

NEXT STEPS TO UNIVERSAL NUCLEAR DISARMAMENT

By PAOLO COTTA-RAMUSINO

THE CONTROL OF NUCLEAR WEAPONS SO FAR

It is almost 65 years since the development of the first nuclear bomb, and yet we have had only two cases of use of nuclear weapons in war, namely Hiroshima and Nagasaki. So we have been spared the horror of a large nuclear war during this period when more than 130,000 nuclear weapons were built. This is a very unusual event in the history of mankind: so many weapons built, never to be used. Why has this happened? First, the leadership of the two nuclear superpowers and of the smaller nuclear States behaved as rational decision makers, as far as the control of nuclear weapons and the decision not to initiate their use were concerned. In other words, deterrence worked but, we have to recall that the

taking wrong decisions at critical moments, and in keeping technical mistakes and failures ultimately under control.

We know that the probability of having a catastrophic event depends on the number of critical events: the higher the number, the higher the probability. In our case, the probability of a nuclear conflict depends clearly on the number of crises which could possibly induce a nuclear war and on the number of technical failures of the nuclear control systems. These numbers in turn depend on the number of existing nuclear arsenals, the number of nuclear weapons in those arsenals, and on the number of people who have access to the nuclear button.

In avoiding a nuclear catastrophe we have been helped by the fact that contrary to the expectations of the early nuclear age, most nations have remained non-nuclear, in other words proliferation was contained.

NPT's 3 pillars:

The Principle of Non Proliferation

The Principle of Disarmament

The Principle of Access to Peaceful Nuclear Technology

Cuban missile crisis of 1962 and other lesser crises (eg 1973) pushed the risk of a nuclear confrontation very close to the abyss. Moreover, the system of nuclear deterrence worked and still works now on the basis of the capability of each nuclear superpower to react promptly if they receive information that they are under nuclear missile attack from their opponent. The idea is that each nuclear superpower should react against the opponent before its own nuclear missiles are destroyed while still on the ground or in their silos. With this system, known as nuclear reaction alert or "launch on warning", we have had numerous incidents of false attack that risked accidental nuclear war. Among the factors that spared mankind from the horror of a nuclear war, one was good luck, in not

THE NON-PROLIFERATION REGIME

The basic instrument, which helped contain the spread of nuclear weapons is the 1968 Treaty on the Non Proliferation of Nuclear Weapons (NPT), generally considered to be the corner-stone of nuclear stability. The NPT distinguishes its parties between nuclear-weapon States (NWS) (States which conducted a nuclear test before 1967) and all the other States that, in order to be a member of the NPT, are classified as non-nuclear-weapon States (NNWS). The Treaty has basically three pillars:

The Principle of Non-Proliferation: The non-nuclear-weapon States refrain from acquiring nuclear weapons or from seeking the control of nuclear weapons, while the nuclear-

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February 25
Pope John Paul II
calls for the abolition
of nuclear
weapons

April 5-6
All five nuclear weapons
states issue new texts of
their negative security
assurances

June 13
French President Jacques
Chirac declares that
France will end a three-
year moratorium and
resume nuclear testing

August 10
France announces its support
for a CTBT prohibiting
"any nuclear weapon test
explosion or any other
nuclear explosion

August 11
President Bill
Clinton announces
that the US
supports a true
zero-yield CTBT

August 17
China conducts
its 43rd nuclear
weapons test at its
Lop Nor test site

September 5
France conducts a
nuclear test of a 20
kiloton explosion at
the Moruroa atoll,
South Pacific

weapon States agree not to transfer nuclear weapons or parts of them to others. Moreover, all Parties to the Treaty should refrain from transferring (un-safeguarded) fissile material to non-nuclear-weapon States.

The Principle of Disarmament: Parties to the Treaty, and particularly the nuclear-weapon States, commit themselves to negotiations in good faith aimed at achieving an early stage nuclear disarmament and the cessation of the nuclear arms race.

The Principle of Access to Peaceful Nuclear Technology: All Parties to the NPT have the right to develop and be assisted in the development of nuclear energy for civilian purposes.

