrain, on a reciprocal basis, from producing, testing, obtaining and acquiring or in any other way possessing nuclear weapons. It called upon states done so to adhere to the NPT-treaty and to place their nuclear weapons under the safeguards of the IAEA. Israel abstained and declared that the first step should be a regional conference of states to discuss the matter. A resolution to establish a nuclear-weapon-free zone in the Middle East is a yearly feature in the UN General Assembly.¹⁴⁰

The lack of progress has been due to the different approaches taken by Egypt and Israel. Egypt has insisted on the abolition of nuclear weapons early on the agenda. Israel has maintained that this should come only after an agreement on solid arms control and the establishment of a lasting and reliable peace. Egypt has not proposed discussions by states or defined state obligations. Israel has focused on a negotiation mechanism and meetings of heads of states. There is also a difference of opinion on verification. Israel wants a region-specific system with national inspectors, if not replacing, at least complementing, international inspections. The Arab states have

¹³⁹ Bhatnagar Aryaman, *Middle East Nuclear-Weapon-Free Zone: Problems and Prospects*. Indian Pugwash Society. 9.3.2009, p. 2.

¹⁴⁰ See for example United Nations General Assembly Resolution 45/52, December 1990.

indicated that the IAEA is the appropriate body. Finally, the question of what to do in cases of non-compliance is totally open.¹⁴¹

In 1981 Israel bombed the Iraqi nuclear facilities at Osirak. Although Iraq had signed the NPT and placed its facilities under the IAEA safeguards, Israel claimed that these were ineffective and that Iraq was capable of producing plutonium. Under such conditions the only option for Israel, it claimed, was to safeguard its interests. This resulted in the “Begin doctrine”, Israel’s official policy to block any attempt by adversaries to acquire nuclear weapons.¹⁴²

Despite UN condemnation of the Israeli actions, Saddam Hussein called upon all peace-loving nations to assist the Arabs in one way or other to obtain the bomb in order to confront Israel’s nuclear weapons.¹⁴³ The 1991 Gulf War resulted in intrusive inspections and the UN Special Commission on Iraq exposed and destroyed vast amounts of nuclear materials and equipment. The UN Security Council Resolution 687 was adopted calling for the Middle East to be both a nuclear weapons free zone and a zone free of weapons of mass destruction.

At the 1995 NPT Review Conference extension of the NPT was on the agenda. Egypt with the support of the Arab states opposed the indefinite extension proposed by the U.S., the UK and Russia. To gain Arab support for the extension, a compromise was made to sponsor a resolution on the Middle East. The resolution called for a nuclear-weapon-free zone and for all the states to adhere to the NPT. It was passed as part of the extension and thus linked to it. When the nuclear-weapon states tried to distance themselves at next conference in 2000, Egypt won a reaffirmation of the resolution in the final document.¹⁴⁴

The nuclear option in Israel’s security policy is meant as a deterrent. The existence of nuclear weapons has not deterred a conventional arms race in the region nor the development of other weapons of mass destruction. It has also promoted nuclear rivalry, as Iraq had

¹⁴¹ Bhatnagar op.cit. See also Baumgart Claudia, Müller Harald, A Nuclear Weapons-Free Zone in the Middle East: A Pie in the Sky. *Washington Quarterly*. 28:1 pp. 45-58.

¹⁴² Bhatnagar, op.cit. p. 4.

¹⁴³ Op.cit. p. 4.

¹⁴⁴ Misher Kimberly, Egyptian Nuclear Leadership – Time to Realign. *Carnegie Endowment for International Peace. Policy Outlook* 51. November 2009, Washington D.C.

programmes for nuclear weapons and Iran may be on the threshold of becoming a nuclear weapon state. Egypt did sign the NPT in 1982 and thereby closed the nuclear option. Since late 2006, an expansion of interest in nuclear power has been seen in the region. Among others, Egypt, Saudi Arabia and Turkey are contemplating this option and could, in the future, also become nuclear threshold states.

