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The CADMUS Journal

The acronym of the South-East European Division of The World Academy of Art and Science – SEED – prompted us to initiate a journal devoted to seed ideas - to leadership in thought that leads to action. Cadmus (or Kadmos in Greek and Phoenician mythology) was a son of King Agenor and Queen Telephassa of Tyre, and brother of Cilix, Phoenix and Europa. Cadmus is credited with introducing the original alphabet – the Phoenician alphabet, with "the invention" of agriculture, and with founding the city of Thebes. His marriage with Harmonia represents the symbolic coupling of Eastern learning and Western love of beauty. The youngest son of Cadmus and Harmonia is Illyrius. The city of Zagreb, which is the formal seat of SEED, was once a part of Illyria, a region including what is today referred to as the Western Balkans and even more. Cadmus will be a journal for fresh thinking and new perspectives that integrate knowledge from all fields of science, art and humanities to address real-life issues, inform policy and decision-making, and enhance our collective response to the challenges and opportunities facing the world today.

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Universal Nuclear Disarmament: What Can India Offer?*

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1. Introduction

Universal nuclear disarmament† is not a new concept. From the time that the weapon was first used in 1945, and once the horrendous destruction that it could cause was understood, countries have struggled with the challenge of how to put the genie back into the bottle. To little avail. Nuclear abolition has proved to be an elusive objective owing to the lack of sufficient political will to actually undertake the exercise. In fact, the politics of the possession of nuclear weapons and questions over the very desirability of eliminating nuclear weapons have always overshadowed all other considerations. Arguments against a nuclear weapons free world have often hidden behind the assumptions of unfeasibility of nuclear abolition owing to the complications involved in the logistics of handling dismantlement and destruction of already built up stockpiles of nuclear warheads and the safe storage of recovered fissile material. Meanwhile, horizontal and vertical proliferation have continued, thereby making the attainment of universal nuclear disarmament more and more difficult and complicated.

During the Cold War, the number of weapons between the two Superpowers touched an all time high of 70,000. These could have destroyed the world several times over and still left the radioactive rubble bouncing. After the fall of the Berlin Wall, the numbers of nuclear warheads fell substantially. In fact, over the years since then, as USA and Russia have rationalized their nuclear arsenals in keeping with the changed threat perceptions, the numbers have progressively come down. So, the US and Russian arsenals can today boast of nuclear stockpiles in the vicinity of a meager 10,000 each, while the total global nuclear stockpile stands at about 22,500. This, of course, is still plenty to destroy the world, if not as many times over as in the past!

These reduced numbers, however, are not an indication of a reduced importance of nuclear weapons. For countries that possess these weapons, not only are they considered an essential element of their national security strategies, but they are also deeply entangled with concepts of sovereignty and prestige. In fact, three major motivations can be easily identified as being the prime movers behind national nuclear weapon programmes — a sense of security or insurance against coercion or blackmail, the independence to exercise national policies without outside interference, and the prestige they bestow. These factors combine to weave a complex web that holds nuclear weapons firmly in place in national arsenals.

^{*} This paper was originally written for the Global Consortium for Security Transformation.

[†] The terms nuclear disarrnament, nuclear abolition and elimination are used interchangeably in the paper to mean a world free of all nuclear weapons.

As a result of the above, any attempts at dealing with the ideas and issues related to elimination of nuclear weapons necessarily require going deeper into the reasons for their possession and justifications for their sustenance. This is important because, though at one level, it appears that universal nuclear disarmament can come about fairly quickly if the requisite political will in the nations that matter can be generated, yet the challenge that lies in creating the atmospherics that can help that 'political will' to emerge and be expressed demands that due consideration be granted to the motivations for nuclear weapons in the first place. In fact, this is where the bottleneck lies and the history of failed attempts at nuclear abolition proves that the reasons for elimination of nuclear weapons have never been able to outweigh those that have made countries acquire or hold on to them.

This situation could possibly change in three circumstances:

One, if there was an accumulation of enough risks from the continued possession of nuclear weapons. As dangers surmount and begin to make nuclear weapons more a liability for security than an asset providing security, nations could find greater prudence in their elimination than in their retention. Contemporary nuclear threats that preoccupy nations are of a character and dimension that could make them more a problem than an advantage for the major players in the nuclear game. And, this could turn out to be a game-changing moment, as is elaborated below in section 1 of the paper.

Two, if enough public pressure is mounted on governments to make politically binding commitments towards nuclear abolition. Some of this existed during the period of the Cold War when non-governmental organizations and civic campaigns kept the focus on the dangers of a nuclear exchange. However, they dissipated once the threat of a nuclear holocaust as a result of a nuclear exchange between the US and USSR vanished. Today the civil society does not advocate the cause of disarmament with any major sense of urgency, though several organizations in more recent times, especially in the run up to the NPT Review Conference in 2010 have pushed the case. For instance, Global Zero – an initiative headed by Bruce Blair, a former US official once in charge of command and control, the International Commission for Nuclear Non-proliferation and Disarmament (ICNND) instituted by Australia and Japan, the Middle Powers Initiative, etc. pressed for steps towards nuclear abolition in 2009-2010. The initiatives, however, have remained individual attempts instead of snowballing into a movement with global dimensions and appeal.

Thirdly, if as a result of the above two factors, the political leadership in major nuclear armed nations feels the need to change the status quo. For instance, it is for the first time that the President of a nation that possesses one of the largest nuclear arsenals – the United States – has publicly supported the goal of a world rid of nuclear weapons. President Obama has even received the Nobel Peace Prize in good faith for his personal endorsement of this aspiration. More like-minded leaders are needed to join hands with him, and the US, to create a critical mass that could generate enough momentum to turn the hope into reality.

Keeping the above three factors in view, this paper specifically dwells on the Indian understanding of and initiatives towards universal nuclear disarmament. It argues that for a country like India which has long been a steady champion of nuclear disarmament, and which perceives that its national security is best served in a nuclear weapons free world, this is an opportune moment for taking a proactive stance for nudging the international community

towards nuclear abolition.

It is a fact that over the last decade or so, India has been relatively quiet on disarmament as compared to the more active role it has played in the past. This may largely be attributed to the introduction of a greater strain of realism in its foreign policy owing to the nature of its threat perceptions. The use of nuclear weapons by Pakistan as a shield from behind which to foment proxy war on India through a constant influx of terrorists into Indian territory, and the close nuclear and missile nexus between China and Pakistan have compelled India to focus attention on building credible nuclear deterrence against its neighbors. Meanwhile, the inability of the non-nuclear weapon states (NNWS) members of the NPT to use their leverage to push the nuclear weapon states (NWS) towards honoring their commitment to Article VI of the NPT that dwells on nuclear disarmament has caused major disillusionment to India. As a consequence of the realization that the non-proliferation regime would be unable to redress its security challenges, India's recent approach to nuclear abolition has been laced with more cvnicism.