The cold war ended with a significant effort in the direction of nuclear disarmament. Between the second half of the 1980s and the beginning of the 1990s, the United States and the Russian Federation dramatically reduced the size of their arsenals. Moreover, for some time around the end of the cold war no non-nuclear State decided to acquire nuclear weapons, leaving the set of countries possessing nuclear weapons unchanged, namely the five permanent members of the Security Council and—unofficially—Israel. The Chernobyl accident in 1986 sparked a negative picture of civilian nuclear activity, and for some time, interest in nuclear energy dropped worldwide, as did interest in proliferation problems associated with the nuclear fuel cycle and the spread of nuclear energy technology. The NPT itself was extended indefinitely in 1995, contributing to what seemed to be a bright prospect for nuclear non-proliferation and disarmament.

MANAGING DISARMAMENT AND NON-PROLIFERATION IN THE LAST TWO DECADES

In the mid-1990s, the three pillars of the NPT experienced a significant shift. First, the Russian Federation and the US basically froze their disarmament agenda, with the last signed treaty leaving some 1,700 to 2,200 deployed strategic weapons on each side and an unspecified number of tactical, as well as other retired—but not destroyed—nuclear weapons on each side. Moreover, the other, smaller, nuclear powers, France, the People's Republic of China, and the United Kingdom, stood clear of the complete nuclear disarmament threshold. The total number of functioning nuclear weapons remained and still is in the range of 25,000. In 1998, two newly declared nuclear powers arose—though unofficial

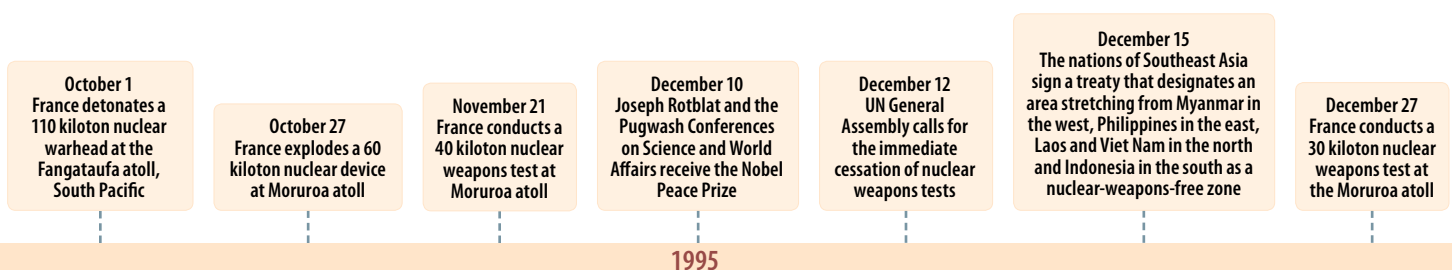
from the standpoint of the NPT. And later, for the first time, one country, the Democratic People's Republic of Korea (DPRK), exited the NPT and conducted a nuclear test.

Moreover, some remarkable initiatives—such as the adoption of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) prohibiting nuclear tests hence hindering the development of new types of nuclear weapons—basically failed to become a reality, thus contributing to the feeling that the era of nuclear disarmament ended. Some other important initiatives, such as the 13 steps, aimed at reinvigorating nuclear disarmament, were discussed and approved at the 2000 NPT Review Conference, but were not even mentioned in the 2005 NPT Review Conference, which ended without any final document. Finally, an interest in civilian nuclear energy returned in various parts of the world. Questions about the possibility of an effective control to prevent the covert utilization of civilian technology for military purposes became more and more relevant; the International Atomic Energy Agency (IAEA), in Vienna, elaborated stricter constraints to be applied to countries developing civilian nuclear programs, notably the so-called “additional protocol”.¹ These stricter constraints have been received with mixed responses. Many countries critical to proliferation risks declined to sign the additional protocol. One specific country has been under extensive scrutiny and has been accused of developing an indigenous fuel cycle with the undeclared purpose of taking steps forward in the direction of building nuclear weapons.

In article VI of the NPT, explicit mention is made not only to nuclear disarmament as a final goal, but also to the pursuing of negotiation leading to an early cessation of the arms race among nuclear powers, as an intermediate step. Contrary to this we have seen in the past two decades worrisome signs of the unraveling of the arms control regime as we know it. The cessation of the Anti-Ballistic Missile (ABM) Treaty; the threat by the Russian Federation to withdraw from the Intermediate Nuclear Forces (INF) Treaty in response both to the new proposed deployments of missile defence systems in Europe by the US, and to the increased intermediate range missile capabilities in many Asian countries, all present a gloomy picture of the status of the arms control regime.