At the 2010 Review Conference, progress on the Middle East resolution is an inevitable part of strengthening the NPT regime. Egypt will utilize its leadership to promote steps towards a nuclear-weapon-free zone. The alliances among the non-nuclear nations are for it. Discussions are going on between the U.S. and Egypt. A compromise with respect to Egypt's more fundamental views should be possible. Egypt may also compromise on its requirements on the process and as a start accept a conference on the topic and a coordinator. A positive outcome would provide a powerful context for Egypt to press for negative security assurances for the region against the use, or threat of use, of nuclear weapons.¹⁴⁵

¹⁴⁵ Op.cit. p. 5.

Annex II

Control of the Fuel Cycle – the Achilles Heel

“We need better control over proliferation of sensitive parts of the nuclear fuel cycle: activities that involve uranium enrichment and plutonium separation. As experience has shown, effective control of nuclear materials is the ‘choke point’ to preventing nuclear weapon development. Without question, improving control over facilities capable of producing weapon-usable material will go a long way towards establishing a better margin of security.

We should be clear: there is no incompatibility between tightening controls over the nuclear fuel cycle and expanding the use of peaceful nuclear technology. In fact, by reducing the risks of proliferation, we could pave the way for more widespread use of peaceful nuclear applications.” Director General ElBaradei¹⁴⁶

The Right to the Fuel Cycle

At the heart of the conflict between peaceful uses of nuclear technology and the proliferation of nuclear weapons is the fuel cycle, namely the processes of uranium enrichment and the reprocessing of spent fuel. High-enriched uranium and separated plutonium may both be used to produce a bomb. Consequently, countries with these facilities, even non-nuclear weapon states such as Japan, work on the brink of accessing nuclear weapons.

Iran’s uranium enrichment facilities and plans to produce enriched uranium have focused international attention on the control of the fuel cycle and possible solutions to the risks involved. The basic question is: is the control of the fuel cycle, i.e., the right to enrich uranium and reprocess spent fuel, included in the “inalienable” right to peaceful uses of nuclear technology.

Iran claims it has the right. Most of the non-nuclear weapon states, directly or indirectly, support Iran’s claim. They tend to see proposals

¹⁴⁶IAEA Director General ElBaradei’s Address to the NPT Review Conference. May, 2005.

for tightening controls over the fuel cycle as an effort by the nuclear weapons states to infringe their rights. For example, President Bush stated in his address to the National Defence University that “enrichment and reprocessing are not necessary for nations seeking to harness nuclear energy for peaceful purposes”. He also proposed that the 44 country Nuclear Suppliers’ Group refuse to sell enrichment and reprocessing equipment and technologies to “any state that does not already possess full-scale, functioning enrichment and reprocessing plants”.¹⁴⁷

Multilateral Approaches

The fuel cycle problem is not new and Iran is not the initiator. A fuel cycle under international control was proposed in the Baruch plan as early as in 1946. Well ahead of its time it reflected the concerns of the atomic bomb. Regional fuel cycle centres were studied in the 1970s. There has been an international committee on plutonium storage (1977–1982) and an international fuel cycle evaluation programme (1977–1980). Multinational approaches to nuclear fuel cycle facilities have been studied since the mid-1970s.¹⁴⁸

In 2005 an International Expert Group reported to the IAEA Director General on Multilateral Approaches to the Nuclear Fuel Cycle. The group studied five different options (Table 4) ranging from the reinforcement of existing commercial market mechanisms to a nuclear fuel cycle with strong multilateral arrangements.

¹⁴⁷ The Nuclear Fuel Cycle: Is it Time for a Multilateral Approach. Arms Control Association. <http://www.armscontrol.org/print>, p. 3.

¹⁴⁸ Rauf Tariq, Perspectives on Multilateral Approaches to the Nuclear Fuel Cycle. International Atomic Energy Agency. 30 April, 2004 (a presentation).