However, the major thrust of this paper is to highlight, both for the Indian establishment and public as well as for the international community, the role that India could and should play in facilitating the realization of a nuclear weapons free world. The country has a unique perspective on the issue. Unlike the case in any other nuclear-armed state, India's nuclear doctrine, which is meant to operationalize the nuclear strategy, begins and ends with reiterating the country's desire for nuclear disarmament. Para 8.1 of the doctrine, in the section on Disarmament and Arms Control, reads "Global verifiable and non-discriminatory nuclear disarmament is a national security objective. India shall continue its efforts to achieve the goal of a nuclear weapons-free world at an early date." The doctrine itself is premised on several concepts whose acceptance could ease the journey towards elimination of nuclear weapons. What are these? And, what could be India's specific contribution in this regard? These are some of the questions that this paper attempts to answer.

For the sake of convenience and coherence, the paper is divided into three broad sections. The first of these addresses the nature of contemporary nuclear threats that make it imperative for the countries possessing nuclear weapons to seriously consider the dangers that humanity faces from the continued existence of nuclear weapons in national arsenals. Section 2 explains India's understanding and interpretation of universal nuclear disarmament, and the last section makes some recommendations as derived from India's nuclear doctrine to facilitate movement towards a nuclear weapons free world.

2. Nature of Contemporary Nuclear Threats

It may be recalled that the years following the Cold War were marked by a number of developments that suggested the possibility of a 'partnership' between the once ideologically estranged superpowers. Both, the US and Russia, unilaterally and bilaterally announced cutbacks in their nuclear arsenals. There were successive initiatives at the UN as also at the Review and Extension Conference of the NPT in 1995 to refocus attention on elimination of nuclear weapons. The Canberra Commission was instituted for the purpose of drawing a roadmap towards nuclear disarmament and it submitted its report in 1996. The World Court

^{*} Full text of the Indian nuclear doctrine is available at Ministry of External Affairs, Government of India website.

rendered its advisory opinion on the use of nuclear weapons in the same year. The Lawyers Committee on Nuclear Policy drafted a Model Nuclear Weapons Convention in 1997. Several multi-national groupings such as the Middle Powers Initiative and New Agenda Coalition, as also a number of non-governmental organizations, lent their weight and voice to moves towards universal nuclear disarmament.

However, as has been opined rather graphically, "the tide never could turn into a tsunami that could have washed away national nuclear arsenals". Rather, as the sense of an imminent nuclear holocaust dissipated with the end of the ideological rivalry between the US and the USSR, it also took away with it the urgency and focus on nuclear disarmament. Active civil society and non-governmental movements pushing for universal disarmament became complacent and quiet as the threat of a possible nuclear exchange resulting in mutual assured destruction (MAD) reduced. Meanwhile, the period 1998-2007 was marked by horizontal proliferation. India and Pakistan in 1998 and North Korea in 2006 demonstrated their nuclear capability. Meanwhile, Iran emerged as a troublesome NPT member with an alleged nuclear weapons programme. The ambiguity on its nuclear capability and intentions still persists. The dangers arising from more nuclear weapon states, however, have not caught the imagination of public movements in the same way as the threat of nuclear Armageddon between the US and USSR had. Consequently, the public campaigns for nuclear disarmament are less vociferous.

At the same time, a distinct development of recent times is the realization on the part of decision makers of the rise in two types of dangers from an increase in the number of states having nuclear weapons. These dangers include increased existential risks of unauthorized, accidental or miscalculated use of nuclear weapons; and the heightened possibility of inadequate controls over the weapons and their infrastructure leading to nuclear terrorism. These developments have brought a consciousness, especially in the USA which is normally the trendsetter on nuclear issues, that the American nuclear arsenal may no longer be an advantage for national security, but could well become a problem by encouraging proliferation of a new and more dangerous variety. Several watchers of nuclear developments in and outside governments have commented upon the novel dimensions of the contemporary nuclear threats. For instance, some of this thinking was powerfully reflected in two articles by four American Cold War nuclear practitioners^{2,3} (popular today as the Four Horsemen) published in the Wall Street Journal on 04 January 2007 and 15 January 2008. Both pieces highlighted how the "accelerating spread of nuclear weapons, nuclear know-how and nuclear material has brought us to a nuclear tipping point". And, this started the ball of disarmament rolling once again. The debate gathered a fair amount of momentum and new initiatives were offered from many capitals. A speech by President Barack Obama in Prague in early April 2009 added the weight of yet another powerful voice to the issue.

However, there was a distinct feeling, at least in India, that all of this was being done with one eye at the Review Conference of the NPT in May 2010. Given the state of nuclear relations between the nuclear weapon and non-nuclear weapon states, it was assumed that unless the NWS showcased initiatives towards keeping their end of the bargain on movement towards nuclear disarmament, the NNWS would be disillusioned with the treaty itself and could lose faith and commitment to it. As an attempt to retain the NPT as a viable non-proliferation tool, the focus on nuclear disarmament peaked in the run-up to the RevCon.

As it turned out, the RevCon managed to keep the treaty intact and unlike the case at the last RevCon in 2005, it even managed to conclude with a consensual Final Document that included a separate section on Conclusions and Recommendations for follow-on action on both non-proliferation and disarmament in the coming years.

With the 'successful' conclusion of the RevCon, the focus from disarmament, as expected, has shifted. But the nuclear dangers – in newer forms and magnitudes – have not. In fact, the nature of contemporary nuclear threats demands careful consideration and an objective cost benefit analysis on benefits of the continued existence of nuclear weapons vis-à-vis the dangers they generate. This is important because it is an absolute certainty that as long as nuclear weapons exist in the arsenal of one nation, nuclear proliferation – vertical or horizontal – cannot be stopped. Therefore, the only choice that the international community has to make is this – is it worthwhile to retain nuclear weapons even at the cost of slow motion proliferation to other states or non-state actors? Is continued exposure to newer and more dangerous prospects of imminent nuclear use a reality that mankind must always live with? Or can ways be found and the political will be generated to move towards nuclear abolition?

In order to help answer these questions, let us examine some of the new nuclear threats that mark the horizon today. The first threat arises from a possible unraveling of the non-proliferation regime because any potential future candidates for nuclear weapons will emerge out of what is today a near universal NPT. The treaty today has a total membership of 189 nations and only four countries out of the treaty – India, Israel, North Korea and Pakistan – are known to possess nuclear weapons. Therefore, further cases of nuclear proliferation will be of nations who are members of the treaty and who might exercise their right to withdraw from it in order to demonstrate nuclear capability. While every nation would be well within its rights to do so, it would raise serious questions on the future of the treaty. In fact, it would cast aspersions on its very raison d'etre considering that non-proliferation has been one of the primary objectives of the NPT.

Secondly, among the possible candidates for future nuclear proliferation are states that are mostly considered to be 'of proliferation concern' owing to their dubious record of illegal nuclear activity and unresponsive political systems. In the past, nuclear deterrence has been substantively premised on the rationality of actors and decision makers. It has been assumed that it is the ability of the leaders to make a rational cost-benefit calculation of the use of nuclear weapons that makes nuclear deterrence a workable proposition. However, with new players having different sensibilities to rationality and possibly even harboring suicidal tendencies, it is believed that deterrence will be more difficult to impose and sustain. The Four Horsemen pointed to this danger when they wrote, "It is far from certain that we can successfully replicate the old Soviet-American 'mutually assured destruction' with an increasing number of potential nuclear enemies worldwide without dramatically increasing the risk that nuclear weapons will be used." They further warned that the "new nuclear era" would be "more precarious, psychologically disorienting, and economically even more costly than was Cold War deterrence".