It is thus clear why the NPT is increasingly considered to be in critical condition.

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No country supports nuclear proliferation. No government is buying the argument that “more is better” when speaking about nuclear-weapon States, but individual countries may decide that they need to possess nuclear weapons. Moreover countries differ in the strategy for enforcing non-proliferation, and in their individual perceptions of the threat posed by different cases of proliferation.

Countries may decide that they want to acquire nuclear weapons for two basic reasons:

1. The presence of an external threat, especially, but not exclusively, when the external threat is represented by nuclear-weapon States (whether official or de facto).
2. The prestige and the power, which is associated with nuclear weapons.

The NPT up to now has done a remarkably good job in inducing countries to refrain from the acquisition of nuclear weapons by addressing, albeit in an imperfect way, both of the above motivations. The principle of non-proliferation in the NPT helps in creating an environment partially free from nuclear threats, while the principle of disarmament aims at decreasing both the relevance of nuclear weapons and the prestige associated with their possession. The NPT, as is well known, discriminates between the haves and the have-nots. This discrimination was meant to be temporary, as it was always understood that the only way to move towards a stable equilibrium is to resolve the distinction between the haves and the have-nots by eliminating nuclear weapons, namely by making them illegal as in the case of chemical and biological weapons. Advancing towards such stability is tantamount to having a manifest, unequivocal and sustained progress in nuclear disarmament.

The lack of disarmament initiatives is not the only way the non-proliferation regime has been endangered by the nuclear-weapon States. One of the most significant problems facing the NPT is that some nuclear-weapon States, most notably the US, have sidetracked the NPT, while paying formal tribute to its role; their fight against proliferation took a more unilateral approach and included the following points:

Nuclear proliferation threatens the present system of international relations, but serious differences have to be considered depending on who is in fact acquiring or attempting to acquire nuclear weapons. Some States were very bad nuclear proliferators and others were considered not so bad.

The relatively good ones like Israel and India of course have been treated very differently from the so-called bad ones.

Progress in nuclear disarmament has not been deemed to have de facto influence on the decision of another country to acquire or not to acquire nuclear weapons. Token reference has been made to previous achievements in nuclear disarmament, but with little or no consequence on the political decisions that are to be taken.

The fight against proliferation has been primarily based on containment and repression of countries that have been deemed to be both hostile and possible nuclear proliferators. Instruments of repression ranged from different types of sanctions to actual (preventive) war.

The need to control fissile material and to prevent its unauthorized use by potential proliferators or terrorists has been acknowledged in principle, although questions arose as to their actual position on the priority list to prevent the spread of nuclear weapons.

Let us elaborate more on the trend described above and on its consequences. One should not underestimate the degree of resentment that has been induced by real or perceived unfair treatment, and the ensuing political consequences. Israel was not subjected to any pressure to renounce its possession of nuclear weapons. India and Pakistan were subjected to sanctions, which were later removed. In the end India and the US signed the so-called US-India Nuclear Cooperation Initiative. DPRK, which withdrew from the NPT, is under severe sanctions. While we do not want to deny here that there may be serious motivations and reasonable considerations behind these unequal treatments, the overall impression is nonetheless that nuclear disarmament lost its character of being a shared ideal or value of the international community and instead became one of the many instruments of partisan foreign policy. We should recall that the NPT itself was not meant to involve only countries with common foreign policy goals, but rather it was an agreement among countries with different, if not antagonistic views of the world, which agreed to some common constraints in the area of nuclear weapons.

While it is true that there is no immediate correlation between the pace of nuclear disarmament by major nuclear powers and the development of nuclear ambitions among non-nuclear-States, it is also true that if a general trend supporting nuclear disarmament is in place, then the global environment is less threatening to potential proliferators, who would find

January 27
France explodes
a 120 kiloton
nuclear device at the
Fangataufa atoll

April 11
43 African nations sign
the Treaty of Pelindaba
establishing a nuclear-
weapon-free zone

June 8
China conducts
its 44th nuclear
weapons test

July 8
ICJ's finds that the
threat or use of nuclear
weapons would generally
be contrary to the rules of
international law

July 28
China conducts
its 45th nuclear
weapons test

September 10
UN General Assembly
adopts a CTBT by a
vote of 158 to 3 with 5
abstentions

September 18
US conducts its
second sub-critical
nuclear test

it more difficult to become nuclear without losing credibility and influence. While the lack of disarmament may not be the immediate motivation for proliferation, it nevertheless has an overall influence on encouraging proliferation. In other words, if nuclear powers keep telling others to “do as I say and not as I do”, there is no guarantee that this message will be listened to indefinitely.