Table 4 The five multilateral nuclear approaches (MNA)¹⁴⁹

1	Reinforcing existing commercial market mechanisms on a case-by-case basis through long-term contracts and transparent suppliers' arrangements with government backing. Examples would be: fuel leasing and fuel take-back offers, commercial offers to store and dispose of spent fuel, as well as commercial fuel banks.
2	Developing and implementing international supply guarantees with IAEA participation. Different models should be investigated, notably with the IAEA as guarantor of service supplies, e.g., as administrator of a fuel bank.
3	Promoting voluntary conversion of existing facilities to multilateral nuclear approaches (MNA), and pursuing them as confidence-building measures, with the participation of NPT non-nuclear-weapon states and nuclear-weapon states, and non-NPT states.
4	Creating, through voluntary agreements and contracts, multinational, and in particular regional, MNAs for new facilities based on joint ownership, drawing rights or co-management for front-end and back-end nuclear facilities, such as uranium enrichment; fuel reprocessing; disposal and storage of spent fuel (and combinations thereof). Integrated nuclear power parks would also serve this objective.
5	The scenario of a further expansion of nuclear energy around the world might call for the development of a nuclear fuel cycle with stronger multilateral arrangements – by region or by continent – and for broader co-operation, involving the IAEA and the international community.

The Expert Group analysed the pros and cons of the options in relation to proliferation risks such as diversion or theft of fissile material, the diffusion of technologies, and the risk of clandestine programmes. While they do not promote any of the solutions, the expert group concludes on three important points. Firstly, on the question of binding norms according to which sensitive activities are to be conducted only under multilateral approaches and not in the national context. The answer is clear. Under the current formulation of article IV of the NPT only voluntary participation is possible.

¹⁴⁹ Multilateral Approaches to the Nuclear Fuel Cycle: Expert Group Report submitted to the Director General of the International Atomic Energy Agency. IAEA. INFCIRC/640. 22 February, 2005, p. 15.

“The wording and the negotiation history of this article emphasize the right of each party in good standing to choose its national fuel cycle on the basis of its sovereign consideration. This right is not independent of the faithful abiding by the undertakings under Article I and II. But if this condition is met, no legal barrier stands in the way of each state party to pursue all fuel cycle activities on a national basis. Waiving this right would thus change the ‘bargain’ of the NPT.”¹⁵⁰

Secondly, past initiatives of multilateral nuclear co-operation have not resulted in any tangible results. Proliferation concerns have not been serious enough, economic incentives not strong enough and concerns about assurances of supply have been paramount. Furthermore, national pride plays a role, as do expectations of technological spin-offs. The multiplication of nuclear energy facilities in the coming decades may, however, change the picture.¹⁵¹

Thirdly, the benefits of multilateral approaches as confidence-building measures are underlined. Joint facilities provide greater scrutiny of partners and reduce the number of sites for sensitive operations. This may also create greater acceptance of nuclear energy. For smaller countries and whole regions, economies of scale are important.¹⁵²

The Management Problem

The IAEA organized a special event in 2006 to discuss the report. At this meeting the Director General stated: “It is time to limit the processing of weapons-usable material (separated plutonium and high-enriched uranium) in civilian nuclear programmes, as well as the production of new material through reprocessing and enrichment, by agreeing to restrict these operations exclusively under multilateral control.”¹⁵³ Suddenly, before the discussions there was a strong voice for “exclusively under multilateral control.”

¹⁵⁰ Op.cit. p. 12.

¹⁵¹ Op.cit. p. 13.

¹⁵² Op.cit. p. 14.

¹⁵³ IAEA Director General ElBaradei at the Special Event: Assurances of Nuclear Supply and Non-Proliferation. 19–21 September 2006. Quotes in Staff Report. 14 June 2006, p. 1. See also: Report of the Chairman of the Special Event, Mr. Charles Curtis. New Framework for the Utilization on Nuclear Energy in the 21st Century: Assurances of Supply and Non-Proliferation. Vienna. 19–21 September, 2006.