Thirdly, as more states acquire nuclear weapons, there is a concomitant requirement that each one of them has a functional command and control system that can exercise controls

on the nuclear arsenal in order to prevent the possibility of an accidental or unauthorized nuclear launch. The danger in this situation can be explained through a simple analogy. While driving in chaotic conditions, one is required to be in total control of one's vehicle (which might be easy) while also hoping that every other driver also has skilful control over his vehicle so that chances of collision due to the mistake or miscalculation can be minimized. The same applies in the case of possession of nuclear weapons. Weak command and control by any one nuclear-armed nation could lead to an accidental nuclear use and push nations into an unwanted situation of nuclear escalation. However, as more countries acquire nuclear weapons, the ability of each one of them to establish command and control with uniform rigour and singularity of focus on high standards is difficult to assume.

Fourthly, there is a palpable danger of nuclear terrorism executed by a non-state actor. This danger has exacerbated for two reasons – one, there is greater availability of nuclear material and technology owing to the spread of nuclear power programmes. As energy demand grows across developing nations, fuel availability, especially of hydrocarbons, experiences price volatility and concerns over reliable and uninterrupted supplies. Simultaneously, as the pressure to meet growing demands through the use of environmentally friendly sources increases, nuclear power gains in popularity. Some 60 odd nations are believed to have expressed interest in setting up new nuclear power programmes to the IAEA in the last one year. Despite the fact that these energy programmes would be developed under IAEA safeguards, it has been seen in the past that violations, if a country so desires, cannot be completely ruled out. Besides the possibility of clandestine national nuclear weapons programmes, however remote, there also exists the risk of terrorist organizations being able to access fissile material from increasing number of nuclear facilities. Modern day terrorist organizations are proven to be well networked and financially flush. What has probably kept them from wreaking nuclear terrorism until now has been the difficulty in availability of requisite amount of sufficiently enriched fissile material, and the existence of the unsaid nuclear norm or taboo against use of nuclear weapons.

The fifth threat perception arises from the realization that classical deterrence could prove grossly inadequate in meeting these novel threats. Increased numbers of nuclear-armed states as well as players with different parameters of rationality and cost-benefit calculations are new phenomena that deterrence theories and practices have not had to deal with in the past.

It is a travesty of sorts that despite the novelty and severity of the contemporary nuclear threats, there is yet an absence of an imminent, pervasive threat that could involve large-scale catastrophic use of nuclear weapons. And because of this, governmental and non-governmental forces do not appear to coalesce into a sufficiently powerful critical mass that could galvanize movement towards abolition of nuclear weapons. Would the world have to wait for the occurrence of a nuclear catastrophe to experience absolute abhorrence for the weapon and mobilize action against its existence? What can be done to jolt nations and public out of their sense of complacency on nuclear weapons?

It is often opined that the US and Russia, which are the repositories of 95 per cent of the global nuclear stockpile, must take the necessary first steps to further reduce their stockpiles before others could join in the process. While it may be true that the biggest possessors of nuclear weapons have a special responsibility to reduce their weapons, the task of the other

states must also not be abrogated. India's Defence Minister, Mr. V. K. Krishna Menon said before the UN General Assembly in 1953, "Disarmament is a matter for all nations, great or small, in whatever continent they may be and in whatever climate..." Dr. Rajendra Prasad, India's first President, also echoed the same thought in his inaugural speech at the Anti-Nuclear Arms Convention in New Delhi in 1962, "The non-aligned and neutral people are as much involved in this as those who are knowingly engaged in the criminal conspiracy of creating weapons and conditions that would spell their own annihilation no less than that of others."

Indeed, every member of the international comity of nations has the right and responsibility to make the world a safer place, and they may contribute to this through thought, ideas or action. The rest of the paper is devoted to examining the role that India can and should play in the process. India has sought to contribute towards the creation of an NWFW, both as a non-nuclear state before 1998 and as a nuclear-armed state since then. The following two sections of this paper examine the Indian interpretation of universal nuclear disarmament and suggest some ideas/concepts that the country can offer to facilitate an NWFW.

3. Defining Disarmament – India's Interpretation

The journey to nuclear disarmament must begin with clarity on the end goal being sought. Will it be a world with no nuclear weapons, few weapons, weapons with a few nations or with an international authority of some kind? Ideally, a nuclear weapons free world should constitute a situation wherein there are no nuclear weapons. India interprets nuclear abolition as the complete removal of these weapons from the world. Some, however, contend that an international authority consensually negotiated might need to be crafted as the repository of a few nuclear weapons in case of an unthinkable eventuality. Meanwhile, most NWS are unable to accept or even envision a situation with no or zero nuclear weapons. Even the Four Horsemen restricted themselves to prescribing a low number and a low value nuclear deterrent. They were candid enough to admit that they could not yet visualize a state devoid of nuclear weapons since it appeared to be hidden on the top of some high mountains.

This is the case with most analysts who subscribe to the realist theory of international relations since for them inter-state equations are premised on competitive national interests. When self interest drives nations, it is difficult to visualize how and why they would voluntarily surrender a 'useful' weapon. Therefore, the definition of nuclear disarmament for most fails to get to a state of zero. The report "Eliminating Nuclear Threats" brought out by the International Commission on Non-proliferation and Disarmament (ICNND), for instance, outlines short term, medium term and long term measures for getting to a world without nuclear weapons. In the medium term it has identified 2025 as the year in which the world would actualize a 'minimization point' which would be characterized by "no more than 2000 nuclear warheads". However, the Commission found itself unable to identify a year by which the world might get to a state of zero. It states, "we have found it impossible credibly to do so [identify a particular target date for achieving the complete elimination of nuclear weapons], given the nature and complexity of the conditions that will have to be satisfied in the final elimination phase move from low numbers to zero."

This problem that each of such reports has identified arises from the inability of the

analysts to visualize an end state with no nuclear weapons. Steeped in the reality of the moment where inter-state relations, especially between nuclear armed states, are marked by trust deficits, it is naturally difficult to imagine a different world order based on a distinct paradigm of cooperative and not competitive security. As George Shultz et al said in their paper in 2008, "From the vantage point of our troubled world today, we can't even see the top of the mountain, and it is tempting and easy to say we can't get there from here."

This is a real challenge, for, unless the nations begin to visualize disarmament as a state of zero, we would be always looking at half measures and confronting trust deficits in interstate relations. It is only when all NWS express their willingness to give up all their nuclear weapons and the attendant fissile material, delivery systems, infra-structure, etc that there would be a complete change in how inter-state relations get perceived and conceived for the future.