Creating an environment where powerful countries impose independent, autonomous non-proliferation constraints might even be considered necessary to effectively limit the transfer of dangerous nuclear technology and materials. One might thus appreciate a complementary role between individual countries and international institutions in the battle against proliferation (see the Proliferation Security Initiative (PSI) or Security Council resolution 1540). Problems arise when the non-proliferation campaign is used as an excuse to impose sanctions or wage war against a country that is labelled evil, and where the main aim is not to stop proliferation, but to induce a regime change. The problems become bigger if the intervention does not result in the restoration of peace and order, but in the creation of civil unrest. Even if we have no time to address the complexity of the problems related to the last conflict in Iraq, we want to point out that, from the point of view of nuclear proliferation, the Iraqi war had the effect of greatly diminishing the significance of the non-proliferation issue, reducing it to a mere excuse for some other goal. Moreover, the war on Iraq sent two other sets of messages: first, that big powers can bypass international institutions such as the UN; and second, that countries much closer to reaching military nuclear capability are punished far less than countries, which are classified as “evil” but are further away from that capability. This attitude creates an objective incentive for nuclear proliferation.

THE PRESENT PROSPECT FOR MANAGING NON-PROLIFERATION AND DISARMAMENT

Since 2008, and subsequently, with the climate created by the new US administration, a different approach to disarmament and non-proliferation has begun to appear. A group of four prominent American former high level officials published a widely read article in the Wall Street Journal² followed by groups of politicians in some European countries,³

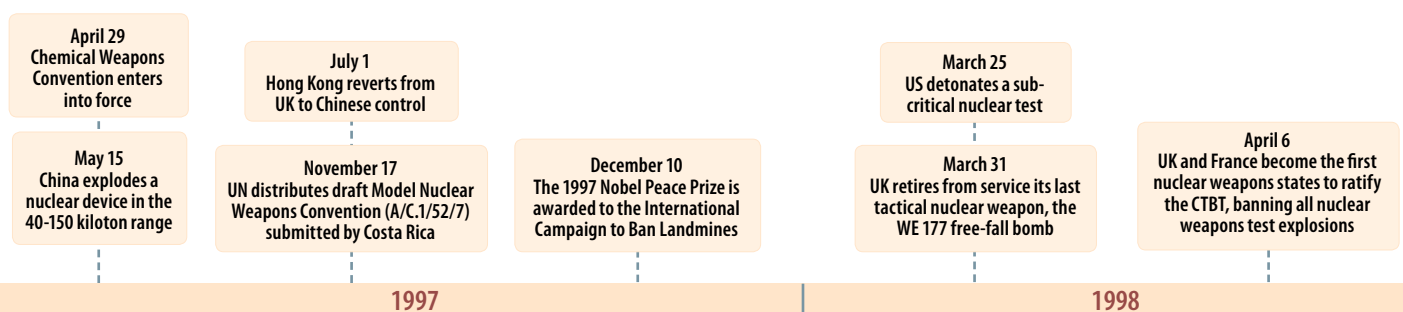
all arguing for a renewed call for nuclear disarmament. Later President Barack Obama said: “I state clearly and with conviction America’s commitment to seek the peace and security of a world without nuclear weapons.” He also restated clearly the goal of the NPT: “Countries with nuclear weapons will move towards disarmament, countries without nuclear weapons will not acquire them, and all countries can access peaceful nuclear energy”.⁴ At present there is a clear interest in the US administration to restart dialogue with Russia over the renewal or replacement of the Strategic Arms Reduction Treaty (START) and make further progress in arms control and disarmament.

Expectations will run high at the 2010 NPT Review Conference. Either there will be a very clear message that the three basic pillars of the NPT should be rigorously respected viz., that disarmament should not be disconnected from the enforcement of non-proliferation; and that assistance to devel-

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op nuclear energy should be given without undue restrictions or discriminations, yet within a framework of serious and effective monitoring and control of nuclear activities, or the non-proliferation regime itself risks serious trouble. The entire international community and particularly the most powerful countries such as the G8 should take steps to preserve the essence of the NPT, and to make it more effective and stable as President Obama suggested in his speech in Prague.

