

STIMSON

NUCLEAR
SECURITY
SERIES

Unblocking the Road to Zero

PERSPECTIVES OF ADVANCED NUCLEAR NATIONS



India | China

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Editor



CHINA AND INDIA

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PREFACE

I am pleased to present *China and India*, the second in the new series of Stimson publications addressing the question of how the elimination of nuclear weapons might be achieved. The Nuclear Security Project explores the practical dimensions of this critical 21st century debate, to identify both political and technical obstacles that could block the road to “zero,” and to outline how each of these could be removed. Led by Stimson's co-founder and Distinguished Fellow Dr. Barry Blechman, the project provides useful analysis that can help US and world leaders make the elimination of nuclear weapons a realistic and viable option. The series comprises country assessments, to be published in six different monographs, and a separate volume on technical issues.

This second volume, with analyses by Major General Pan Zhenqiang (Retired), executive member of the Pugwash Council and Dr. Rajesh Basrur of the Nanyang Technological University in Singapore, address nuclear disarmament as seen by two emerging world powers, China and India. The papers follow the inaugural volume *France and the United Kingdom*, published in February.

Each of the country assessments considers the security conditions that need to be met before the government in question would participate in a multilateral disarmament process. Third in the series will be another pair of countries, Pakistan and Israel, both of which view their nuclear weapons as vital to offset a strategic adversary's greater size and conventional capability. Later volumes will examine the two newest nuclear aspirants—North Korea and Iran; two nuclear superpowers, Russia and the United States, and countries with advanced civilian nuclear capabilities that could be future weapon states such as Brazil, Japan, and Turkey.

Later in the year, a set of papers assessing such technical issues as verification, warhead dismantling, and governance of a disarmament treaty regime will be published in a single volume, complementing this series of country assessments.

This new series will make an important contribution to the new and renewed debate about how to rid the world of the dangers of nuclear weapons. This enduring strategic issue has been a central concern of the Stimson Center since its founding twenty years ago. I hope that this new publication will provide insights and pragmatic ideas to facilitate wise policymaking, in keeping with Stimson tradition.

Sincerely,



Ellen Laipson
President and CEO

INTRODUCTION

In recent years, the twin threats of proliferation and terrorism have led to a growing chorus of world leaders calling for the global elimination of nuclear weapons. Now, thousands of individuals from around the world and across political lines have come together in a new project called *Global Zero*. The project combines policy research and analyses with broad-based and sustained public outreach to encourage key governments to negotiate a comprehensive agreement to eliminate all nuclear weapons through phased and verified reductions.

In support of *Global Zero* and the many other ongoing efforts to eliminate nuclear weapons, and in collaboration with the World Security Institute, the Stimson Center has commissioned a series of papers examining the strategic obstacles that block the achievement of zero nuclear weapons world-wide. Written from the perspectives of individual countries that either possess nuclear weapons or have the potential to develop them relatively quickly, the papers describe those nations' official views on, and plans for, nuclear weapons, as well as how the prospect of wide-spread proliferation and the possibility of nuclear disarmament might change those perspectives. The primary purpose of each paper is to identify the policies and international developments that would encourage decision-makers in each nation to look favorably on a treaty to eliminate nuclear weapons by a date certain.

The second pair of papers in the series, *India*, by Dr. Rajesh Basrur, and *China*, by Major General (Ret.) Pan Zhenqiang, are published together in this volume. Relative late-comers to the nuclear club, these two nations with global aspirations are each modernizing and increasing the size of their nuclear arsenals. As such, they present a very different picture than the older nuclear weapon states, each of which is reducing its weapon stockpiles. Together, the two papers make clear that if the two nuclear superpowers, the US and Russia, make significant progress toward deep reductions in their own arsenals, and then work together in pursuit of multilateral disarmament negotiations, the two Asian nuclear powers are very likely to come to the table as well.

This series of papers has been made possible by grants from the World Security Institute (with the support of the Carnegie Corporation of New York), and the Ploughshares Fund, as well as by gifts from individual donors. The Stimson Center and the series' editor are grateful for their generosity. The views expressed in the papers are those of the writers. They do not necessarily represent the views of the Stimson Center, the sponsoring organizations, or of *Global Zero*.

Barry M. Blechman

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INDIA

INDIAN PERSPECTIVES ON THE GLOBAL ELIMINATION OF NUCLEAR WEAPONS

Rajesh M. Basrur

India's security concerns since its independence in 1947 have revolved around four central themes: protection of the nation's security from external threats, internal consolidation of national identity, achievement of balanced economic growth, and creation of a stable democratic polity. Policymakers have faced serious challenges in all four areas and have had to divide their political and material resources among them. A young nation-state in the making with a weak economy seeking to build democracy in a fragmented society must necessarily restrict its allocations to the military sector. As a part of the overall security landscape, nuclear weapons occupy a relatively small space. Indian thinking about nuclear weapons, moreover, has been shaped by the thinking of M.K. Gandhi, the man who led the country's movement for independence for some three decades. Gandhi's espousal of non-violence as a political strategy and his moral rejection of nuclear weapons laid the foundations of a deep unease with the bomb.¹ Consistent with this perspective, Prime Minister Jawaharlal Nehru, who held the reins of security policy until his death in 1964, was unwilling to seek nuclear weapons because he believed they would engender insecurity rather than security and preferred to focus on universal nuclear disarmament. But Nehru was enough of a realist to leave the door open to the future development of nuclear weapons in case the need arose. As he noted, while India did not need nuclear weapons, "there is always a built-in advantage of defence use if the need should arise."² As a result, India abjured nuclear weapons, but developed its civilian nuclear program with an eye to its military potential.

Through a series of cautious responses to external threats, the military potential gradually evolved and India became a declared nuclear-armed state in 1998. Yet the normative aspect has never lost its salience. The balance between a norm-driven rejection of nuclear weapons and a realist-driven awareness of nuclear threats has consistently been tilted in favor of the former.³ Thus, India is inclined to be well disposed, perhaps more than most other nuclear-armed states, toward the current effort to marginalize and eventually eliminate nuclear weapons.

INDIA'S SECURITY CONCERNS

There has been much debate over India's motivations for nuclearization. Among the factors said to have been influential are national security, the interests of the bureaucracy and the nuclear-scientific community, the political outlook and calculations of the Bharatiya Janata Party (which was in power in 1998), considerations of national prestige, and resistance to international pressure driven by a desire to be autonomous.* All of these arguments have some truth to them, which is hardly surprising, since major historical processes and events are rarely attributable to a single factor. But this debate is skewed and misleading because most of the discussion has occurred in the context of the series of nuclear tests conducted by India in 1998. The reality is more complex.

In assessing India's motivations in becoming a nuclear-armed state, it is important to recognize that the chronology of its nuclearization is distributed over a long period punctuated by three major events. First, India became a *nuclear-capable power* in 1974, when Prime Minister Indira Gandhi ordered a single successful test. But thereafter, she made no effort to build an arsenal. Technical capability was not translated into military capability. The bomb was actually produced circa 1989, when, eschewing further tests, Prime Minister Rajiv Gandhi authorized the construction of the first nuclear weapon, thereby marking India's emergence as a *covert nuclear power*. The bomb lay confined to the basement, its organizational infrastructure largely undeveloped. The series of tests conducted by the coalition government of Prime Minister Atal Behari Vajpayee in 1998 made India a *declared nuclear power*. In each case, security considerations played a significant role, but in different ways. In each case, threat perceptions were different.

* For a range of discussions on the Indian decision to go nuclear, see Scott Sagan, "Why Do States Build Nuclear Weapons? Three Models in Search of A Bomb," *International Security* (Winter 1996/97), pp. 54-86; Stephen P. Cohen, "Why Did India 'Go Nuclear'?" in Raju G. C. Thomas and Amit Gupta, eds., *India's Nuclear Security* (New Delhi: Vistaar Publications, 2000); Sumit Ganguly, "Explaining the Indian Nuclear Tests of 1998," *Ibid.*; Devin T. Hagerty, "South Asia's Big Bangs: Causes, Consequences, Prospects," *Australian Journal of International Affairs* (April 1999), pages 19-29; Prem Shanker Jha, "Why India Went Nuclear," *World Affairs* (July-September 1998), pages 80-96; Pratap Bhanu Mehta, "India: the Nuclear Politics of Self-Esteem," *Current History* (December 1998), pages 403-406; Deepa Ollapally, "Mixed Motives in India's Search for Nuclear Status," *Asian Survey* (November/December 2001), pages 925-942; George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation* (Berkeley, Los Angeles and London: University of California Press, 1999); Kalpana Sharma, "The Hindu Bomb," *Bulletin of the Atomic Scientists* (July-August 1998), pages 30-33; and K. Subrahmanyam, "Nuclear India in Global Politics," *World Affairs* (July-September 1998), pages 12-40.

Mrs. Gandhi's bomb was motivated by an all-consuming fear of loss of India's political autonomy vis-à-vis the external world. India's colonial past lay heavy in the minds of post-independence leaders, who fashioned a foreign and security policy characterized by resistance to external domination. Its chief tenets were nonalignment, autarky, and opposition to the presence of foreign forces in its neighborhood. India's 1974 test was not a direct response to the Chinese threat. Limited movement toward a nuclear weapons program had been authorized by Mrs. Gandhi's predecessor, Lal Bahadur Shastri, in the wake of China's 1964 test, which had occurred soon after India's painful rout in the Sino-Indian border war (1962). At the time of the test, little thought was given to the need for nuclear weapons in response to the Chinese military threat, as India was quickly building up its conventional capabilities, more than doubling its forces within the next two years and enhancing its training and logistics as well.⁴ Mrs. Gandhi's disinclination for a nuclear build-up in response is therefore understandable, though she was far more inclined toward realpolitik than Nehru or Shastri. The test was a *political* response to the growing perception that India's autonomy was threatened by the ingress of external forces in the region and by the evolving balance of power that was transforming the wider regional strategic landscape at the time. In particular, there was much apprehension among Indian decision makers about what was viewed as an emergent US-Pakistan-China axis, which hemmed India in geopolitically. In responding to the 1971 crisis in East Pakistan (which eventually led to the birth of Bangladesh), India felt compelled to undermine its autonomy by signing a quasi-alliance with the Soviet Union—the August 1971 Treaty of Friendship—which also had been hedging its subcontinental bets by making overtures to Pakistan.⁵ Both India's regional security and its global position as a leader of the Non-Aligned Movement quickly deteriorated. Above all, the symbolic warning conveyed to India by the dispatch of a US naval task force into the Bay of Bengal in December 1971 had profound effects on the Indian leadership.⁶ The 1974 test was thus a symbolic response to India's perception that it had lost its autonomy and become dependent on the Soviet Union owing to the shifting power balances of the time. In short, it represented a response not so much to a direct military threat as to its perception of a serious deterioration in its overall security environment.