As it did several centuries ago, India needs to help the world rediscover the meaning of zero, this time in the nuclear realm. It must advocate universal nuclear disarmament as a state of zero nuclear weapons — not of fewer weapons or in fewer hands because as long as even one country retains even one nuclear weapon, an NWFW cannot be realized and proliferation cannot be stopped.

India can further help to facilitate the acceptance of zero by providing a unique conceptual understanding of national security. This could eventually bring about a significant transformation of the geopolitical environment. The ICNND report rightly opines that "political-security relations among the nuclear-armed states and their neighbors will have to be cooperative and balanced enough..." This is obviously important, though not easy to obtain. India's first Prime Minister used to emphasize the goal of peace over security. The reason behind this is well explained by India's foremost strategic analyst Jasjit Singh in these words, "An environment of peace would naturally provide security, whereas mere security may or may not bring peace. For example, security in Europe during the Cold War was ensured for 45 years by something like 60,000 nuclear weapons, 94,000 combat airplanes, about 110,000 tanks and massive quantities of other weapons and military systems...." And yet despite all these security measures in place, peace proved to be elusive. The acquisition of nuclear weapons, whether as a national possession or through extended deterrence, brought security but not peace. Therefore, as Singh points out, "Peace has to be given a chance in shaping future paradigms."

It is in this context that India can bring a new paradigm to the understanding of interstate relations. Cooperative security, in place of the current competitive security, is needed to meet not only the requirement of nuclear disarmament but also the many challenges of the 21st century. An indication of this understanding can be found in the UN Security Council Resolution 1887, adopted on 24 September 2009 under the chairmanship of President Obama. It established a linkage between nuclear disarmament and the promotion of international stability, peace and security premised on "the principle of increased and undiminished security for all." Can nations bring themselves to rise above existing paradigms of security to envision a different world order premised on cooperation and the objective of peace rather than security? Can we at least begin to talk, write and debate the contours of a post-nuclear world so that its appeal and advantages can begin to pervade wider spaces – geographical,

and of the mind? And as mindsets change, so will the reality of the day. This is a fact proven in history and the abolition of well entrenched systems such as slavery and apartheid bear testimony to this.

The third concept that India must emphasize in defining disarmament is the linkage between non-proliferation and a world free of nuclear weapons. From the mid-1960s onwards, the time that the NPT was being negotiated, India highlighted this linkage and advocated the conclusion of the treaty more as a disarmament and less as a non-proliferation measure because it believed that the latter would be automatically taken care of if the former could be obtained. Illustrative of this approach is one of the many statements made by V. C. Trivedi, India's representative to the Eighteen Nation Disarmament Committee (ENDC) in August 1965. He said, "When we are talking... of non-proliferation, the fundamental problem we have to consider is that of the proliferation that has already taken place... A non-proliferation agreement is, therefore, basically an agreement to be entered into by the nuclear powers not to proliferate nuclear weapons... A prohibition to proliferate applies firstly to those who are in a position to proliferate or reproduce themselves and only secondarily to those who may subsequently be in such a position."

The NPT, however, evolved in exactly the reverse order with a higher emphasis on non-proliferation and a diluted commitment to disarmament. The folly of this approach is evident in the state of the NPT today when the treaty is near universal and yet the risk of nuclear proliferation has not diminished. This is primarily because without a credible prospect of nuclear disarmament, the existence of nuclear weapons set into motion a cycle of threat perceptions that can only lead to acquiring the capability. Since nuclear weapons cannot be deterred by any other military means, every nation confronted with the threat of nuclear use or blackmail is compelled to acquire them. This vicious cycle can only be broken when none has nuclear weapons and when such a state is mandated through an international convention and maintained through effective verification.

Envisioning a state of zero nuclear weapons and a world order premised on cooperative peace and security where non-proliferation becomes an automatic by-product of disarmament can be the three most constructive concepts that India could contribute to the making of a nuclear weapons free world. 63 years ago Mahatma Gandhi, father of the Indian nation, lived to see his dream of an independent India turn into reality. He achieved this through the moral conviction premised on non-violence, even though there were several detractors of this approach from amongst his own countrymen. This was natural since it was a route to independence that had never been tried before. But Gandhi traveled down this road and achieved success. Comprehensive global security will also have to be anchored in non-violence, however impractical and impossible this may sound today. As Mahatma Gandhi had presciently stated in the aftermath of the first use of nuclear weapons, "The moral to be legitimately drawn from the supreme tragedy of the bomb is that it will not be destroyed by counter-bombs, even as violence cannot be destroyed by counter-violence. Mankind has to get out of violence only through non-violence."

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^{*} Statement of V C Trivedi as reproduced in Documents on India's Nuclear Disarmament Policy, vol. II (New Delhi; Ministry of External Affairs), p. 590. † As cited by Rajiv Gandhi in his address to the United Nations Third Special Session on Disarmament in June 1988. This is when he presented the Action Plan for Ushering in a Nuclear Weapon Free and Non-Violent World Order. For the action plan see, Manpreet Sethi, ed., Towards a Nuclear Weapon Free World (New Delhi: Knowledge world, 2009), 151-156.

Raising its voice over the cacophony of realism, India must remind the world that the right route to civilized survival lies in establishing a world order on the principles of coexistence, non-use of force, non-intervention in the internal affairs of others and the right of every state to pursue its path of development. These principles, in fact, are enshrined in the United Nations Charter, but appear to have faded from immediate consciousness. India must help to revive their importance in the present moment if the world is to be stopped from sliding into a realist's vision of 'nasty, brutish and short' for any use of nuclear weapons would certainly make it so.

4. India's Ideas for an NWFW

The diplomatic energy and forward looking ideas that India invested into the pursuit of universal nuclear disarmament in the first four decades of its independence are well documented. The Partial Test Ban Treaty (PTBT), the nuclear non-proliferation treaty (NPT), the Comprehensive Test Ban treaty (CTBT) are all treaties that were originally proposed by India as measures aimed at nuclear disarmament. It is a different matter that they ended up as purely non-proliferation measures that were unable to address the threat perceptions of India and hence evoked little enthusiasm in or support from the country. In fact, over the last two decades the feeling of frustration, cynicism and a sense of being let down by the international community appears to have swayed Indian foreign policy. This has led to a relative silence on India's part on nuclear disarmament. Therefore, during the recent developments in this field, India has largely adopted a wait and watch approach. These have been perceived as welcome developments, but given the country's long experience of having drawn a blank on similar steps in the past, India has chosen to watch from the sidelines.

Of course, the country still introduces the resolution entitled "Reducing Nuclear Dangers" at the UNGA as it has done for more than the last two decades now. The Prime Minister and India's representative at the UN continue to reiterate India's firm commitment to disarmament and have listed seven steps towards nuclear disarmament. These include:

- Reaffirmation of the unequivocal commitment of all nuclear weapons states to the goal of complete elimination of nuclear weapons;
- Reduction of the salience of nuclear weapons in security doctrines;
- Adoption of measures by nuclear weapon states to reduce nuclear danger, including the risks of accidental use of nuclear weapons;
- Negotiations of a global agreement among nuclear weapon states on 'no first use' of nuclear weapons;
- Negotiation of a universal and legally binding agreement on non-use of nuclear weapons against non-nuclear weapon states;
- Negotiation of a convention on the complete prohibition of the use or threat of use of nuclear weapons; and
- Negotiation of a nuclear weapons convention prohibiting the development, production,

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^{*} For a detailed account of India's efforts in this regard see Manpreet Sethi, "The Struggle for Nuclear Disarmament", in Jasjit Singh ed., Nuclear India (New Delhi: Knowledge World, 1999), 75-92.

stockpiling and use of nuclear weapons, and on their destruction, leading to the global, non-discriminatory and verifiable elimination of nuclear weapons with a specified time frame.