What follows is a list of problems that should or could be addressed, and a list of steps that should be under-taken by the entire international community in preparation for the 2010 NPT Review Conference. Obviously the responsibilities of States vary according to their involvement with military or civilian nuclear programmes. For instance, the arms



reductions of the US and the Russian Federation concern those two States only. Still it is important that the concrete actions aimed at developing disarmament and at curbing non-proliferation be included in a framework strengthening all the obligations that are at the basis of the NPT. All countries could and should contribute to this framework.

Nuclear-weapon States should reduce their nuclear arsenals to the “minimum” possible level. This line of thinking has been already made clear by the presidents of the US and the Russian Federation. Some of the concrete decisions in this area will become clear when a replacement of the START Treaty is discussed. Together with the reduction in nuclear weapons, there is the problem in the role or the salience of nuclear weapons in military planning. The key phrase here is to de-emphasize the role of nuclear weapons in military planning. Also nuclear weapons should be taken off alert: no nuclear weapon should be launched within minutes of notification of a missile attack. Avoiding a nuclear war by mistake is a task as important as ever.

The development of the Ballistic Missile Defense should be carefully considered. If the effectiveness of such systems is as it appears to be strongly doubtful then countries should be very careful with the political and strategic implications of the deployment of such systems. It is not worth jeopardizing the reduction of nuclear weapons and the preservation of past arms control agreements, by deploying defensive systems of very dubious effectiveness.

Tactical nuclear weapons should clearly be included in the list of nuclear weapons considered for reductions and/or elimination.

Eliminated weapons should be destroyed or dismantled. They should not be put in deposits and left ready to be used should there be a need to again increase those nuclear arsenals.

The problem of nuclear weapons deployed on other countries’ territories should be carefully considered. Only US nuclear forces are currently deployed in other countries: Belgium, Germany, Italy, the Netherlands, Turkey. Other official or de-facto nuclear powers might in the future decide to do the same, creating the possibility for very dangerous situations. It is then reasonable to forbid deployment of nuclear weapons on other countries’ territories before new risky situations appear.

Nato should de-emphasize the role of nuclear weapons in its military planning and strategy.

The entry into force of the CTBT is bound to the ratification by 44 specific countries (Annex 2 of the Treaty). The entry into force of the treaty will give a powerful signal to the international community that no further modernization of nuclear weapons will be possible. The countries that should sign and ratify Annex 2 are India, Pakistan and the DPRK. The countries that should ratify the Treaty are: China, Egypt, Indonesia, Iran, Israel and the US. The new US administration is clearly supporting the ratification of the CTBT, but may have problems with the Senate as the ratification process requires a qualified majority of the US Senate. The international community should encourage the missing Annex 2 countries to sign and ratify the CTBT. As for the nuclear-weapon States, their technical activities to ensure weapons reliability should not interfere with the CTBT. This is technically possible and warhead reliability issues should not be used as a motivation to postpone or sidetrack the CTBT.

Another important instrument for pushing ahead the agenda of nuclear disarmament is the Fissile Material Cut-off Treaty (FMCT) that will forbid the production of new fissile material for military purposes.

It is apparent that all the five nuclear countries irrespective of the size of their arsenals viz., the US, Russian Federation, China, France and the UK share a legal and political responsibility in promoting disarmament and none of them should be exempt from taking appropriate steps in the direction of reducing their weapons and their reliance on them.

Nuclear-weapon States that are not signatories of the NPT (India, Israel and Pakistan) and the DPRK should be induced to take appropriate steps to reduce their reliance on nuclear weapons and the number of their weapons; to sign all the possible arms control agreements compatible with their status as non-NPT members; to enforce strict control of nuclear material; respecting all the relevant agreement with the IAEA and ultimately to join the NPT.

Finally the creation of new nuclear-weapon-free zones (NWFZ) and the expansion of the old ones is an important instrument to prevent the introduction of nuclear weapons in specific areas. The Middle East nuclear-weapon-free



zone should be constantly pursued, despite the obvious difficulties.