At the 2007 meeting of the IAEA Board of Governors twelve proposals for international fuel cycle centres were presented. Proposals have not only been made by states such as Japan, Austria, the UK, Germany and Russia but also by enrichment companies, the IAEA and the U.S. Department of Energy. Common to all these proposals was that the supply of fuel would be guaranteed on a non-discriminatory basis under international control. Management approaches were different:

- 1 collective guarantees by enrichment suppliers supported by governmental and IAEA commitments
- 2 IAEA
- 3 a consortium of nations under the Global Nuclear Energy Partnership
- 4 a group of interested states

An EU proposal does not directly address the issue of the fuel bank but provides the criteria for it. These include proliferation resistance, assurance of supply, consistency of equal rights and obligations and market neutrality – avoiding unnecessary interference in the functioning of the existing market.¹⁵⁴

The proposals are currently studied and no decision has been made, although the talk is about IAEA control. Money has been pledged by the Nuclear Threat Initiative in the U.S., the U.S. Congress, Norway, the United Arab Emirates and the EU. Speaking on this issue the EU Foreign Policy Chief Javier Solana commented: “We want the bank to be established very soon. In any case before the next NPT Review Conference in spring 2010. I am convinced that the creation of a fuel bank will have a positive impact on the general climate of the NPT Review Conference.”¹⁵⁵

¹⁵⁴ Rauf Tariq, Vovchok Zoryana, Fuel for Thought. IAEA Bulletin 49-2. March 2008, pp. 62-63.

¹⁵⁵ Fuel Bank Initiative Receives Crucial EU Support. IAEA. Staff Report. 10 December 2008.

Holding on to Rights

The non-nuclear nations see many of the non-proliferation initiatives as infringing their rights. Of these the control of the fuel cycle is the most critical. According to the NPT each country has the inalienable right to peaceful uses of nuclear energy. A fuel bank under international and multilateral control is only possible, within the current NPT, based on voluntary arrangements.

The critical question is whether countries interested in becoming threshold states will accept becoming a party to the international fuel bank. In the current atmosphere of suspicion and mutual mistrust, the right to control the fuel cycle is not only the key to becoming a potential nuclear weapons threshold state: it is also the key to mastering the technology.

Technological prestige is an important part of the NPT regime and will not easily be given up. Today, it is difficult to see that of sanctions or political pressure would have to be exercised to arrive at universal membership of the fuel bank. Discrimination is already built into the NPT. How could non-discrimination be guaranteed in access to both fuel and the related technology?

Outside the NPT regime there is one powerful group of actors with influence on the fuel cycle control issue. This is the nuclear industry. The Nuclear Suppliers Group is not a part of the NPT regime today, but it would be an important player in questions related to the fuel bank. It is also one of the possible partners in managing the bank. The group hardly has an interest in removing one important element of the nuclear industry from the market.

Annex III

Challenges for Finland

Finland is a non-nuclear weapon country and a country that has never had a nuclear weapons programme. Finland has ratified both the Safeguards Agreement and the Additional Protocol and has no intentions of accessing nuclear weapons. Ratification of the Additional Protocol has reduced the number of inspections and the related bureaucracy. The main link to the NPT-regime is in the peaceful uses of nuclear technology that is the production of nuclear energy. Finland purchases nuclear fuel on the open market, has no plans to enrich uranium and plans to dispose of spent fuel on its own territory.

Finland is not a member of the Non-Aligned Movement and is not an active partner in the Middle Powers Initiative or the New Agenda Coalition. In the context of the NPT its role has been more one of an observer. The current situation brings potentially some changes in the Finnish position. Firstly, Finland has an interest in the abolition of tactical nuclear weapons. Secondly, as a member of the European Union, Finland has an interest in the positions taken by the Union on nuclear-weapon-free zones and on President Obama's proposal of a nuclear-weapon-free world. Thirdly, as a nuclear power country, it has an interest in the fuel cycle and plans to establish fuel banks under international or multilateral control.