Since the test occurred at a juncture when Mrs. Gandhi was surrounded by increasing domestic political turmoil, it has been claimed that her decision may have been a survival tactic.⁷ But this is not a satisfactory explanation. The pivotal decision to go ahead with the test appears to have been made in the period between late 1971 and September 1972, much before Mrs. Gandhi's domestic troubles erupted.⁸ The process took time for technical rather than economic or political reasons: though there was some anticipation of an adverse international

reaction and negative economic consequences, there was an expectation that India would be able to ride them out.⁹

The militarization of India's nuclear capability occurred in quite different circumstances. By the 1980s, Pakistan was known to be reaching for the bomb, largely through the clandestine efforts of A. Q. Khan. This generated a new and more immediate threat to Indian security since India saw Pakistan as an irredentist state that had twice gone to war with it over Kashmir. In the Indian perception, there were two secondary contributors to the threat. China, pursuing a strategy of containing India by using Pakistan as a surrogate, had supplied technology and possibly nuclear materials and warhead designs for the Pakistani bomb.¹⁰ The United States, meantime, had turned a blind Cold War eye to growing evidence of Pakistan's quest as it needed Islamabad's close cooperation in building up the armed resistance of the mujahideen to the Soviet occupation of Afghanistan. Even so, Rajiv Gandhi, cast in his mother's mold as a realist uneasy with the bomb, sought to propagate universal disarmament and presented a plan toward this end at the United Nations in 1988.¹¹ But the effort failed, and Rajiv ordered the construction of India's first bomb in 1989.[†] In sum, the making of India's bomb was not an immediate and proactive response to the perception of a major security threat, but rather a case of reluctant nuclearization arising from concerns about the deteriorating security environment.

India's third major nuclear event was the decision to test in 1998. What motivated Vajpayee and the BJP to overtly go nuclear? The BJP as a party had always been a strong advocate of going nuclear. Yet Vajpayee, as Minister for External Affairs in the cabinet of Morarji Desai in the late 1970s, had voted against that path as he felt it would have serious adverse effects on India-Pakistan relations.¹² Analysts who point to domestic political incentives for the tests fail to observe that, first, the BJP was surely aware that Mrs. Gandhi's government had nearly collapsed under the weight of popular opposition within months of the 1974 test; and second, that Prime Minister P.V. Narasimha Rao of the Congress Party had authorized a test in 1995 before retracting it under American pressure.

[†] K. Subrahmanyam, "Indian Nuclear Policy, 1964-98 (A Personal Recollection)," in Jasjit Singh, ed., *Nuclear India* (New Delhi: Knowledge World, 1998), page 44; Raj Chengappa, *Weapons of Peace* (New Delhi: HarperCollins, 2000), pages 332-6. Was Rajiv's disarmament genuine or just a tactical move preceding the bomb decision? There is some evidence for the former, none for the latter. V. S. Arunachalam, his scientific advisor, argues from personal knowledge that he was "genuinely against the bomb," though he "did not want India to be found wanting in a crisis either." See Chengappa, *Weapons of Peace*, page 304. There is also an undeniable continuity in reservations about the bomb over the generations from grandfather to grandson.

The evolution of the nonproliferation regime in the 1990s provides a security-related explanation. Though the bomb had been built around 1989, it had remained covert since then and no effort had been made to create a full-fledged infrastructure for it. The Indian position had always been one of building capability and keeping the option to develop an arsenal open. Simultaneously, India had consistently called for disarmament, arguing that it could not close its option so long as others retained their nuclear weapons. Post-Cold War, the US-led drive to tighten nonproliferation made India's position increasingly uncomfortable.¹³ While the US retained nuclear weapons as centerpieces of its national security strategy, the odds against India's retention of its open option were lengthened. The indefinite extension of the Nuclear Nonproliferation Treaty (NPT), which India rejected precisely because it would have closed the door to nuclearization, was a blow, but as an outsider, India could tolerate it. The negotiations over the Comprehensive Test Ban Treaty (CTBT) took a more unpleasant turn from the Indian standpoint. The entry into force (EIF) clause of the treaty envisaged putting pressure on all nuclear-capable states to join. In effect, India was pushed into a corner, its open door on the verge of being slammed shut. It was either sign up or break out, and India chose the latter. The tests, therefore, were a response to the broad, but still substantial, threat to India's security choices.

This brief review brings into relief the security concerns underlying Indian policy, but it also highlights two important points in the current context. First, nuclear weapons have never been central to Indian security thinking in the way that they have been for several other states. Second, India's commitment to disarmament on a universal and non-discriminatory basis has been consistent. Thus, it would be reasonable to say that India's position is one which would be comfortable with a serious drive by the major nuclear powers to eliminate nuclear weapons.

NUCLEAR WEAPONS IN INDIA'S NATIONAL SECURITY STRATEGY

There are two inherent and yet divergent conceptions of the role of nuclear weapons. One is technical: they are seen from this perspective as military instruments that can be utilized for "warfighting." Even those who reject the idea of fighting a nuclear war recognize that unless the weapons were actually functional, and thus could, in principle, be used in a war, they would not deter nuclear use by others. On the other hand, the political concept of nuclear weapons works in the opposite direction, with the bomb viewed as essentially unusable. The balance between the two conceptions is important in shaping the ways in which nations respond to proposals for disarmament. A security strategy

that does not give a central place to nuclear weapons and minimizes their role is more in tune with the thrust of disarmament than one that does.

India's concept of the bomb leans heavily toward the political side of the balance. There are several reasons for this. First, as noted above, there is a deep normative discomfort with weapons of mass destruction among Indian leaders. This has not dissipated in the two decades since the first bomb was put together. Second, India's historical experience since independence is one which regards the level of "unacceptable damage" – the basis of its deterrence posture – as low. In the first quarter century after independence in 1947, India fought four wars: three with Pakistan (1947-48, 1965, and 1971) and one with China (1962). None of these wars was highly destructive in terms of its human toll or economic effects.¹⁴ More importantly, civilian populations were not targeted in any of them. This stands in great contrast with the US and the Soviet Union, both of which inflicted large-scale civilian losses during the Second World War. Their historical experience has shaped Indian leaders' belief that deterrence has a relatively low threshold: it does not require the threat to destroy many millions of people in order to deter. A small and low-profile deterrent force is enough.

Third, in contrast with the Second World War and the Cold War, the security threats faced by India have been of limited proportions. The territorial disputes with Pakistan and China do have tremendous symbolic importance, but they are hardly matters of national survival or of an all-or-nothing character. Fourth, as a democratic developing country with limited resources, India simply does not have the luxury of giving in to the temptation of adopting a nuclear doctrine that requires a large deterrent force. Fifth, political leaders in India retain a residual suspicion of the military and hence are reluctant to let the armed forces expand their functions, roles and powers beyond a limited extent.

Accordingly, Indian nuclear strategy is very low-key, reflected in its "recessed" posture.[‡] Unlike the forces of the United States and the Soviet Union/Russia, Indian nuclear weapons have never been deployed in ready-for-use form, let alone kept on alert. Delivery vehicles do not have weapons mated with them. The bombs themselves are kept unassembled. Moreover, there is no evidence that the weapons were assembled even at the height of the Kargil conflict (1999), when Indian and Pakistani troops engaged in several weeks of fighting, or in the 2001-02 crisis, when India threatened "limited war" against Pakistan.

[‡] The term is attributed to Jasjit Singh, a leading Indian strategic commentator. See his "A Nuclear Strategy for India," in Jasjit Singh, ed., *Nuclear India* (New Delhi: Knowledge World, 1998).

Given this reality, it is not surprising that there is little or no interest in nuclear warfighting and therefore in developing tactical weapons. The author's post-1998 interviews with a large number of individuals from the strategic elite revealed no significant interest in such weapons.¹⁵ Indian nuclear doctrine unequivocally states that retaliation against a nuclear attack will be "overwhelming," indicating a clear preference for a countervalue rather than a counterforce response.¹⁶ The nuclear-capable missiles currently being developed, on which more is said below, are of the middle- and intermediate-range variety. The short-range Prithvi missile has been the mainstay of the missile force hitherto, but, vis-à-vis Pakistan, most of whose major cities are well within their reach, their function is strategic and not tactical.

Could Indian thinking change? Conceivably, the military-technical approach could gain the upper hand in the event there is a concatenation of circumstances: the rapid rise of a serious military threat from Pakistan or China; simultaneous domestic and external crises; and the erosion of civilian leadership. The probability seems remote. External failure in 1962 and 2001-02 had no effect on the domestic power equation. If anything, the political leadership on both occasions showed itself to be adept at retaining its status and position. There is little reason to expect the militarization of Indian thinking about nuclear weapons under the pressure of changed political circumstances.

Nuclear Weapons and India's Regional and Global Aspirations

With the growth of India's economy and the concomitant rise of its military capabilities, it is a valid question whether Indian leaders view nuclear weapons as desirable accoutrements of power. If they were, they could serve two purposes. First, they could be used as instruments for the purpose of specific political gains: as back-ups to conventional forces used for intervention abroad, or as instruments for coercing adversaries directly. Second, as symbols of great power, nuclear weapons could conceivably be used as a platform for acquiring enhanced global status. As is often pointed out, all of the permanent members of the Security Council are also the only "recognized" nuclear weapon states (though this fails to recognize that only the US was a nuclear power in 1945). A brief discussion will show that neither aspect is relevant to India's regional and global aspirations.

At the regional level, India was long viewed as a "hegemon," and not a particularly benign one either, since it incorporated one small neighbor into its territory (Sikkim), signed unequal treaties with two others (Bhutan, Nepal) and intervened militarily in three (Pakistan in 1971, Sri Lanka in 1987, and the Maldives in 1988). But since the 1990s, the situation has been reversed.