The possible use of nuclear weapons for terrorist purposes has been discussed for some time. Fortunately, up to now, no possession of nuclear weapons by terrorist groups has been detected and no terrorist group has been able to manufacture a nuclear explosive device.⁵ The proper strategy to address potential nuclear terrorism is to reduce the relevant risks. First, by controlling all fissile material and eliminating excess fissile material from dismantled weapons (ie, blending the excess of highly enriched uranium and disposing and/or utilizing in mixed oxide in the excess plutonium). Second, it is important to get the agreement of all States, irrespective of their political orientation, to control any amount of fissile material produced

Problems arise when sanctions are unfair, when credibility of “international justice” is low and when the definition of the alleged violations of the non-proliferation rules become mixed with other political or strategic controversies.

with the strictest available safeguards. The international community is lagging behind on both counts. There is still a large amount of excess fissile material to be disposed of mainly in the Russian Federation (about 20 years after the INF Treaty) and, as mentioned above, international consensus about new stringent measures to control nuclear activities is still relatively limited and, in any case, international control (by the IAEA) does not concern fissile material for military use. The causes for this state of affairs are manifold, from commercial problems, which slowed the disposal of fissile material in the former Soviet Union, to the perception that stringent safeguards are at times an instrument of discrimination rather than an instrument aimed at protecting the security of every country. Failing a vigorous effort—both technical and diplomatic—to control and dispose of fissile material, the threat of nuclear terrorism will be with us for some time. Again one has to expect that the new US administration will be very sensitive

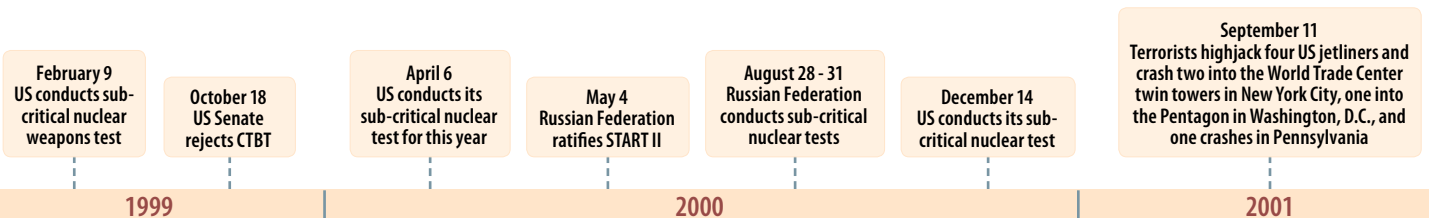
to the argument of controlling nuclear material and protecting it against terrorist use, but the burden goes well beyond the US and is, in fact, a responsibility of the entire international community.

The final issue we have to discuss is the problem of preventing proliferation. As mentioned earlier, an effective battle against nuclear proliferation cannot be separated from a clear progress towards disarmament. Another important point to consider is that the battle against nuclear proliferation will be much more effective if the constraints required to enforce control and monitoring of nuclear activities will be seen as an impartial instrument required by the international community, not as an instrument aimed at discriminating between various countries on the basis of their political or strategic orientation. As we said before, the NPT was born as an agreement between States having a very different vision of the world. In the NPT, the US cooperated with the USSR in keeping proliferation under control and, for some time, in dramatically reducing the nuclear arsenals. Different visions of the world did not impede the NPT from working; this should be true even now when States antagonistic to the US are not as powerful as the USSR was, but may still in general be unlikely to yield to pressures.

Fairness and non discrimination (beyond the accepted discrimination between nuclear and non-nuclear States as defined by the NPT) should be the key to the safe preservation and improvement of the non-proliferation regime.

In order to improve the collective security in nuclear affairs, there is an urgent need to revisit the safeguards and constraints placed on the production of fissile material. The “additional protocol” not yet adopted by a sufficiently large number of States is probably not enough, and more stringent, international control on the production of fissile material for civilian purposes should be established. New ideas along these lines have been put forward by the IAEA, in particular as far as the internationalization of the nuclear fuel cycle is concerned, but more ideas are needed. IAEA membership could easily become universal, as even countries outside the NPT are members of the IAEA. There is moreover no objective reason why all countries which are members of the IAEA should not be induced to sign and ratify the additional protocol and other stringent measures, without exception.

The IAEA should be strengthened and positioned to perform what looks to be an increasingly wider and demanding activity in the control of nuclear activities.