While India's championing the cause of disarmament has been consistent, it is also true that there have been no proactive new proposals that India has made in the last few years. To some extent, this is understandable. Given the lack of support that some of the Indian proposals have evoked in the past, it is inevitable that the Indian foreign policy establishment should approach nuclear disarmament with far greater cynicism. However, despite this apparent loss of enthusiasm, there is no denying that the ultimate, final nuclear security for India lies in the universal abolition of nuclear weapons. Hence, it is of utmost importance that India should continue to aspire towards universal nuclear disarmament since in that ideal state lies the promise of better security for the nation, as also for the rest of the world.

Before India conducted the tests in May 1998, there were many who dismissed India's initiatives towards elimination of nuclear weapons as a case of sour grapes. It was said that since India did not possess nuclear weapons, it canvassed for their elimination so that none would have the advantage. After 1998, there are many, especially within the country, who have argued that India must now give up its moralist stance on nuclear disarmament and concentrate instead on building an effective and reliable deterrent.

But the truth of the matter is that for India, an NWFW is best suited for national security. The requirement for India's nuclear weapons is only to meet the nuclear threat from the adversaries in the region. So, India's position on universal nuclear disarmament is rooted in the national security interests of the country and it must continue to contribute to the search for ways and means to achieve nuclear abolition. It cannot afford, least of all for the sake of its own and the larger security, to remain detached from the evolving debate on universal nuclear disarmament. It must remain engaged in the nuclear abolition discourse and continue to generate fresh thinking on enhancing the desirability and feasibility of universal nuclear disarmament.

To this end, this section of the study suggests some ideas that India can champion in international fora today for the early realization of universal nuclear disarmament. These are largely derived from the Indian nuclear doctrine and, therefore, are being practiced by the nation itself. Most of these ideas are premised in reducing the salience of nuclear weapons so that over time, as they lose their perceived utility, it could become easier for nations to give up national controls over these weapons. Human nature does not permit the discarding of anything that it considers to be of value. Therefore, a devaluation strategy that deprives the weapons of utility and renders them unusable through a series of measures can prepare the ground for their eventual elimination.

4.1 Restricting the Role of Nuclear Weapons

One way of leaching nuclear weapons of their perceived utility would be to restrict the role and the circumstances in which the weapon can be used. If there is a universal treaty or understanding circumscribing these two parameters, the weapons will be restricted to a very limited utility and over a period of time it would then be possible to remove them from national arsenals. Fortunately, it is for the first time that the idea of reducing the role

of nuclear weapons found an echo in President Obama's speech at Prague in 2009. Among the steps that he outlined for reaching a world without nuclear weapons was the acceptance of a set of measures to be taken by the US to reduce the role of the nuclear weapons in US national security strategy. The Nuclear Posture Review 2010 of the US also conceives the use of nuclear weapons only in "extreme circumstances". This is a move away from the US National Security Council Report 68 of 1950 which mandated the use of nuclear weapons against the overwhelmingly superior Soviet forces in Eastern Europe. Meanwhile, the Russians given the state of their conventional weaponry seem to have adopted the earlier American position today. Difficult as it would be, a reassessment of nuclear doctrines to make nuclear weapons less attractive by restricting and eventually obviating their role in international politics is imperative.

The Indian nuclear doctrine grants a narrow role of nuclear deterrence to the weapon. It is firmly rooted in the belief that nuclear weapons are a political instrument for deterrence and not a military tool for war-fighting. This assertion for India emanates from the comprehension of and abhorrence for the high destruction potential of the nuclear weapon that makes its use unthinkable for any rational political end.

An articulation of a narrow role for nuclear weapons holds the promise of disarmament as against doctrines that ascribe a multi role utility to them. Several countries see them as a weapon to offset their conventional military inferiority (Russia and Pakistan), to deter chemical and biological weapons (USA, Russia, France and India), to guard against regime change (North Korea), to retain prestige and status (UK and France), and to deter interference in the conduct of their foreign policy (Russia and China). Each one of these perceptions enhances the utility of the nuclear weapon beyond its primary purpose of nuclear deterrence and hence motivates others to reach out to them. Therefore, as a first step, it would be necessary to undertake some redrafting of nuclear doctrines to reduce the role of nuclear weapons. India, in this regard, leads by example.

4.2 Adopting Comprehensive Security Assurances*

Nearly all states with nuclear weapons continue to maintain the centrality of nuclear deterrence for national security. While conceding that the nuclear weapons have lost some of their earlier relevance in the contemporary security environment, and expressing a willingness to reduce (or, should one say, rationalize) the numbers of nuclear warheads in their arsenals, the nuclear weapon possessors have nevertheless been chary of renouncing them owing to the uncertainty of the evolving security environment. Such a position, obviously, raises the attractiveness of the weapon for the non-possessors too.

It was at least to partially remove the attraction of nuclear weapons as a strategic equalizer that the concept of negative security assurances (NSA) to the NNWS party to the NPT had first developed. It amounted to the NWS providing an assurance or a guarantee not to use or threaten to use nuclear weapons as instruments of pressure, intimidation or blackmail against states that had formally renounced them. However, none of the NWS as recognized by the NPT has actually made these assurances available unconditionally or as part of a binding legal agreement. For instance, nearly all, except China, maintain the right to use nuclear

^{*} Arguments developed in this and the following sub-sections of the paper are derived from an article written by the author for the ICNND in 2009.

weapons to respond to attacks by NNWS in alliance or in association with other NWS. The Indian nuclear doctrine too has stated that the country would "not resort to the use or threat of use of nuclear weapons against States which do not possess nuclear weapons, or are not aligned with nuclear weapon power."*

It is noteworthy that the recently concluded NPT RevCon 2010 has called upon the Conference on Disarmament to begin discussing effective international agreements for extending legally recognized negative security assurances to NNWS. The Action Plan put forth by the RevCon requires the CD to "discuss substantively, without limitation, in order to elaborate recommendations, including an internationally legally binding instrument."

Meanwhile, positive security assurances, or the guarantee that other NWS would come to the rescue of a state under nuclear attack have been held out on the basis of the alliance systems that existed during the Cold War period. This assurance of extended nuclear deterrence is believed to have halted nuclear proliferation since the allies were promised protection under the nuclear umbrella of a NWS. But, it today stands as one of the many hurdles in the path of nuclear disarmament. It is feared that in case the NWS take away the promise of nuclear protection from their allies, the latter would be tempted to develop/acquire a capability of their own.