Relations with all its immediate neighbors are on the upswing.¹⁷ After two major confrontations, India and Pakistan have realized that there is no military solution to the Kashmir issue and have begun fording the gulf between them. India-Sri Lanka relations have reached a stage where Sri Lankan leaders have repeatedly pressed for free trade, a defence pact, and even Indian involvement in their ethnic crisis. India has signed a new and more egalitarian treaty with Bhutan and indicated its willingness to do the same with Nepal. Relations with Bangladesh have improved significantly, reflected in the April 2008 revival of cross-border train service after four decades. India, for its part, has shown no inclination to intervene in any of these states despite its growing power and despite the high level of instability in all except Bhutan.

Nuclear weapons have played no role in any of India's South Asian relationships except with Pakistan, in which a number of confidence-building measures, including nuclear risk reduction measures, have been put in place as part of an ongoing process of dialogue. Moreover, India has continually collaborated with the United States in engaging its neighbors, often letting it take the initiative.¹⁸ This stands in stark contrast with its past tendency to resist the involvement of the US in South Asia. Given its low nuclear profile and the reorientation of its role in its neighborhood, it seems fair to say that India is highly unlikely to conceive of nuclear weapons as having any part to play in shaping its growth as a regional power.

As a rising power, India has begun to spread its strategic wings to its neighboring regions. The "Look East" policy has seen its increasing involvement in Southeast Asia and a growing interest in the politics of Northeast Asia.¹⁹ However, the focus is mainly on economic gains. On the military-strategic side, India has shown an interest in greater involvement through multilateral frameworks such as the Association of Southeast Asian Nations (ASEAN) and the ASEAN Regional Forum. In 2007 there was preliminary movement toward a proposed quadrilateral grouping or "quad" (also called the "coalition of democracies") involving the US, Japan, Australia, and India, but Indian interest was motivated more by a desire not to be left out of a possible bigger role in the east and quickly waned when China reacted negatively.²⁰ To its northwest, India has long had an interest in Afghanistan and Central Asia and a milestone of sorts was marked by the establishment of a minor "air base" at Ayni in Tajikistan, but only helicopters are deployed there and the base is jointly controlled by Tajikistan, Russia, and India.²¹ Interest in the Middle East (which Indians usually call West Asia) is stronger still and expanding because the region is a vital source of oil and natural gas.²² Nuclear weapons, however, would provide India with little leverage, particularly with two nuclear powers, the US and Israel, already in place. Iran

may follow in years to come. Interestingly, while India has taken a legalistic position on Iran's nuclear potential, it does not see that country as a significant threat and has moved to establish closer economic cooperation with it, notably through the long-delayed Iran-Pakistan-India pipeline project.[§] The overall picture is one of a rising South Asian power engaging with neighboring regions in a limited and often multilateral way.

Of the remaining potential threats to India's security, the only significant one is China.²³ It is true that India has lived with Chinese nuclear weapons for a long time. But it has also factored China into its nuclear thinking all along. The first moves to develop India's nuclear weapons capability were made in the wake of the 1962 war and China's subsequent nuclear test. During the 1980s, Chinese assistance to Pakistan was an important security concern. The 1998 tests were explicitly said to be a response to China as "potential threat number one."²⁴ India's intermediate-range missile program and research and development on a submarine-based missile can only be attributed to a potential Chinese threat, even if that threat is not currently viewed as a serious one by the political leadership. That said, India-China relations are on a relatively even keel today. Trade has risen sharply from US\$1.8 billion in 1999-2000 to \$38.6 billion in 2007, making China India's largest trading partner.²⁵ Despite lingering security concerns, India does not see China as a serious threat. Yet it has hedged its bets: though both countries deny it, it is evident that the India-US nuclear agreement has underneath it a desire to have in hand an insurance policy against a future threat from China.²⁶ India is also keeping its options wide open by developing capabilities sufficient to deter China, as it has done with the intermediate-range Agni-III missile, which has been successfully tested but is not yet operational. *China's response to global disarmament efforts will be a litmus test for India's participation in the process.*

With respect to India's global aspirations, the symbolic aspect of nuclear weapons is significant, but in a limited way. It is well known that post-independence, India has sought a major role in world politics. Under Nehru, the drive was idealistic, resting on claims about India's size, civilizational uniqueness, nonviolence, and leadership of post-colonial societies. The 1962 debacle with China tempered Indian optimism, but did not wipe it out. The

[§] K. Alan Kronstadt and Kenneth Katzman, *India-Iran Relations and U.S. Interests*, Congressional Research Service, Washington, DC, August 2, 2006. The Iran-Pakistan-India pipeline, considerably delayed because of US pressure and the political dynamics surrounding the India-US nuclear deal, has come close to fruition at the time of writing (May 2008). See Sajid Chaudhry, "Pakistan, India Agree to Finalise IPI Gasline Project," *Daily Times* (April 26, 2008).

current “awakening of the sleeping giant” syndrome carries with it some of the flavor of the past and is widely expressed in the preoccupation with catching up with China and with acquiring a seat at the table of major world powers. In part, the Indian quest for permanent membership on the Security Council reflects this (though there are more practical benefits to be gained as well). Popular perceptions about India’s emergence as a world power are optimistic and even exaggerated.** But the leadership is pragmatically aware that India has a long way to go before it can come anywhere close to being able to shape the global agenda.²⁷ Besides, its worldview is one which regards increasing integration and interdependence as central characteristics of the world economy and world politics.²⁸ In this context, nuclear weapons cannot have much of a role.

Critics of the India-US nuclear agreement – the so-called 123 Agreement – have argued that the deal will enable India to divert much of its domestic stocks of uranium toward building an increasingly large nuclear arsenal. But that is a misjudgment of the place of nuclear weapons in India’s security strategy. The critics are mainly Americans, who tend to think that the expansion of an arsenal is easy to conceive of and implement if one has the means. There is nothing in the thinking of the Indian political leadership that supports this viewpoint. On the contrary, India’s extraordinarily restrained nuclear posture points toward the opposite. The crisis of 2001-02 has been particularly instructive. India has learned from the experience that its “advantage”—India would suffer relatively less damage than Pakistan in the event of a nuclear exchange—offers no comfort when a nuclear conflict draws uncomfortably close.²⁹ If India is deterred by a few dozen non-deployed Pakistani nuclear weapons, how can it possibly think of its own weapons as significant symbols of its rising power? Moreover, Indians place great stress on the concept of No First Use (NFU), which they believe restricts them to a retaliation-only option against weapons of mass destruction. There are no signs of a shift to conceiving of nuclear weapons as instruments for the projection of Indian power.

The India-US nuclear deal is important to Indians in other ways. It represents three things: the removal of the final obstacle to India’s right to secure itself as it sees fit; the dismantling of what it regards as discriminatory international arrangements on the control of nuclear arms that it has consistently rejected; and a sign of acceptance into the fold of major powers. Thus, while nuclear weapons

** A 2007 poll by Bertelsmann Stiftung found that 79 percent of Indians believed India would be a “world power” by 2020, whereas only 29 percent of respondents from eight other nations believed the same. Cited in Reshma Patil, “We Will Be Better Than US: Indians,” *Hindustan Times* (December 13, 2007).

are not viewed as instruments for directly extending India's military reach, they do play a role in India's global security concerns in this restricted sense. What this means is that nuclear weapons per se are not objects of high value, but rather that the nature of the international regime for their governance is. In light of India's consistent commitment to disarmament, this is not problematic. Any arrangement that is universal and non-discriminatory and that does not put India at a disadvantage vis-à-vis other nuclear powers is likely to be acceptable to it.

INDIA'S NUCLEAR TRAJECTORIES

The development of the Indian nuclear arsenal is not easy to gauge. Though official data are not available, the following are widely accepted as reliable.³⁰ India is estimated to have about 50-60 nuclear warheads. Delivery vehicles potentially include the following aircraft: Mirage 2000H, Jaguar IS, Mig-27, and Sukhoi Su-30 MKI. Newer platforms will almost certainly be available with the major expansion envisaged by the Indian Air Force. The Prithvi-I land-based short-range ballistic missile (150 km) has been inducted into the army and is believed to be deployable. The medium-range Agni-I (700 km) and Agni-II (2000 km) missiles are said to have been inducted as well, but their operational status is not certain.³¹ The former was tested by the army for only the second time in March 2008.³² The bomber force and the Prithvi-I are sufficient to strike Pakistan, but not China. Hence, the development of the intermediate-range Agni-III, which has a range of about 3,000 km and has been tested successfully twice (after an earlier failure), in April 2007 and May 2008, is considered crucial for deterring China should the need arise. The missile is expected to be ready for operational use by 2010.

Whether the Agni family of missiles will complete the strategic development of India's deterrent force is a moot point. How much is enough? No one seems to know for sure. While the political trajectory of India's nuclear strategy is flat, the technical trajectory is rising. On one hand, India has adhered to its minimalist approach: its weapons remain in a non-deployed posture; it has declared and stayed committed to a self-imposed moratorium on further testing; and it has expressed a continuing interest in disarmament. On the other hand, research and development work on a range of weapons continues.

The BrahMos short-range cruise missile (290 km) is officially dubbed a conventional weapon, but is reported to have the potential capability to carry a small nuclear weapon.³³ This capability could be enlarged. While it is now assigned to the Army, air and naval versions are under development. A longer range cruise missile is also being developed.³⁴ It is reported that an extended-range (5,000 km) version of the Agni-III (possibly to be called Agni-IV) is also

being developed.³⁵ Also on the drawing board is the Nirbhay (1,000 km) medium-range missile for land, air and sea platforms. Testing was slated to begin by 2009, though the Defence Research and Development Organization (DRDO) is still looking for engines.³⁶ A submarine-launched ballistic missile of 700 km range has been tested at least three times and a sea-launched cruise missile is being developed, though readiness is not anticipated for another three to four years.³⁷ In any case, the launch platform for missiles based undersea, the nuclear submarine envisaged under the Advanced Technology Vessel project, is not expected to be ready until 2010 or 2012.^{††} In an indication of still greater ambitions, the DRDO's V. K. Saraswat speculated in August 2007 that the need might arise for a 10,000 km-range missile in the future.³⁸

There are two reasons for the divergence of the political trajectories. First, there is lack of clarity in doctrine. This is most clearly visible in the Draft Nuclear Doctrine (DND), which was released in August 1999.³⁹ The DND represents not so much a clear articulation of strategy as a congeries of diverse views cobbled together for public airing. It gives a minimalist call for non-deployment, NFU and arms control, but simultaneously flags a maximalist approach in advocating the building of multiple redundancies to ensure the survivability of forces. The most elaborate statement of minimum deterrence doctrine made so far, an interview given by then External Affairs Minister Jaswant Singh in 1999, reflected the same ambivalence.⁴⁰ That Indian civilian officials are unclear about the concept of minimum deterrence is evident from the author's conversations with several. But there is little doubt that nuclear weapons are not viewed in a serious operational way by political decision makers. This is not surprising, for all the National Security Advisers since 1998 have been former bureaucrats with little exposure to the rarefied world of nuclear doctrine.