Tactical Nuclear Weapons

Tactical or non-strategic nuclear weapons, or rather their use, is defined as "the use of nuclear weapons by land, sea or air forces against opposing forces, supporting installations or facilities, in support of operations that contribute to the accomplishment of

a military mission of limited scope...”¹⁵⁶. Tactical weapons have a limited impact as opposed to strategic nuclear weapons, the task of which is to have a long-range destructive effect on the enemy and its military forces. In security strategies these weapons play a minor role, as is obvious from the discussion of nuclear weapons in security strategies in part one.

These weapons are not less dangerous than strategic arms. They pose a risk for nuclear terrorism and they lower the nuclear threshold for using them. They have not been included in the nuclear disarmament negotiations and are the least transparent category of nuclear weapons. The NPT Review Conference in 2000 called, as one of the thirteen steps, for unilateral reductions, making them “an integral part of the nuclear arms reduction and disarmament process”.¹⁵⁷ Although not part of formal disarmament talks, there were unilateral declarations by President George H.W. Bush and Presidents Gorbachev and Yeltsin in 1991/1992 to reduce these weapons under the so-called Presidential Nuclear Initiatives. Both countries have reduced their arsenals.

There are today some 5,000–6,700 tactical warheads in Russia, of which 2,000 are deployed. The U.S. has a total of 1,100 warheads of which 500 are deployed, 150–200 of these in Europe. These figures are from a study ordered by the Ministry of Foreign Affairs in Finland from the James Martin Centre for Non-Proliferation Studies¹⁵⁸ and discussed at a seminar in the Finnish Embassy in Washington on 11 December 2009. The following comments are based on presentations and discussions at this seminar.

These arms are “just-in-case” weapons. Their military importance is rather limited. In Europe the weapons are meant as a NATO defence against large Soviet tank formations. Today there is little military threat to NATO in conventional weapons. The militaries see them as a problem as they are not needed but have to be kept in safety and operational. For the Russians there is some military utility, as

¹⁵⁶ Woolf A., *op.cit.* pp. 4–5.

¹⁵⁷ Thirteen steps defined at the 2000 NPT Review Conference, see Table 2.

¹⁵⁸ See Pomper Miles, Potter William, Sokov Nikolai, *Reducing and Regulating Tactical (Nonstrategic) Nuclear Weapons in Europe*. The James Martin Center for Institute of International Studies. Washington, December 2009.

deterrence for conventional force attacks and for the Navy in case of a direct confrontation with the U.S. Navy.

Due to the disparity in numbers, discussions on disarmament are problematic. To include these weapons in START talks would paralyse discussions on strategic weapon reductions. Therefore the above report proposes a separate step-by-step procedure with special initiatives. A first step would be a transparency package. Information on the weapons and their location would open the way for reductions. Other alternatives would be (1) to design a larger package combining the tactical weapons with the renegotiation of conventional weapons or (2) a U.S. unilateral withdrawal of the weapons from Europe.

Political factors make the question more complicated than its pure military aspects. According to the study, the EU member countries see the stationing of tactical weapons in Europe as a channel for influencing U.S. nuclear policy in the NATO planning group. Some see them as strengthening the article five security guarantees. Turkey is worried about Iran. There is a disinterest in Russia for moving forward on this issue. In the end it becomes a question of who goes first. Russia wants the U.S. to withdraw before it will talk. The U.S. wants to negotiate a deal before withdrawal. Only the new German government has in its coalition agreement policy statement called for the withdrawal of remaining nuclear weapons from Germany. Five NATO members, Belgium, Luxembourg, the Netherlands, Norway and Germany have issued a joint declaration urging NATO discussion of U.S. nuclear weapons in Europe.