Negative security assurances offer one way to address this challenge. The conclusion of a legally binding agreement that pledges this assurance would reduce the attractiveness of the weapons for the non-possessors, whether allies or non-allies of other NWS and eventually remove the need for extended deterrence since NNWS would not fear a nuclear attack from other NWS. At the same time, universal instead of alliance-based positive security assurances would also significantly allay threat perceptions and reduce the desire for acquiring a national nuclear capability.

Comprehensive security assurances would provide credible guarantees of non-use of nuclear weapons against NNWS as well as the promise that others would come to their aid in case they were threatened with nuclear use. Moreover, a mix of positive and negative security assurances would be far more credible for the NNWS than a mere reduction in arsenals of the NWS, which are undoubtedly useful, but of little relevance since even a few hundred warheads are as threatening as several thousands. Meanwhile, this step would also provide the benefit to NWS of not having to immediately renounce their nuclear arsenals, thus allowing them to maintain their national sense of security until they are ready for the last step.

4.3 Accepting No First Use of Nuclear Weapons

While security assurances to the NNWS would significantly reduce the attraction of nuclear weapons, a universal acceptance of NFU by nuclear weapon possessors would remove the possibility of a nuclear exchange between NWS too. † In fact, adoption of NFU

^{*} Para 2.5 of the Draft Report of National Security Advisory Board on Indian Nuclear Doctrine, 17 Aug 1999 as available on http://www.meaindia.nic.in. † At present, only two countries – India and China – accept NFU. China's NFU, however, does not apply to its own territory or territories that it claims as its own. Hence, there is ambiguity regarding the possibility of Chinese nuclear weapons in a conflict over Taiwan, or Arunachal Pradesh, an Indian state to which China lays claim. Meanwhile, the Indian NFU which had been unconditional as spelt out in the draft nuclear doctrine presented to the government on 17 Aug 1999 by the first National Security Advisory Board, has since been somewhat diluted by a Cabinet Committee on Security note on operationalisation of the doctrine put forth on 04 Jan 2003 and which does not rule out India's nuclear use against a chemical or biological weapon attack.

would be a crucial step towards the eventual elimination of nuclear weapons since it would involve an assurance from every country that it would not be the first to introduce nuclear weapons into a conflict. Since there will not be a first, it would effectively mean no use of the nuclear weapon and hence a reduced dependence on the weapon in national security strategies over a period of time.

Of course, there are critics of the NFU who dismiss it as nothing more than a declaratory policy that means little once hostilities break out between nuclear nations. Such criticism, however tends to overlook the fact that the adoption of NFU automatically translates into a certain kind of nuclear force posture, strategy and deployment pattern that ensures that the promise of NFU is kept. Doctrines that ascribe a war-fighting role to nuclear weapons envisage 'first use' to retain the military advantage and, therefore, adopt launch on warning or launch under attack postures as also pre-emption. To undertake pre-emption both sides need a large infrastructure in the form of command and control, early warning, etc. NFU, on the other hand, frees the nation of such requirements. It allows for greater response time for self and a more relaxed posture for the adversary since he is liberated of the 'use or lose' syndrome. In fact, it must be highlighted that a universal NFU would be even more relevant as nuclear weapons reduce. With small nuclear forces, the temptation to launch a disarming first strike would be high because of the 'use them or lose them' compulsions. But an NFU posture would remove this temptation for self and the adversary. If the adversary is under constant fear that a nuclear strike is imminent, its own temptation to use nuclear force would be higher. Therefore, substantive reductions in warheads accompanied by acceptance of NFU would be significant preparations for an NWFW.

Acceptance of NFU enables de-alerting, de-mating and de-targeting, all three steps that are critical for reducing the existential dangers that accompany nuclear weapons. India's draft Resolution "Reducing Nuclear Dangers" that has been tabled in the UNGA every year since 1978 highlights that the hair trigger posture of nuclear forces carries the unacceptable risk of unintentional or accidental use of nuclear weapons. However, while this resolution has had the support of NAM nations, it continues to be opposed by NATO and European states who have questioned India's sincerity in sponsoring a resolution that calls for a change of posture of the NWS but has little application for India.¹²

The fact of the matter is that India's no first use posture liberates it from the need to maintain its arsenal on a hair trigger alert. If other nations too were to accept NFU through the conclusion of a universal NFU treaty, it would not only reduce the dangers of an accidental launch of nuclear weapons, but also heighten the chances of no use of nuclear weapons. In fact, a de-alerted and de-mated nuclear arsenal provides for a 'graduated deterrence' response thereby allowing more time to resolve the crisis even as the nations move towards a state of full alert. Overall, an NFU has the potential to lessen inter-state tensions, increase mutual confidence and thus reinforce a cycle of positives. It would enhance the inclination towards non-proliferation by sending a strong signal of the diminishing utility of nuclear weapons. This would be a first-of-its-kind agreement amongst all NWS and would signify great symbolic political value. It would lessen the drive of each NWS for new and modernized nuclear arsenals and thus lower inter-state tensions.

Meanwhile, the NFU would allow the NWS to retain the notional sense of security that

they derive from their national nuclear arsenals. NWS would not only pledge not to be the first to use nuclear weapons, but could always retaliate to inflict unacceptable damage. They would have the theoretical freedom to possess the weapons but pledge not to use them first. Gradually, the desire to possess, or improve an unusable weapon would lessen, making it easier to give up the weapon. Therefore, this step would work towards enhancing the gradual irrelevance of the nuclear weapon, especially when reinforced by a ban on use or threat of use of the weapon, quite as on the pattern and experience of the 1925 Geneva Convention. It may be recalled that it was 68 years after the Geneva Protocol that the Chemical Weapons Convention was finally signed in 1993. The decision in 1925 itself came after a large scale use of chemical weapons by both sides in the First World War which resulted in tens of thousands of casualties. Despite the high level of damage suffered, it was realized that chemicals weapons did not actually make a difference in the outcome of the war and the nations that used them reached the conclusion that those weapons were not effective in war.

Two questions, however, beg examination when one considers the decision to accept 'no first use' of nuclear weapons. Would a decision/treaty that bans the first use of nuclear weapons lead to an arms race in the field of conventional armaments? Would nations that give up the nuclear weapon move towards greater acquisition of conventional weaponry in order to bridge a perceived security deficit? While there are no empirical studies on the subject, it might well be the case that in the short term, nuclear disarmers lean towards greater conventional acquisitions. However, this trend is unlikely to last if nuclear disarmament is either the result of or results in more cooperative and secure inter-state relations. It is natural to assume that NWS will decide to disarm on the basis of a broadly consensually agreed upon verifiable process. Such a step would obviously generate greater confidence as it progresses and would have a benign effect on the international security climate. Hence, the possible spurt in conventional modernization could subside over a period of time. This trend could be further reinforced by a parallel process of conventional arms control akin to the Conventional Forces in Europe model.* It may be recalled that the Rajiv Gandhi Action Plan of 1988 too had catered for simultaneous reduction in conventional weaponry as a means for moving towards a nuclear free and non-violent world order.†

Parallel agreements that provide means to control a conventional arms race would ease the process of nuclear disarmament and especially help address the second, and a far thornier question of how one could get countries like North Korea or Pakistan, who perceive their nuclear weapons as 'strategic equalizers' as well as potent bargaining chips, to prescribe to the NFU. The DPRK has never been shy of brandishing its nuclear capability to drive a hard bargain with a country as powerful as the United States. Islamabad, meanwhile, has always rejected India's offer of a bilateral NFU and maintains its nuclear deterrence by projecting a low nuclear threshold. In order to deter a conventional war with a superior Indian military, Pakistan has a first use nuclear doctrine akin to NATO's stance vis-à-vis the Soviet military during the Cold War period. Acceptance of the NFU goes against the purpose of the national nuclear arsenal in the case of such countries.