Second, though civilian control of the armed forces is strong in an organizational sense, the military has considerable leeway in deciding what it needs. As Sunil Dasgupta observes, this represents a grand post-Independence civil-military bargain, "an implicit agreement between the military and political leaderships that allowed the Army freedom of action within the institution in return for submitting to the new nationalist leadership on political-strategic matters."⁴¹ Typically, the Army's requirements are technical-operational and the understanding of nuclear issues is heavily influenced by American deterrence literature – a literature which has produced an incredibly large arsenal. The

^{††} One report (*Ibid.*) gives the date as 2010. An earlier one says 2012. Rajat Pandit, "N-Submarine May Be Operational by 2012," *Times of India* (March 18, 2007).

Army's perspective coincides with those of one small group of weapon producers. The nuclear scientists, though influential (they are closely associated with negotiations on the India-US nuclear deal), are no longer pressing for the expansion of capabilities and have publicly accepted that India needs no more weapon tests.^{‡‡} The technocrats spearheading the expansion of India's arsenal are the missile engineers of the DRDO, who have been under pressure from the political leadership because of numerous inefficiencies and delayed projects.⁴² There is, of course, the possibility that such pressure groups will be able to offer resistance to a disarmament programme, but given the overall *political* consensus on nuclear policy, such resistance is likely to be manageable.

While this analysis explains the existence of a minimalist posture side-by-side with the development of an ever-widening range of weapons, it does not mean that India would be a hard nut to crack vis-à-vis a serious campaign to eliminate nuclear weapons completely. The civilian leadership is amenable to a sharp turn in nuclear policy precisely because its standpoint is political, unhampered by the arcane verbiage of deterrence doctrine. Moreover, if it cracks the disarmament whip, neither the generals nor the missile makers have the clout to resist. India's political leadership has invariably had behind it the force of public opinion while being constantly sensitive to it.⁴³

INDIA'S PROLIFERATION CONCERNS

Notwithstanding India's image as a nonconformist state vis-à-vis the nonproliferation regime, proliferation is certainly a concern. The concern begins at home. From the outset, control over the nuclear apparatus has been tight. Apart from tightening physical security over nuclear materials, the Government of India has strengthened its legal framework, which has been in existence since the passing of the Atomic Energy Act of 1948 and encompasses laws regulating exports.⁴⁴ As concerns about proliferation have grown, these laws have been strengthened. In 2005, the Indian Parliament passed the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, which aims to contain the risk of proliferation of all weapons of mass destruction. The law, which applies to India's territory, its Exclusive Economic Zone, and to its citizens residing anywhere, prohibits the transfer of weapons of mass destruction and technology to foreign individuals and entities. It provides for heavy fines and imprisonment of persons found guilty of transgressions. India

^{‡‡} Some retired scientists have spoken about the need for further testing, apparently with encouragement from political parties opposed to the India-US nuclear agreement, but there is no evidence that they have obtained much purchase. See Sandeep Dikshit, "Top Scientists Caution on Deal," *Hindu* (July 19, 2008).

has also engaged in a series of initiatives with the United States to contain the terrorist threat. The Indo-US Joint Working Group on Terrorism and Law Enforcement was established in January 2000. This yielded cooperation in numerous areas, such as legislative and administrative changes, interdiction of terrorist finance networks, counterterrorism training, and aviation security. Indo-US cooperation under the Next Steps in Strategic Partnership (NSSP) initiative, launched in January 2004, has opened up a wide vista of cooperation, including defense collaboration, transfer of military and dual-use technology, and cooperation in the area of energy. A significant concession on the part of the Indian government has been the acceptance of a US export control attaché in New Delhi for end-user verification of technology transfers.

At the multilateral level, India has cooperated with the International Atomic Energy Agency (IAEA) in several ways. In January 2002, India joined the Convention on the Physical Protection of Nuclear Materials. Thereafter, it actively participated in the search for orphaned nuclear materials in Georgia and, in 2003, conducted an international training course on Security for Nuclear Installations in collaboration with the IAEA. In addition, India has actively participated in discussions on evolving the IAEA Code of Conduct on the Safety and Security of Radioactive Sources. In February 2005, representatives from India, the US, and the IAEA met in pursuance of the Regional Radiological Security Partnership program, and India agreed to provide infrastructure and expertise on a regular basis for conducting international training courses in India under the aegis of the IAEA on issues related to the security of radiological sources and materials and also for locating orphaned radioactive sources in countries lacking adequate resources for the purpose.

With respect to other states, Indian officials have expressed a number of security concerns. There is evidence that in the past, as noted above, Pakistan has been the beneficiary of illegal proliferation activities, obtaining assistance from China in its quest for the bomb. Notwithstanding Chinese assurances, such concerns have not disappeared altogether. In November 2006, the US conveyed its apprehensions about Pakistan receiving assistance from Chinese “entities.”⁴⁵ Given the perception among many in India that China continues to harbor the intent to contain India, this remains a problematic issue, the more so since China has been reluctant to engage fully with India in a nuclear dialogue. Evidence also points to North Korean assistance to Pakistan in the development of the latter’s missile capabilities.⁴⁶

A major worry for India has been the proliferation of nuclear technology by the A. Q. Khan network in Pakistan.⁴⁷ There is no clear evidence that state officials

were directly engaged in the activities of the Khan network but, at the same time, it is evident that both civilian and military leaders could not have been completely ignorant of the goings on and were at least responsible for allowing it to happen.⁴⁸ From the Indian standpoint, Pakistani proliferation is worrisome in three respects. First, it is evidence of potential two-way streets that enhance Pakistan's capabilities, such as the acquisition of missile capabilities by Pakistan from North Korea in exchange for nuclear weapon expertise. Second, Indians fear that loose Pakistani controls may result in the acquisition of nuclear capabilities by terrorists bent on wreaking havoc in Indian territory. And, third, the proliferation of illegal nuclear commerce has the potential to unravel the nuclear nonproliferation regime and generate instability.

As regards Iran, Indian policy has been opposed to Iranian actions that have placed doubts over its adherence to NPT commitments. Consequently, over the objections of its domestic political allies, the Government of India twice (September 2005 and February 2006) voted against Iran in the IAEA. In February 2007, it imposed a specific ban on nuclear trade with Iran. But India has favored engagement rather than the imposition of sanctions and has opposed the use of force against Iran. This has been motivated partly by fear of the Middle East going up in flames, thereby destabilizing the energy market, and partly by India's interest in building the Iran-Pakistan-India gas pipeline, a project already delayed by US pressure.

Despite its rejection of the NPT, India's attitude toward nonproliferation is favorable. Minister for External Affairs Pranab Mukherjee made this plain in February 2008: "We do not wish to see the emergence of additional nuclear weapon states, for it will only further endanger international security."⁴⁹ Mukherjee went on to add that, "our goal continues to be a world free of nuclear weapons." Such a world would not only eliminate the nuclear threat from states, it would also prevent non-state actors from obtaining nuclear weapons. The chief problem, as mentioned elsewhere, will be to ensure compliance.

MOVING TO ZERO

In the event of a serious initiative to eliminate nuclear weapons, with respect to its immediate security concerns, India would be looking for three things: (i) the participation of Pakistan in the dialogue; (ii) likewise, China's participation in the move to disarm; and, (iii) the non-discriminatory character of the emerging regime. The first is not likely to be problematic. Following a series of crises, Pakistan, like India, has realized the difficulty of attempting to use coercion in a nuclear weapons environment. India and Pakistan already have in place a series of nuclear confidence building measures and a continuing dialogue on a range of

political and security issues.⁵⁰ A shift from bilateral nuclear risk reduction to a multilateral framework should not be difficult for either country. In the past, India has rejected limited multilateral frameworks such as nuclear weapons free zones, but these were unacceptable precisely because they were not universal and comprehensive. A non-discriminatory framework would not be problematic. Still, difficulties may arise for two reasons. First, sections of the Pakistani ruling elite may prefer to retain the option of keeping up the pressure on India by supporting terrorist groups active in Kashmir. A serious dialogue will not be possible unless India feels assured on this count. Pakistanis will tend to counter that the resolution of the Kashmir issue is a prerequisite, but such arguments are not convincing. India and China have been able to improve relations significantly despite a long-standing border dispute. Second, Pakistan will be uncomfortable with denuclearization because it views its nuclear forces as deterrents to India's greater conventional capability. India will have to engage with Pakistan with respect to this concern and India may have to provide security assurances on this score as part of a larger bargain. The same applies to India's expectation of assurances from China, but is less vital since India is rapidly strengthening its conventional capability. This also points to a critical issue closely linked with nuclear disarmament more broadly: the effects it would have on the balance of conventional forces would be particularly discomfiting for those who see themselves ending up at a disadvantage.

China has so far been reluctant to engage with India on nuclear issues. During the 1990s, it tried jointly with the US to establish its nonproliferation credentials by putting pressure on India to cap its nuclear program. However, India's position was – and is – that no regional arrangement on arms control/disarmament is acceptable. India will therefore insist that China be included in any nuclear disarmament talks at the same stage as it is involved. A welcome step toward this end would be direct, preliminary talks between China and India to clear the air on any potential disagreements and to exchange views on the nature, scope and timing of multilateral negotiations for disarmament. The participation of China (and Pakistan) would meet the most direct Indian security concerns, since its main adversaries would be committed to a common process of restraint and transparency. Ultimately, a “zero treaty” would effectively mitigate the two biggest (currently, the only) threats to India's security.