The issue of addressing alleged violations of the non-proliferation rules came up in the past and will most likely come up again in the future. The principle should be clear: violations should be met with sanctions aimed at reversing the behaviour that originated the violations. The civilian benefit derived from NPT membership should be revoked from violators and possibly the use of force could be considered. Problems arise when sanctions are unfair, when credibility of “international justice” is low and when the definition of the alleged violations of the non-proliferation rules become mixed with other political or strategic controversies. Soft approaches may be better suited than hard pressures, but there is no general rule. Dialogue may be very difficult at times, but can go a long way, and should be the principal instrument for resolving disputes. The effectiveness of sanctions depends on many factors: long-term large-scale sanctions, for example, are generally less effective, as countries tend to adjust to a prolonged sanction regime. The resulting isolation fosters nationalistic attitudes and cuts off the political and economic leadership from the international arena. Moreover, authoritarian regimes tend to be strengthened by isolation and, if there is a determination to build nuclear weapons or weapons of mass destruction, sanctions strengthen nuclear ambitions.

Military force has recently been used against countries suspected of violating the non-proliferation rules. Leaving aside for a moment the important issue of the legitimacy of these actions, the results have been altogether a failure. In general terms, it may be true that some military actions slow down the construction of nuclear weapons or weapons of mass destruction by destroying some specific infrastructure, but then what comes next? If, after the destruction of some specific nuclear infrastructure, the country is able to restart the programme, then nothing has been “gained”, except possibly some time. And if military pressure on that country goes well beyond the destruction of nuclear plants, then the recent history of Iraq shows that the end result may create an intractable problem.

CONCLUSIONS

Facing the 2010 NPT Review Conference there is the need to strengthen the three pillars of the NPT itself, which are nuclear disarmament, non-proliferation and assistance to NPT

members in the development of civilian nuclear programmes. Nuclear disarmament should be pursued in a clear way by all nuclear-weapon States. Additionally, monitoring systems should be improved for all civilian nuclear activities, without further discrimination with respect to those that are already within the NPT. The development of nuclear energy should happen in a framework that must guarantee and strengthen security for all and foster a sense of collective responsibility.

It is a clear task of the most developed countries to lead the international community towards a more cooperative and less discriminatory environment, where the danger of nuclear annihilation will be drastically reduced and ultimately brought to zero. Nuclear weapons should soon be declared illegal as much as all the other chemical and biological weapons of mass destruction are. This will require a nuclear weapons convention similar to the chemical and biological weapons convention. Countries should clearly and unequivocally do their best to signal that they are moving in that direction.

This article is an adaptation of a presentation prepared for ISPI (Istituto Studi Politica Internazionale) of Milano, Italy and first published in the UN Chronicle.

Notes

- 1 The additional protocol: <http://www.iaea.org/Publications/Documents/Infcircs/1997/infcirc540c.pdf>
- 2 Kissinger, Nunn, Perry, Schultz : http://online.wsj.com/article/SB120036422673589947.html?mod=opinion_main_commentaries
- 3 Douglas Hurd, Malcolm Rifkind, David Owen and George Robertson, “Start worrying and learn to ditch the bomb” The Times (London), June 30, 2008. (http://www.timesonline.co.uk/tol/comment/columnists/guest_contributors/article4237387.ece)
F.Calogero, M. DiAlemo, G. Fini, G. La Malfa, A. Parisi, “Towards a Nuclear-Weapon-Free World”, Il Corriere della Sera, July 24, 2008.
Helmut Schmidt (SPD), former German President Richard von Weizsäcker (CDU), former Foreign Minister Hans-Dietrich Genscher (FDP) and SPD politician Egon Bahr, Frankfurter Allgemeine Zeitung and International Herald Tribune, January 9, 2009.
Field Marshal Lord Bramall, General Lord Ramsbotham, General Sir Hugh Beach, “UK does not need a nuclear deterrent: Nuclear weapons must not be seen to be vital to the secure defence of self-respecting nations”, Letter, The Times (London), 16 January 2009 (<http://www.timesonline.co.uk/tol/comment/letters/article5525682.ece>)
- 4 Prague speech http://www.huffingtonpost.com/2009/04/05/obama-prague-speech-on-nu_n_183219.html
- 5 Often confusion is made between a so-called dirty bomb (which entails the dispersal of radioactive material in the environment) and a nuclear explosive device, where the explosion is caused by a nuclear chain reaction. We deal only with the possibility of terrorists acquiring or building nuclear explosive devices.