To follow up the Finnish interest, the NPT conference in May will provide an excellent opportunity to integrate the abolition of tactical weapons in the vision of a nuclear-weapon-free world. Already a part of the thirteen steps from 2000, it should be included in any of the new action plans and programmes to be discussed. Finland and Germany should co-operate in order to move the issue forward. Before the conference, preliminary talks should take place with both U.S. and Egyptian representatives on this matter.

A Nuclear-Weapon-Free Europe

The European Union supports the establishment of recognized nuclear-weapon-free zones. These are seen as a means to enhance global and regional peace and security and as a means to promote nuclear disarmament and non-proliferation. The EU has supported the concrete establishment of these zones, particularly in the Middle East.¹⁵⁹ In its strategy for weapons of mass destruction the EU recognizes the high value of binding security assurances given to these zones by the nuclear weapon states. These are seen to play an important role not only for the states in question, but in the NPT regime as a whole.

President Obama's vision of a nuclear-weapon-free world has not provoked much discussion of how his idea would be implemented in Europe. A number of present and former state leaders and foreign ministers have rhetorically supported the idea, but without concrete initiatives with respect to the nuclear weapons in the UK and France. The insurance policies of individual European nuclear weapons states have not resulted in a common security insurance policy for Europe.

There have been efforts to create a nuclear-weapon-free Europe before. In the 1950s there were several efforts to establish a zone in Central and Eastern Europe.¹⁶⁰ Poland offered the first scheme, named the Rapacki Plan after the Polish foreign minister in 1958. The plan was to keep nuclear weapons from Poland, East and West Germany and Czechoslovakia while hoping others would follow suit. Proposals came also from the Soviet Union, Sweden, Romania, Bulgaria and Finland. The Rapacki Plan was a model for nuclear-weapon-free zones, which have been established in other parts of the world. Maybe it is time to reintroduce it in Europe – at a time when 116 states are already part of such a zone.

The Middle East Nuclear-Weapon-Free Zone needs support. Some of the worst scenarios of proliferation and nuclear conflicts are real possibilities in this area, which affects the whole world. While, at

¹⁵⁹ EU Presidency Statement – Nuclear Weapons. 59th Session of the General Assembly – 1st Committee. October 28, 2004.

¹⁶⁰ See Nuclear-Weapon-Free Zones (NWFZ) at a Glance. Arms Control Association. Fact sheets.

the NPT conference, Egypt will press for a zone in the Middle East, the European Union should not only support this but actually couple this proposal to one for a nuclear-weapon-free zone in Europe. The links are obvious. Turkey's fear of a nuclear Iran is real. A proliferation of nuclear weapons in the Middle East would also affect Europe. The costs of establishing missile defences in Europe have not been calculated. It is expected that the U.S. will provide the shield.

Finland could, in the spirit of the Rapacki Plan, initiate a discussion on the abolition of nuclear weapons in Europe. The idea would make the EU not only an economic but also a nuclear peace project. A dangerous category of weapons would be abolished. Support would be rallied first among the non-nuclear states. The two problems are France's position on its nuclear arsenal and the U.S. tactical weapons in Europe as an extended deterrence for allies. Nevertheless, the negotiations for the abolition of tactical weapons should be a part of the NPT regime. The strategic weapons of the UK and France would be integrated into the plan for a nuclear-weapon-free world. France as a global nuclear energy power could potentially see its nuclear industry interests in the long term protected by a nuclear-weapon-free European Union.

The Fuel Bank

The fuel cycle is at the core of the non-proliferation. The Iranian case has exposed the fallacies of the concept of "inalienable right" to peaceful uses of nuclear technology. Proposals for fuel banks exist, under international or multilateral control. Under the present rules of the NPT these have to be voluntary. Furthermore, the EU criteria specify that these should not interfere with market mechanisms. Politically it may be acceptable for many countries, including Finland, to buy nuclear fuel from a fuel bank if access is guaranteed and non-discriminatory.¹⁶¹ As a non-proliferation measure it is not effective, as long as there is no pressure to use the bank. In the Iranian case a lot of political pressure has been exercised and sanctions applied in vain.