India's expectation of a non-discriminatory elimination regime could create some complications with respect to the process. Were the initial moves to emerge from the NPT process, say, by way of “authorizing” certain states to negotiate an elimination treaty, how would India, an outsider, be accommodated? Careful language would have to be used that simultaneously satisfies treaty states that no

special concession or indirect “recognition” of India’s nuclear weapons status is recognized; and does not rub Indian legal and political sensitivities the wrong way. Ideally, the language should eschew reference to the legal status of the participants in the newly launched process.

India’s position on disarmament has often been viewed as pontifical and rhetorical. Yet it has been based on a set of three consistent principles: (i) that nuclear weapons are morally objectionable because they are indiscriminate and inhumane; (ii) that in a practical sense they are dangerous weapons because their potential for damage far exceeds their contribution to security; and, (iii) that nuclear disarmament must be universal and complete. Though long regarded as idealistic and unrealizable, these principles are in fact realistic, as they combine a desired moral objective with an emphasis on the practical effects of the weapons and on recognition that the unique possession of a class of weapons by any one state is a potential threat to all others. Thus, India has rejected any arms control/disarmament arrangements that it views as discriminatory and hence at least potentially violative of its security in an anarchic world.⁵¹ At the same time, it has over the decades initiated and supported universal and non-discriminatory measures to reduce the nuclear threat generally. It thus joined the Limited Test Ban Treaty, which applied equally to all countries, but not the Non-Proliferation Treaty, which established two classes of nations – nuclear weapon states and non-nuclear weapons states. India also advocated a comprehensive test ban, but, as noted earlier, backed away when its open door policy toward nuclear weapons came under pressure. Consistent with this position, it has rejected regional agreements to eschew nuclear weapons, such as nuclear weapon free zones, but has accepted the idea of bilateral nuclear risk reduction measures. With regard to specific quantitative disarmament measures, it will only accept obligations under a universal, multilateral framework.

Despite its long-proclaimed commitment to disarmament, India in practice has no experience with it. On the contrary, its entire experience with respect to nuclear stabilization has been limited to confidence building measures (CBMs), where the focus is on political assurance rather than verifiable limits. The advantage of CBMs is that they can be – like iterated games – a learning process for the players, who learn over time the benefits of cooperation. So far, India has agreed on nuclear CBMs only with Pakistan. These include an agreement not to attack each other’s nuclear facilities (1988); a quasi-formal understanding on retaining their moratoria on nuclear testing (1999); an agreement to notify each other of impending ballistic missile tests, and another to establish a secure hotline between their foreign secretaries (2005).⁵² These agreements have worked well so far, notably the oldest of them, which has survived the twin tests of time and

recurrent crises. But disarmament is a different cup of tea as it requires high degrees of assurance regarding compliance – an issue that India will have to tackle if negotiations commence.

India's last major effort to push for disarmament came in the closing years of the Cold War. At the United Nations General Assembly's Third Special Session on Disarmament in 1988, Rajiv Gandhi personally presented a step-by-step plan for universal and complete nuclear disarmament. But the time was not ripe and the proposal evoked barely a ripple of global interest. Still, interest in disarmament has remained strong regardless of the party in power. Even the Bharatiya Janata Party (BJP), commonly labeled a right-wing "Hindu nationalist" party, explicitly announced through its government's doctrine (January 2003) its commitment to "global, verifiable and non-discriminatory nuclear disarmament."⁵³ In short, disarmament has remained on the agenda regardless of the time frame and the party in power. A serious proposal to eliminate nuclear weapons will therefore evoke a positive response from the Indian government. It may be noted, too, that Rajiv Gandhi's proposal called for a time-bound framework and that this has been reiterated by later leaders. In the Indian perception, unless there is a clear schedule, efforts to disarm will be hampered by procrastination, as has been the case with the disarmament provisions of the NPT.

India's current policy on disarmament reflects a continuing commitment to its old goals. In February 2008, the Indian Ambassador to the Conference on Disarmament (CD), Hamid Ali Rao, presented a seven-point agenda for nuclear disarmament, which called for

- Unequivocal commitment to the goal of total elimination of nuclear weapons;
- Reduction in the salience of nuclear weapons in security doctrines;
- A no first use agreement among all nuclear-armed states;
- An agreement not to use nuclear weapons against non-nuclear-armed states;
- A convention prohibiting the use or threat of use of nuclear weapons;
- A convention proscribing the development, production and stockpiling of nuclear weapons; and
- Verifiable and non-discriminatory elimination of all nuclear weapons.⁵⁴

Given this background, a serious initiative for elimination by leading nuclear weapons states, with the US taking the lead, would be welcomed by India. The Indian reaction to the initiatives set in motion by a group of four American senior statesmen have been positive. Yet there have been some concerns that the US-led

move might be too conservative in its reach or shaped by the interests of the big powers. The Indian Prime Minister's Special Envoy, Shyam Saran, asserted in February 2008 that the US leaders' characterization of the goal of elimination as "the top of a very tall mountain" did not go far enough and that "the need of the hour is to bring it down into plain sight."⁵⁵ Saran warned that current moves toward disarmament may even mask a discriminatory objective: further tightening of current arrangements that focus on technology denial and efforts to control specific targets – terrorists, clandestine traders, so-called "rogue states," and developing countries generally – rather than on an undiluted quest for complete elimination.⁵⁶ A universalist approach is a *sine qua non* for India's participation in a drive to eliminate nuclear weapons. This necessarily includes strong guarantees against cheating. But so far, not much attention has been paid to the nitty gritty issues; the focus is on obtaining agreement on the basic principle of universal disarmament, which has been repeatedly asserted.⁵⁷

What specific initiatives would arouse Indian enthusiasm? The suggestions that follow are indicative. The key, it is worth reiterating, lies in ensuring that the process is non-discriminatory and universal. But the process itself could be set in motion by American initiatives that demonstrate a clear intent to shift away from a stance that has tended in the post-Cold War era to hold nuclear weapons dear, to take for granted an untenable notion of nuclear superiority, and to focus single-mindedly on retaining superiority by countering all threats to it.

Once the US got the ball rolling, its momentum would facilitate bilateral negotiations between the US and the other nuclear superpower, Russia. At the review meeting of the NPT states in April 2008, representatives of both countries claimed that they had reduced their weapon stocks significantly. But the smaller nuclear powers and the non-nuclear weapons states will not be satisfied unless there is concrete and substantial movement toward force reductions in keeping with the promise of the treaty. The Russian leadership will require some persuasion to get on board since, to all appearances, it views nuclear capability as inseparable from its standing as a power. In December 2007, First Deputy Prime Minister Sergei Ivanov asserted, "Military potential, to say nothing of nuclear potential, must be at the proper level if we want . . . to just stay independent" and that "the weak are not loved and not heard, they are insulted, and when we have parity they will talk to us in a different way."⁵⁸ To demonstrate commitment to global disarmament, the US and Russia would have to take very specific and tangible steps. These could include a joint declaration on moving toward zero, the launching of talks on de-alerting, confining naval and air forces to their bases, and/or deep cuts in strategic and tactical nuclear forces, including forces in reserve/storage.

The bilateral process could be kept short and quickly expanded to incorporate all the major nuclear-armed states and subsequently all states. An immediate outcome would be a declaration committing the nuclear-armed states to the elimination of nuclear weapons within a specified time frame. Negotiations on a comprehensive test ban could be resumed. During the 1990s, India walked out of the CTBT talks and tested its weapons. But following the 1998 tests, Indian political leaders and scientists publicly declared there was no need for further tests. Currently, Indian officials are wary of the CTBT because of its recent history, but in fact there is no substantial reason for India not to sign on since they have crossed the nuclear Rubicon and do not feel fresh testing is essential. In the context of an initiative to eliminate all nuclear weapons, negotiations on the Fissile Material Cutoff Treaty would also likely be received positively by India. Such resistance as there is with regard to the resultant capping of Indian capabilities will dissipate if the treaty is parleyed within the framework of elimination.^{§§}

The Government of India also would expect to see at an early stage discussions leading to a convention on NFU and non-use against non-nuclear states. These are not substantive measures and may not appear to be very useful since adherence to them could only be verified *ex post facto*. Nonetheless, the Indian approach favors cumulative engagement, commitment and political understanding for building confidence. Only with progress of this kind would it be possible to move toward more advanced and difficult negotiations on a universal treaty to outlaw the development, production and stockpiling of all nuclear weapons. At an early stage, India can be expected to demonstrate its commitment to the process by joining other nuclear powers in increasing transparency, notably by declaring its facilities, delivery vehicles and fissile material stocks. On the organizational aspect, India would favor a process that builds a multilateral institution, perhaps on the lines of the World Trade Organization, which would eventually regulate the full spectrum of activities and processes related to nuclear weapons and associated materials and technologies. Thus, a greatly strengthened IAEA or a newly launched organization could have under its purview: oversight of the process of dismantling nuclear weapons in the later stages; monitoring, auditing and inspection of all military and civilian nuclear facilities; centralization of the supply of nuclear fuel for civilian reactors

^{§§} India does insist, however, that the treaty include provision for verification – an issue on which it has had differences with the US. “U.S. Braces for Face-off over Weapons Treaties,” *Washington Times* (February 11, 2008).

to countries in need; regulation of nuclear waste disposal; and maintenance of a database on all sources of fissile material.

END-STATES

Though Indians have tended to be optimistic about the prospects for disarmament, they are sufficiently realistic to recognize that the process will be a complex one and will face numerous hurdles in trying to harmonize divergent state interests. The prospect of further expansion of the nuclear club is not viewed with equanimity. Because of its geographic distance, North Korea's nuclearization has not been received with alarm, and doubtless the nuclearization of Japan would be viewed in the same way. Though it is much closer, the same approach has been taken with respect to Iran. But India has made it clear that it is opposed to proliferation because it causes general destabilization which could affect its security either through state-to-state proliferation (e.g. the Pakistan-North Korea connection mentioned above) or through state proliferation to non-state actors.⁵⁹

The alternative to elimination, it is understood, would be the emergence of new nuclear-armed states, which is not a prospect contemplated with sanguinity. Over the past decade, India has been on the defensive on nuclear matters, partly because of nonproliferation pressures and partly because of the severity of its crises with Pakistan. But it has been quick to sense the current mood and appears ready to grasp the moment and help develop a global consensus on elimination. The possibility of rapid proliferation is not currently seen as high, but if evidence indicating this were to appear, Indian leaders would worry much more than they do now and would press harder for a global effort to disarm.