However, a case for convincing/compelling states to accept a universal NFU may be

^{*} The author is grateful to Air Cmdr Jasjit Singh, Director, Centre for Air Power Studies, for bringing out this point in a private conversation.

[†] The full text of the Action Plan for Ushering in a Nuclear Weapon Free and Non-violent World Order is available as Appendix 2 in Manpreet Sethi ed. Towards a Nuclear Weapons Free World (New Delhi: Knowledge World, 2009), 151-156.

made on three grounds: First, an international consensus on and acceptance of NFU will put pressure on such countries and a united approach could provide the necessary firmness to the international community to deal with holdouts. Given that it is a question of survivability of human lives, it is not an issue that can be taken lightly; second, it is a well known fact established on the basis of elaborate war gaming exercises that a weaker military power can never come out better after the first use of nuclear weapons against another nuclear state. Therefore, first use against a nuclear adversary that also happens to have superior conventional and substantive nuclear capability is nothing short of suicidal for the first user. The admittance of this reality would demonstrate the futility of retaining a first use posture; third, when the NFU is accompanied with comprehensive security assurances, a Convention that outlaws the use of nuclear weapons, and conventional arms control, it should address the threat perceptions of these nations.

4.4 Prohibiting the Use or Threat of Use of Nuclear Weapons

A logical step that would flow out of the measures explained above would be to arrive at an international convention prohibiting the use or threat of use of nuclear weapons. This intention is encapsulated in the draft Resolution entitled "Convention on the Prohibition of the Use of Nuclear Weapons" that India has annually tabled at the UNGA since 1982.* The resolution aims at prohibiting the use or threat of use of nuclear weapons under any circumstances, a step that can substantially reduce the prospect of nuclear use, and contribute towards the creation of a climate for a subsequent agreement on the prohibition of nuclear weapons in toto.

In case all NWS were to commit under a convention that nuclear weapons shall not be used and that any country using them or threatening to use them shall face commensurate retribution and a total boycott by all the countries of the world, it would make these WMD significantly impotent and useless. The value of nuclear weapons would fall instantly and further proliferation would voluntarily stop. None would want to acquire weapons that could not be used, not in war, and hence not as a deterrent either. Consequently, the unique status that nuclear weapons are deemed to provide would no longer seem worth aspiring for. Meanwhile, even 'rogue' states would no longer have any use for these weapons for fear of serious reprisals. Therefore, a total ban on the use of nuclear weapons would directly strike at the very root of their utility.

Interestingly, the UN General Assembly has periodically considered resolutions to this effect. Far back in 1961, it had adopted a declaration by a vote of 55 to 20 with 26 abstentions stating that the use of nuclear weapons was contrary to the "spirit, letter and aims of the UN". The US and NATO then opposed it contending that in the event of aggression, the attacked nation should be free to take whatever action with whatever weapons not specifically banned by international law. India has long been proposing the resolution mentioned earlier for a multilateral, universal and binding agreement prohibiting the use or threat of use of nuclear weapons through an international convention. Predictably, the P-5 have opposed the resolution and they propose instead a step-by-step process that embraces unilateral, bilateral and multilateral measures. † Ironically, Japan, for all its abhorrence of nuclear weapons, also

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^{*} UN General Assembly Resolution 63/75 (L.15).

[†] See "Appendix: Summary of Resolutions", Disarmament Diplomacy http://www.acronym.org

abstains for reasons similar to those voiced by the US.

Meanwhile, the existing 'advisory opinion' delivered by the International Court of Justice in 1996 on the legality/illegality of use of nuclear weapons by a nation has not clearly removed the ambiguity over the issue. The Court did conclude unanimously that a threat or use of nuclear weapons that is contrary to Article 2, paragraph 4 of the UN Charter and that a failure to meet all the requirements of Article 51 on self-defence would be unlawful. However, it could not conclude definitively whether such an act would be generally contrary to the rules of international law applicable in armed conflict and particularly to the principles and rules of humanitarian law, and also whether the act would be legally justified in an extreme circumstance of self-defence when the survival of the state is at stake. NWS have taken advantage of this ambiguity in order to maintain nuclear arsenals for deterrence. However, the Court's conclusion that there is no specific law prohibiting the use of nuclear weapons itself demands that the lacuna be removed through the enactment of a law or a convention.

A convention banning nuclear use, in fact, would send an important signal to all concerned constituencies – it would devalue the weapon substantially as a currency of power and status; it would reduce the likelihood of a nuclear exchange between NWS; it would reassure the NNWS and reduce their temptation to acquire these weapons for deterrence; it would reinforce the taboo against nuclear use and this would influence non- state actors too.

5. Conclusion

In 1988 Rajiv Gandhi said, "Humanity is at a crossroads. One road will take us like lemmings to our suicide. That is the path indicated by doctrines of nuclear deterrence, deriving from traditional concepts of the balance of power. The other road will give us another chance. That is the path signposted by the doctrine of peaceful coexistence, deriving from the imperative values of non-violence, tolerance and compassion."

Humanity is still poised at the same juncture today. This is both a fortunate and an unfortunate reality. It is fortunate because mankind has not yet blown itself up in a nuclear holocaust and the numbers of nuclear weapons have progressively reduced. At the same time, it is also an unfortunate fact that humanity has not progressed down the road to a nuclear-weapons-free world. So, while the numbers have reduced, the dangers from nuclear weapons remain and have only grown in dimension and become more sinister since then. We inhabit today a world where far more numbers of states have nuclear weapons; where even more could be tempted to cross the threshold, thereby leaving a large tear in the non-proliferation fabric; where non-state actors are powerful enough to pose threats to state security; where the possibility of non-state actors acquiring nuclear material or weapons for terrorism, either with or without state complicity have multiplied; where inter-state relations are mired in mutual mistrust; and where the possibility of a nuclear incident – terrorist triggered or state sponsored – occurring somewhere in the world poses a risk. President Obama stated at the Nuclear Security Summit in April 2010, "It is an irony that while the risks of a nuclear confrontation have come down, the risks of a nuclear attack have increased."