¹⁶¹ Proposals include that access would depend on compliance with the IAEA Safeguards Agreement and Additional Protocol.

Finland buys its nuclear fuel on the market. The expert group that studied multilateral approaches to the nuclear fuel cycle quoted Finland as an example¹⁶². In the course of only two years a Finnish nuclear power plant had bought uranium originating from mines in seven countries. Conversion had been done in three different countries. Enrichment services had been bought from three different companies. The implementation of an international fuel bank would therefore greatly affect the Finnish nuclear industry in terms of its supply of fuel. Finland has supported the idea of a fuel bank but has not committed itself to purchase its own fuel from such a bank.

There are also alternatives to the fuel bank. Leasing of fuel would be one alternative. A country enriching uranium could lease it to a nuclear power plant and after use, take it back. Alternatively the enrichment companies may refuse to sell fuel to power plants in states under suspicion of proliferation. This approach is already in use in the Nuclear Suppliers' Group, where countries are expected to follow the rules of the NPT regime. India's current exemption from the list of countries not to be sold to undermines this regime, as indicated before. Countries like Iran would therefore always choose to control the fuel cycle for political reasons.

Rather than promoting the fuel bank concept Finland, together with others, should work for the universalization of the NPT, both its safeguards and the additional protocol. Both nuclear and non-nuclear states should be controlled with the same procedures in order to enhance the credibility of the system. A fuel bank under international/multinational control is at best a voluntary measure, not one to prevent proliferation when a state for political reasons has decided to access nuclear weapons.

A Finnish Profile

Finland as a nuclear energy country has a strong interest in a working non-proliferation regime. As the number of nuclear energy countries increases, so will the threat of nuclear material falling into the wrong hands. How the fuel cycle will be controlled, what the international arrangements to access fuel will be, and what control measures will

¹⁶² Multilateral Approaches to Nuclear Fuel Cycle, op.cit. p. 6.

be implemented on transportation of fissile material will all have a concrete impact on the future of the Finnish energy system.

While nuclear disarmament so far has only dealt with strategic nuclear weapons, the new political initiatives for a nuclear-free world also focus on tactical weapons. There has already been calls for the withdrawal of U.S. tactical weapons from Europe. Seen from the Finnish point of view, these initiatives should be coupled with reductions of tactical weapons in Russia. A nuclear-weapon-free Europe could bring even stronger arguments for the removal of Russian tactical weapons from its European territory.

These two factors, Finland's own nuclear energy plans and the question of Russian tactical weapons, should form the basis for the redefinition of the Finnish policy for the NPT regime. Finland should be more active, making its own proposals and actively supporting those of others when appropriate.

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Nuclear-Free Security

Refocusing Nuclear Disarmament and the Review of the Nuclear Non-Proliferation Treaty

Tarja Cronberg

The abolition of nuclear weapons is back on the agenda. After years of standstill nuclear disarmament is taking place, but not at a pace acceptable to the non-nuclear nations. At the 2010 Review Conference on the Nuclear Non-Proliferation Treaty concrete progress is wanted on issues such as the nuclear test ban and the production of fissile material. The most critical issue at the conference will be the proposal for a nuclear-weapon-free zone in the Middle East. Is progress possible? The U.S. and Egypt will have the answer.

Nuclear weapons have lost much of their military meaning. This report analyses the role of nuclear weapons in security. There is an ongoing refocus from the deterrence of nuclear attacks to the importance of nuclear weapons as an insurance policy against an unpredictable future and as a means to power, both globally and regionally. Pride in the mastery of advanced technology is a further dimension. A new kind of security environment is needed before the elimination of nuclear weapons becomes possible. Also the link between nuclear weapons and global power has to be broken.

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