A well-known objection to nuclear disarmament is that if nuclear weapons are eliminated, conventional war will become more likely. This is by no means a trivial argument, but its salience depends on each state's specific security environment. The potential problem is unlikely to trouble India directly. As shown above, India was not disposed to go nuclear despite facing a security threat from a nuclear power, China. It did conduct a symbolic test in 1974 in response to a perceived sense of isolation in an insecure strategic environment, but thereafter eschewed weapons production. For India, in short, nuclear weapons were never a requirement for deterring a conventional threat. That remains true today. In the past, the United States was something of a worry, not as a potential aggressor but as a state that threatened to make inroads into what India conceived of as its regional sphere of influence, i.e. South Asia and the Northern Indian Ocean. That is no longer the case. India not only does not view American military power with distrust but is engaged in unprecedented military

cooperation with the US. Nor do the conventional forces of China and Russia seriously worry it. On the contrary, with its rising economic strength, India has embarked on a program of military modernization that is the source of greater confidence in its conventional capabilities.

Nevertheless, the wider issue of the nuclear-conventional linkage is one that has been recognized. India's Ambassador to the United Nations, Nirupam Sen, drew attention to this in April 2008 while speaking on nuclear disarmament and called for reductions in conventional weapons as well.⁶⁰ This is neither an immediate nor an overriding concern, but one that is acknowledged as an inevitable obstacle in the path of nuclear elimination. As mentioned earlier, Pakistan's concerns in this respect will also bring home the problem, unless India's relations with that country are dramatically transformed, which seems unlikely.

CONCLUSION

This review of India's security concerns and its position on nuclear disarmament shows that a serious proposal to eliminate nuclear weapons within a certain time frame would receive strong support from an Indian government. The idea of disarmament is deeply embedded in India's strategic culture and retains its salience two decades after India built its first nuclear weapon. Indian security concerns, effectively met by Chinese and Pakistani inclusion in the process and more generally by its universal nature, will not be an obstacle to its participation in the negotiations. As a rising power of the future, India's outlook on the world is one which emphasizes not only distaste for the risks posed by nuclear weapons, but also the centrality of global interdependence, which makes the resort to such weapons counterproductive. Given its self-image as a major power in the making, India will see a movement for nuclear elimination as an opportunity to take a leadership role. With its history of extraordinary restraint, its minimalist posture, and its reputation as a large democracy, it is particularly well placed to play such a role. The inconsistency between its minimalism and some of its more ambitious nuclear plans is unlikely to be problematic. The political leadership has a firm grip on the policy process and will not have much difficulty in overcoming resistance from both the armed forces and the technical bureaucracy which produces the weapons. Its hand will be particularly strong because nuclear disarmament enjoys support across the board from all political parties. So long as the process is characterized by undiluted equity, India will almost certainly be a principal player in the global drive to eliminate nuclear weapons.

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CHINA

CHINA'S NUCLEAR STRATEGY IN A CHANGING WORLD STRATEGIC SITUATION

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Since it first demonstrated nuclear weapons capability in 1964, China has followed a unique nuclear policy and doctrine. China's nuclear forces are intended for only one purpose: to retaliate following a nuclear attack. Any state contemplating a nuclear strike against China must calculate the risk of nuclear retaliation and the resulting devastating loss the attacker would suffer. This prospect would hopefully deter the attacker. If one were to affix a description to China's nuclear strategy, it is perhaps best described as "purely defensive in nature."¹

To further understand this definition, it is essential to distinguish "deterrence effects" from "deterrence strategy." It is certainly correct to say that China's nuclear strategy has the effect of deterring nuclear attacks, but it is not correct to suggest that China pursues a strategy of nuclear deterrence as do other nuclear weapon states. Any military strategy that is designed to attain military and security objectives through the use of military assets has a deterrent effect. In the Western sense, nuclear forces, like conventional military assets, constitute a legitimate, usable part of military capabilities in a military conflict or war. During the Cold War years, nuclear weapons were conceived – especially by the United States and NATO – as a means of compensating for the deficiencies of their conventional forces vis-à-vis the Soviet Union and its allies in the Warsaw Pact. Thus, the US and NATO deterrence strategy included the pledge that if NATO were losing a war with the Soviet Union, the alliance would be willing to make first use of nuclear weapons to prevent defeat.

Nuclear weapons were also conceived by both nuclear superpowers as essential instruments to help achieve political aims: either to intimidate other countries or control their allies by extending their "nuclear umbrella" in the form of extended deterrence. The nuclear strategies of the United Kingdom and France also had strong political motivations. By becoming a nuclear state, the UK evidently hoped to reach a more

equitable status in its special relations with Washington, while France apparently wished to be recognized as a relevant world power through its nuclear status. Both countries seemed also to conceive of their nuclear weapons as trip-wires to ensure that the United States would not leave them alone in a possible major military conflict with the Soviet Union in Europe.

China makes none of these calculations and shares none of these objectives in its nuclear strategy. In this sense, it can be argued that China is *not* a nuclear weapon state in the traditional Western sense.

Strategically and politically, China has offered an unconditional pledge that it would not be the first to use nuclear weapons (NFU). This pledge constitutes the very quintessence of China's nuclear strategy, and has continued from the beginning of its nuclear age. The NFU pledge has not only reflected the nature and mission of China's nuclear forces, but also determines the size, configuration, readiness, and pace of development of China's nuclear forces. The NFU policy is further developed in a second pledge of equal importance. China has vowed not to use or threaten to use nuclear weapons against any non-nuclear weapon states under any circumstance. This commitment of unconditional negative nuclear assurances extends logically to Beijing's active support for establishing nuclear-free zones in various regions, and for China's subsequent willingness to undertake all necessary obligations in accord with the provisions of such nuclear-free zones.

Many Western analysts dismiss China's pledge of NFU as unverifiable and empty talk. But this skepticism is reminiscent of the typical Western mind-set of evaluating China's strategic intentions through the traditional Western way of thinking and behavior. Although the pledge of NFU indeed cannot be technologically verified, China's nuclear posture, which is based on NFU, can easily be discerned and through its evaluation, the pledge fully verified.

In an operational sense, since China's strategic objective is solely to deter a nuclear attack, the means to that end do not require a large nuclear arsenal. Maintaining a capability to destroy a few big cities in retaliation should be enough to frustrate any opponent considering a nuclear strike against China. Thus, China's focus is on maintaining a small, but credible, retaliatory force. This means an adequate number of warheads to ensure the survivability of at least some portion of its force after absorbing a preemptive strike from anywhere. The operational

needs of China's sole goal of nuclear deterrence also requires a reasonable degree of alertness on Beijing's part to prepare for dealing with any contingencies, but not necessarily keeping its nuclear forces on hair-trigger alert. Since the only mission would be a counter-attack after a nuclear attack, and since it might usually take days to determine whether a real nuclear attack had actually occurred on its soil and who was responsible, there is no need for China to prematurely mate its warheads with the missiles, aircraft, or submarines that would deliver them. Furthermore, because Beijing's sole nuclear mission is to retaliate against cities, known as a "counter-value mission," the NFU makes it unnecessary to seek a nuclear war-fighting capability, or to develop nuclear weapons for non-strategic uses.

All of these limitations on the necessary capabilities of its nuclear forces enable China to avoid engaging in arms races with other nuclear weapon powers, and to exercise great restraint in the building up of its nuclear force. Thus, to claim that the NFU pledge is unverifiable is groundless. Also, the pledge is reflected in the slow and narrow evolution of Chinese nuclear forces and can be verified by observing the lack of rapid development in those forces. China's nuclear forces have been, and continue to be, modernized, but only to keep pace with the change of times; modernization has never been a major priority on Beijing's national agenda.*

EVOLUTION OF CHINA'S NUCLEAR DOCTRINE AND STRATEGY

First and foremost, China has always harbored a dialectical attitude towards nuclear weapons. True, Mao Zedong, who made all the important decisions regarding China's acquisition of nuclear weapons, as well as the design of its nuclear strategy, had a famous saying that atom bombs are but paper tigers. To understand it, however, one must put the remark in context. Mao made the comment in 1946 when the US was the only power with atom bombs, had actually used them on an enemy state in the previous year, and was brandishing them as a trump card in

* Some US specialists note, for example, that China, unlike the United States or Russia, has taken extraordinarily long periods of time to field new weapon systems. They stress that, "China has not pursued these programs on a 'crash' basis and in many instances the weapons were obsolete when they were finally deployed. Even after initial deployment, China's build-up of additional forces has been slow. It is true that the Chinese have been working on improving their missiles and submarines for the past 15 to 20 years, but the pace of modernization grinds on and each annual Pentagon projection pushes the operational dates further into the future." See, for example, Hans M. Kristensen, Robert S. Norris, Matthew F. Mckinzie, *Chinese Nuclear Forces and U.S. Nuclear War Planning*, (Washington, DC: Federation of American Scientists/Natural Resources Defense Council, September 2006), page 3.

its post-war strategy for the confrontation with the Soviet Union, then allied with Mao's China. Mao used the metaphor to highlight his contempt for the US ambition to exploit the power of nuclear weapons for political objectives. The statement also reflected Mao's firm belief that it is human factors, rather than sophisticated weapons, that eventually decide the outcome of war. On the other hand, Mao and his colleagues in China's inner decision-making circle had a very sober-minded calculation about the devastating effects of nuclear weapons as weapons of mass destruction. They believed that these weapons were inhumane, posed a threat against all humanity, and should be completely eliminated and totally prohibited.

Pending that outcome, however, and faced with grave military threats from the United States in the 1950s, Chinese leaders perceived that they had no alternative to ensure China's security but to develop their own atom bombs. As Zhou Enlai, the chief executor of China's nuclear programs then put it,

Had we not had nuclear weapons, the imperialists would have used them. China developed nuclear weapons in order to resist nuclear blackmail and counter nuclear threats. It is after all for the purpose of halting the hands at the trigger of the bombs that China must have its own nuclear bombs.