With an increase in the nuclear dangers, there must come a simultaneous progression in the understanding that the only sustainable route to mitigating these dangers has to pass through a nuclear-weapons-free world. The problem in going down this route, however, is that it is not well laid out and hence calls for taking a far greater risk of the unknown variety. As NWS move down to lesser numbers and eventually to zero, how would inter-state security look? Would conventional wars become easier and more rampant with the disappearance of deterrence? After all, it is widely assumed that the presence of nuclear weapons has imposed constraints on the conduct of war. The US and USSR never did risk a direct confrontation. Nor did India and Pakistan overstep certain national boundaries in moments of crisis since 1998. However, the problem with applying this premise forever into the future is that it can never guarantee the non-use of a weapon that is available with nations. In fact, the norm of non-use could be threatened by a number of factors. It is for this reason that the norm should be made legally binding through a set of interlocking mechanisms between the NWS and NNWS.

Would not some countries still be prone to cheating on their commitments of not developing nuclear weapons? Would disarmament be able to stop every incidence of nuclear terrorism? Unfortunately, there are no easy or definitive answers to these questions. Yet, it can be said with utmost certainty that as new actors emerge and multiple nuclear poles crystallize, the game of deterrence would get more complicated. Also, given the nature of contemporary human habitation in mega cities, any use of nuclear weapons – deliberate or unintended, state, non-state or a hybrid version – would mean catastrophic damage of unimaginable proportions. Hence, the criticality of a credible nuclear disarmament plan cannot be underestimated. The four steps towards disarmament, as explained in detail in the paper, hold the combined promise of reducing the salience of nuclear weapons, reducing the risk of proliferation, lessening the danger of a nuclear war, reinforcing the irrelevance of nuclear weapons, strengthening the norm of non-use, and most of all, reducing the threat perceptions between states. Holistically taken, they would contribute to a stable world order.

Nuclear weapons can only be abolished when the belief systems behind their utility and use change. Existing norm of non-use of nuclear weapons needs to be institutionalized into a legal regime before the scars of Hiroshima and Nagasaki fade from human memory. In this context, it would be useful to draw upon the experience of the outlawing of the chemical weapons. These weapons were banned from being used by the Geneva Convention in 1925 and it was only almost seven decades later in 1993 that the Chemical Weapons Convention actually came into being. Over the seventy odd years, the chemical weapons continued to exist with nations, but their utility steadily diminished and the norm of their non-use got strengthened. Following nuclear weapons could also be made dysfunctional by first restricting their role, then reducing the circumstances in which their use could be considered and finally delegitimizing their use or threat of use. As the value of the stock of nuclear weapons falls, nations will find it less painful to discard them. Universal nuclear disarmament can then become a reality.

The US representative to the UN in his reply to the appeal in 1956 for an agreement on cessation of nuclear testing by Krishna Menon, the Defence Minister of India then, had said, "The simple fact is that in the absence of arms control and in the face of constant new developments, a wide variety of weapons is required to provide the versatility and flexibility essential to defend against aggression whenever, wherever and however it may occur." If every country takes recourse to such a justification then we would be heading towards a chaotic and armed to the teeth world order. In the course of history it has been repeatedly

demonstrated that there can be no permanent monopolies over armaments. Gunpowder, machine guns, tanks, nuclear weapons have all provided a temporary advantage for those who acquired them first. Thereafter, the weapon spread to new capitals and shores. Unfortunately, in this spread, humanity always came out the loser.

Prime Minister Nehru had cautioned the world in 1962, "Time is limited. If you do not put an end to it soon enough, it may later on be beyond the capacity of human beings or nations to stop it." The time is even shorter now. It is absolutely imperative that nations stop this slow march to humanity's destruction.

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Notes

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Those who are engaged in building democracy in their countries and who are animated with a fresh spirit like in Egypt will have to ask themselves: What purpose does building a democratic nation have if it is embedded into an undemocratic and non-transparent international system? In a globalized world the confinement of democratic participation of citizens to the institutions of the nation-state is almost equivalent to disenfranchisement. True democratic emancipation cannot stop at national borders.

Andreas Bummel, Chair, Committee for a Democratic UN

Politics is the whole of which economics is a part and employment is a small part of the wider domain of economic life. Ushering in a global government generates the power of solving these minor problems. Government is the context that activates the politician. Politicians can cure the ills created by economists. A wider vision of economics solves the problems created by narrow inspiration.

T. Natarajan, President, The Mother's Service Society

The role of labour is crucial for the social cohesion and stability it provides. Threats to financial stability do not exclusively emanate out of capital markets. As the unrest in several Arab countries demonstrate yet again, without social stability there can be no financial stability.

Patrick Leidtke, Director, Geneva Association

Economic thinking is still very largely related to traditional Cartesian (and Newtonian) concepts of science. The notion of equilibrium is not really a concept or an explanation, but rather a tautology, which has been given the value or status of an axiom. Understanding this notion of equilibrium, where supply is equal to demand, is essential because it explains why economic theory has from the beginning always tended to be one-sided...Once we enter real time, uncertainty and disequilibrium become the reference criteria of reality. Introducing the notion of real time into the economics of supply and demand (in modern terms, service based production and consumption) is a radical alternative to the view of the economic process as being based on timeless (instant) equilibrium.

Orio Giarini, Director, The Risk Institute

According to Roosevelt, "necessitous men are not free." The narrow conception of individual freedom founded on prisvate property rights advocated by neoliberalism neglects a much wider, more humane conception of social democracy, freedom from want and human security affirmed by the New Deal, the Atlantic Charter and the UN Charter.

Winston Nagan, Director, Inst. for Human Rights, Peace & Development

A human-centered theory of economy and employment needs to be founded on the realization that human beings – not impersonal principles, market mechanisms, money or technology – are the driving force and central determinants of economic development.

Garry Jacobs & Ivo Šlaus, World Academy of Art & Science Global Employment Project

CADMUS

Inside This Issue

Our world is headed into a Perfect Storm of an interconnected financial, ecological and social crisis. Almost all forward-looking assessments demonstrate that business as usual and incremental improvements will not be sufficient to take us to a future world blessed by equitable prosperity, safety, security and contentment.

lan Johnson, Secretary General of the Club of Rome

The three organizations – WAAS, Club of Rome and the Pugwash Movement – should sincerely join forces and act together, so that we can fully utilize use our collective experience, intellectual capacity and foresight. Together, we will have a much stronger voice to get our good messages out to the world and be listened to by policy makers, parliaments, governments, academics and all societies in general, in both the industrialized and developing economies.

Heitor Gurgulino de Souza, Former Rector of United Nations University

Decisions on our common future should no longer rest solely on world leaders, who can evade or even obstruct meaningful change. A simultaneous electronic ballot on saving bios is a brilliant opportunity to demonstrate that, as citizens of the world, we can all agree on safeguarding the Earth for the generations to come. By giving priority to individual voices to be heard, the World Referendum can elicit the personal involvement of every citizen in the race to save the environment and help to bridge the gap between the rich and poor.

Agni Vlavianos Arvanitis, President, Biopolitics International

The greatest global challenge that faces the international community today is that of the current trans-national revolution in human affairs, which in turn is triggered by the combination of three revolutions: a revolution of rising expectations, the information and communications revolution, and a broader industrial-technological revolution.

Jasjit Singh,
Director, Centre for Air Power Strategy

Continued . . .