Mao echoed the view by stressing on one occasion that, "In today's world, if we are not to be bullied by others, this thing is indispensable."² The remarks succinctly pointed out not only the defensive nature of China's nuclear programs, but also the fact that Beijing perceived that it had no choice but to develop its nuclear capability because of the environment in which it found itself.[†]

Second, China's nuclear strategy has almost solely been affected by the nuclear capabilities, nuclear strategies, and nuclear doctrines of the two nuclear superpowers, the US in particular. Looking in retrospect at the Cold War, it is no exaggeration to say that China was the only country to have become the near-target of potential nuclear strikes by the United

[†] As the decision-making process that led to the development of nuclear weapons is still top-secret in China, there are few official documents available in that respect. However, many articles and memoirs by leading officials or specialists involved in the process of China's bomb-building have recently been published, which provide valuable clues to the thinking, although fragmented, of the then-leadership of China towards the development of nuclear weapons. See, for example, Jin Zhongji, *Biography of Zhou Enlai*, (Beijing: The Central Publishing House of Historical Documents, 1994); Li Qi, *Memories n Those Years with Zhou Enlai* (Beijing: The Central Publishing House of Historical Documents, 1994). Both volumes are in Chinese; the quotes are translated by the author.

States and the Soviet Union (and sometimes even by both at the same time) on occasions either before China had developed nuclear weapons or when its nuclear weapon programs were in the embryonic phase. Even after the Cold War had ended, China still remained on the list of Washington's potential nuclear strikes in its war planning. China's nuclear posture has always reflected the threat posed to it by the United States' nuclear strategy. Since the early 1990s, for example, Washington's development of missile defense systems has been one of the crucial factors shaping China's efforts to upgrade its nuclear arsenal. Similarly, despite its expressed desire to see the complete elimination of nuclear weapons and its willingness to undertake concrete steps toward that end, China remains extremely cautious about joining the disarmament process and renouncing its small nuclear arsenal so long as the threats from the United States' nuclear capabilities persist. One telling example is China's attitude towards the Comprehensive Test Ban Treaty (CTBT). Both the US and China had played a proactive role in facilitating the conclusion of the treaty, and both became signatory states the very first day that the treaty was open to signature in 1996. But the US Senate refused to ratify the Treaty in 2000, and China consequently has also yet to ratify. The only plausible explanation of why Beijing is delaying ratification is its concern about the US reticence toward the comprehensive ban on testing.

Third, there are many reasons why China does not equate the use of nuclear weapons with the use of conventional weapons. It can partially be explained by Beijing's repugnance of using this category of inhumane weapons, as well as Beijing's self-confidence in its ability to win a conventional war without utilizing nuclear weapons, based on its long-term historical experience in past military conflicts and wars. China has no ambition to expand beyond its current borders. If a major war were to take place, putting China's core interests at stake, it would be the result of an invasion of its territory. This was the familiar pattern of war in the lives of leaders like Mao Zedong and Zhou Enlai, who had spent almost the best parts of their life coping with these kinds of threats. Thanks to the vast territory and large population of China, they believed that the Chinese people would surely prevail over any powerful invading enemy by luring it in and "drowning" it in the sea of people in a protracted conventional war. Thus, as long as the use of nuclear weapons is prevented, China has no fear in fighting a conventional war with any other state.

Last, but not least, Beijing may also have made a pragmatic calculation in insisting on a defensive nuclear posture from the very beginning. Given the lag between the United States' and Soviet Union's development of nuclear weapons and China's development of the bomb, the resulting discrepancies between China and the two nuclear superpowers in terms of both numbers of weapons and level of technological sophistication, and both nuclear superpowers' strong suspicion about Beijing's strategic intentions with its newly emerged nuclear assets, China may have been keenly aware that either the US or the Soviet Union (or both) may well have harbored an impulse to launch a "surgical strike" to eliminate China's infant nuclear capability before it became a real threat to them. The "No First Use" pledge was likely designed as a signal of reassurance to the world community that China's new nuclear capability posed no threat to any other country. Keeping its nuclear posture in low profile did seem to work in allaying the suspicion and misgivings of the two superpowers and maintaining world stability. It should be noted that this success was also due to the peculiar international environment during the Cold War. The United States and the Soviet Union were so tightly locked in their scramble for military supremacy and world domination that both of them seemed to quietly accept the "legitimacy" of China's small nuclear arsenal as long as Beijing's emerging nuclear weapons did not upset the international structure and the balance of forces between them.

THE CONTEMPORARY SITUATION

Of course, all the elements discussed above that underlay the evolution of China's nuclear strategy and doctrine are not static. In fact, they have been constantly evolving, particularly in the post-Cold War era. The international strategic situation has seen dramatic changes in recent years, which appear to give rise to a fundamentally new international environment, in which the role of nuclear weapons needs to be reevaluated. There are both positive and negative changes affecting China.

On the positive side, the end of the Cold War indicated the end of nuclear confrontation between the United States and the former Soviet Union. The possibility of a large scale nuclear war among the major nuclear powers has become increasingly remote. As a result, the arsenals of the nuclear weapon states—other than China, according to Western estimates—have been reduced in number. In particular, the United States and Russia—the nuclear successor of the disintegrated Soviet Union—have each reduced the number of their nuclear weapons in a

dramatic way. Altogether, the number of US and Russian nuclear warheads has been reduced from roughly 50,000 in 1990 to perhaps 25,000 in 2008.³ One has good reason to expect that the two major nuclear powers may continue the process of deep cuts, either through a new or extended bilateral agreement or unilaterally. A number of significant international treaties in the field of arms control, disarmament, and nonproliferation were also concluded in the first decade after the Cold War ended. In the nuclear realm, the most significant among them are the indefinite and unconditional extension of the Non-Proliferation Treaty (NPT) in 1995 and the conclusion of the CTBT in 1996. Although the latter has not yet officially entered into force, all five nuclear weapon states recognized by the NPT have observed a moratorium on testing since the Treaty was concluded. The five nuclear weapon states have also refrained from producing additional fissile materials. The overwhelming majority of the non-nuclear weapon states also continue to adhere to the NPT, although they resent the apparent indifference of the nuclear weapon states on following through with their responsibility to meaningfully disarm, as stated in Article VI of the Treaty. With the rapid development of science and high-technology, the international community has also registered substantial progress in monitoring and verifying adherence to treaties, thus contributing greatly to the insurance of treaty compliance by member states, and strengthening the international nonproliferation regime.

On the negative side, however, new uncertainties seem to be arising in the global security situation. The international community is now facing four chief challenges: nuclear multipolarity among the older nuclear-armed states, proliferation to new states and potentially to non-state groups, strategically relevant technological advances, and the deadlock in international arms control, disarmament, and nonproliferation diplomacy.

These problems were first demonstrated in the growing complexity and unpredictability of the world nuclear architecture. During the Cold War, labeled as central weapons, nuclear weapons seem to be largely the luxury of major powers. Because of their enormous destructive power, striving for nuclear superiority seemed to become a central theme of the US-Soviet confrontation. But also because of this destructive potential, actual use of these weapons seemed to have been deterred by the two sides' huge arsenals, and they seldom were considered to be a central element in regional security arrangements, except in Europe, where the two major military blocks were set to confront one another with both conventional and nuclear armaments. The world's nuclear architecture

was then a fairly simple and relatively stable, bipolar configuration, with the British and French nuclear forces perceived as supplements to the US force in NATO. Only China was an exception, staying outside the bipolar structure with its independent nuclear force. But China's capability was so small, and with the self-imposed restraining discipline in its nuclear strategy, the two major powers apparently thought they could afford to ignore it as long as Beijing remained limited in its nuclear posture.

The end of the Cold War has fundamentally changed the nuclear security architecture. Today, although the world nuclear system continues to remain bipolar, since the two nuclear superpowers—the United States and Russia—continue to own more than 95 percent of the world's total nuclear weapons, the architecture has become increasingly less stable with the fast weakening of Russia in terms of its comprehensive strength, and the more assertive attitude of the United States under former President George W. Bush as the world's only superpower. Washington is evidently not content with the remaining relics of the bipolar architecture in the nuclear field. When George W. Bush became the US president in 2000, the administration seemed particularly intent on remolding the world into a unipolar structure by taking advantage of the collapse of the Soviet Union, on the one hand, and the emergence of new military technologies on the other. The US moves triggered a vehement reaction by Moscow, and a renewed nuclear competition, if not a nuclear arms race, seemed to be starting. At the same time, Washington shifted much of its attention to China. With the fast economic development of China, the US seemed to no longer take Beijing for granted. As China began to modernize its nuclear forces, a debate began in Washington as to the extent to which China's nuclear arsenal could pose a threat to US security, and how Washington should engage with China in the future. In short, the nuclear architecture among the NPT's five nuclear weapon states seems to have begun experiencing a reshaping of relative capabilities. Whether or not this trend continues under the new Obama Administration remains to be seen.

The issue has been further compounded by a new risk of the proliferation of nuclear weapons. It has chiefly found expression in two forms. One is the acquisition of nuclear weapons by regional powers. In addition to the five nuclear weapon states recognized by the NPT, India, Israel, and Pakistan have now become *de-facto* nuclear weapon states. With a nuclear test in 2006, North Korea has apparently also announced a nuclear weapons capability, although Pyongyang has committed itself to

dismantling this production capability thanks to progress in the Six Party Talks.⁴ Iran also may soon acquire the capability of manufacturing nuclear bombs through its program to produce highly enriched uranium, allegedly for peaceful purposes. Iran's case, in particular, reflects a dilemma facing the international nonproliferation regime. Tehran claims, with legitimate justification perhaps, that it is fully entitled to the peaceful use of nuclear energy in accordance with the provisions of the NPT. Yet there is no clear line of demarcation between nuclear technologies used for peaceful or for military purposes. Given sufficient time, Iran is almost sure to obtain the necessary technologies, expertise, and nuclear materials for the manufacturing of nuclear bombs through operation of its nuclear reactors. Thus, the risk is that reactors used for allegedly peaceful purposes could be a well-disguised form of proliferation of nuclear weapons. And Iran is not alone in raising this type of proliferation danger. With increasing demands for energy and the threat of climate change resulting from the consumption of hydrocarbon fuels, more and more non-nuclear weapon states are exploring peaceful nuclear programs as recipes for sustained economic development. Like in Iran's case, the surging expansion of nuclear industry would inevitably be accompanied by a growing risk of proliferation of nuclear weapon capabilities to more countries. The world community is yet to find an effective approach to this newly emerging challenge.

A second rising risk associated with nuclear proliferation is the emerging role of non-state actors, organizations who could be both a new source, as well as the potential users, of nuclear materials, technologies, and know-how. The international community is facing a rising danger of a nuclear bomb, a crude nuclear explosive device, or even a conventional explosive device made of radioactive materials (dirty bomb) falling into the hands of such malevolent non-state actors as international terrorists or organized crime gangs. The scenario in which such a device explodes in a big city, be it New York, Paris, or Beijing, killing hundreds of thousands of innocent people, is not a far-fetched fiction-story. Documents have already been discovered in caves occupied by Al-Qaida operatives in Afghanistan showing that these terrorists were studying how to manufacture a dirty bomb. Although there is no evidence to prove to what extent they had been successful, the discovery of the interest itself was enough to alert the world that this danger cannot be ignored. This is a new threat indeed, as the international nonproliferation regime has so far only been dealing with the behavior of nation-states.

The third challenge that has influenced the world strategic situation is the emergence of new dimensions of nuclear weapon capabilities thanks to the rapid development of science and technology, particularly in the military field. Beginning 1990, the US believed that it might be feasible to build effective defenses against nuclear-armed missiles and aircraft. It is well known that the two major nuclear powers in the Cold War were able to achieve strategic stability mainly through a two-part negotiated arrangement that allowed development of strategic offensive forces (within certain limits) while banning the deployment of strategic defensive forces. The rationale was based on the concept of Mutual Assured Destruction (MAD): By prohibiting defenses, the arrangement ensured that both sides retained the capability to survive an attack and wipe out the other side in retaliation. This situation was believed to be effective in preventing nuclear war, as neither side dared to launch a preventive nuclear strike, since it could be certain that the attack would lead to retaliation by the other side and bring about its virtual self-destruction. From a technical point of view, the situation was allowed to prevail because both the US and the Soviet Union were restricted in their actual capability of doing otherwise – effective defenses against the large offensive forces deployed by each side were technically impossible and economically prohibitive. During President Ronald Reagan’s administration, Washington explored developing effective missile defenses through the Strategic Defense Initiative (SDI, or Star Wars), but the effort soon ended in failure, because of the immaturity of prevailing technologies.

Interest in building defenses against smaller missile forces was reborn in Washington at the end of the 1990s and gained greater momentum with the inauguration of George W. Bush. This new interest was fueled both by concerns about the development of missile systems by nations hostile to the United States, like North Korea, and by the availability of new military technologies. To facilitate the development and deployment of these systems, the Bush Administration announced in December 2001 its intention to withdraw from the 1972 ABM Treaty, following the mandatory one-year delay required by the Treaty. The Treaty had long served as the pillar underlying strategic stability in the Cold War, and the US withdrawal thus opened the way for a re-ignition of arms races in both offensive and defensive weapon systems.

The George W. Bush Administration also attempted to exploit new military technologies to develop nuclear weapons with special enhanced effects, including, for example, “improved earth penetrating

weapons...and warheads that reduce collateral damage,” such as low-yield nuclear weapons that – in principle -- would be more likely to be used in a conventional war.⁵ These weapons are smaller, more accurate, and intended to be used specifically to destroy targets like deeply-buried underground command posts or weapon storage facilities allegedly with less collateral damage to civilians. If they had been developed, nuclear weapons might have been able to perform some of the military missions that are usually done by conventional weapons, although there is much debate about this point. So there seems to be much uncertainty in the future prospect for weapons with a lower threshold of usability. The good news is that the US Congress refused to appropriate the funds requested for these purposes for two consecutive years and the Obama Administration has pledged not to develop these weapons. On the other hand, continued development of science and technology may soon offer great incentives for new military capabilities.

In addition to these attempted changes to US defensive and offensive capabilities, the George W. Bush Administration highlighted a fundamental shift in the US nuclear doctrine, chiefly through its 2001 Nuclear Posture Review (NPR), part of which was revealed in early 2002. What is most noteworthy in the document is the emphasis on the establishment of a new triad, composed of 1) offensive strike systems (both nuclear and non-nuclear); 2) both active and passive defenses; and 3) a revitalized nuclear infrastructure that can maintain a reliable nuclear stockpile and provide new capabilities in a timely fashion to meet emerging threats.⁶ All these were said to be aimed at reducing the US dependence on nuclear weapons and improve its ability to deter attack in the face of new actors proliferating weapons of mass destruction (WMD). Many observers, however, believed that the Bush Administration had actually envisaged the use of nuclear weapons in a much wider range of circumstances than before, with a particular emphasis on tactical uses. If that is the case, such an emphasis in a declaratory policy has not been seen since the days of flexible response forty or so years ago, when tactical nuclear weapons were deployed in Europe and elsewhere.

The George W. Bush Administration's more aggressive nuclear force posture set a dangerous precedent that other nuclear weapon states may try to emulate or counter. Modernization of nuclear force continues to be a priority in some nations' agendas and efforts to upgrade some nuclear arsenals have been sped up. The Russians, in particular, vowed to invest more heavily to modernize its strategic forces, which they believe to be

the most significant national instrument of defense, allowing them to compete with the Americans militarily and to restore their former nuclear superpower status. Moscow even backed off further from its previous “no first use” policy, stressing that since its conventional military capabilities had been greatly reduced, it would be ready to use nuclear weapons in any conventional war to protect its core interests. Except for China, today all the other four NPT-acknowledged nuclear weapon states claim they are ready to be the first to use nuclear weapons if their security situation requires it. The NPT-declared nuclear weapon states, other than China, believe that their nuclear weapons play an indispensable role in maintaining security or for other political purposes.

Against this backdrop, comes the fourth challenge to the world community: the virtual deadlock in multilateral efforts for nuclear arms control, disarmament, and nonproliferation. This deadlock is the result of many factors, but not the least is increasing tensions between the nuclear and non-nuclear weapon states. The continuing reliance of nuclear weapon states on nuclear weapons has angered many non-weapon states. During the Review Conference of the NPT in 1995, a heated debate erupted between nuclear weapon states and non-nuclear weapon states as to whether the NPT should be indefinitely and unconditionally extended. It was only after the nuclear weapon states reiterated their pledge to honor their commitment to nuclear disarmament that non-nuclear weapon states agreed to accept the indefinite extension of the treaty. In the 2000 review conference, under heavy pressure from non-weapon states, the verbal commitment of nuclear weapon states was further crystallized into 13 practical steps that they were expected to take at the earliest date possible.[‡] Most of these steps, however, have been ignored by the nuclear weapon states. The US even openly declared that it would find no way to honor these obligations.[§] The tension between nuclear weapon states and non-weapon states has thus been exacerbated. The major sticking point in the confrontation seems to be diametrically opposing positions between the two sides concerning the priority steps toward nuclear disarmament. Non-nuclear weapon states contend that if nuclear weapon states continue to insist on the legitimate role of nuclear weapons, upgrade their nuclear arsenals, and even threaten the use of these weapons against non-weapon states, they must expect that these weapons will proliferate. In their view, the central issue is how rapidly

[‡] For the details of these steps, see “2000 NPT review Conference Final Document”, Arms Control, New York, June 2000. http://www.armscontrol.org/act/2000_06/docjun.

[§] J. Sherwood McGinnis, “Article VI of the NPT,” May 1, 2003. McGinnis said, “We made clear last year that the United States no longer supports all 13 steps.”

the nuclear weapon states undertake their responsibility to disarm. Nuclear weapon states, on the other hand, seem to be horrified by the prospect of nuclear weapons falling into the wrong hands. They insist that as long as there is potential for nuclear weapons to proliferate to other countries, or even non-state actors, weapon states have to keep nuclear arsenals for their own security. They struggle with what measures to take to strengthen the international nonproliferation regime so as to create more favorable conditions for controlling proliferation and thus for nuclear disarmament. Even among nuclear weapon states there is also a debate as to when and how the lesser nuclear weapon states should join the major nuclear powers in the process of nuclear disarmament. The contradiction among nuclear weapon states, as well as the tension between these countries and non-nuclear weapon states, has resulted in the virtual paralysis of all the meaningful international negotiations for nuclear arms control, disarmament, and nonproliferation.

This virtual deadlock in multilateral negotiations existed throughout the eight year tenure of the George W. Bush Administration. But the promise of a new administration seemed to herald a dramatic change. It started with two essays which appeared in the *Wall Street Journal* in January 2007 and January 2008, respectively, by four former eminent US officials. In the two essays, they called on the United States to renounce the nuclear deterrence strategy and take the leadership role in helping to create a nuclear-free world. They also offered a set of concrete steps to be taken by the international community, which they believe would lead to genuine nuclear disarmament.⁷ Observers were greatly surprised; not really because of the views expressed, but because of the authors themselves. The four are all unexpected disarmament advocates, not only for the national security decision-making circle of the United States while they served their country, but their past as staunch Cold-War warriors, advocating reliance on nuclear deterrence for the United States throughout their careers. The fundamental shift of their perspective thus carries special significance. Furthermore, the four US officials were not alone. Behind them followed a long list of well-known, prestigious former high-ranking officials, specialists and scholars, who expressed their support by signing the two articles. Many governments, as well as NGOs in Western countries, are taking steps to echo their views. Various suggestions have been made in an attempt to translate new understanding into specific actions for the purpose of achieving a nuclear-free world. Together, they initiated a dynamic campaign that had not been seen for years, alerting the world about the practical danger

of nuclear weapons and calling for meaningful steps toward the elimination of all nuclear weapons.

The new vision, of course, is not without opposition. There are still many people in Washington and other world capitals that question the value or feasibility of a nuclear-free world, and argue that the US and other nations risk undermining their security interests without the deterrent protection of nuclear weapons. In the meantime, a large number of non-nuclear weapon states are electing to be silent, indicating their strong skepticism about the motivation of the newly rising enthusiasm within Western countries about the idea of a nuclear-free world. They wonder if this campaign is not merely another episode of sporadic interest from the Western countries for nuclear disarmament, one that will fade away before long. They seem particularly interested in watching the first year of Obama's presidency. Will he be able to overcome the resistance of the opposition, embrace the idea of global zero, and work out meaningful, concrete steps to that end?

The prospect remains uncertain. However, one should not underestimate the significance of the dynamics of the initiative underway. Behind the vision, there seems a more realistic and sober-minded re-examination by a growing number of elites in the United States and other countries of the continued existence of nuclear weapons and whether they are really in the best interest of global security. The reasons for growing doubts about continuing reliance on nuclear weapons globally are two-fold: 1) "With nuclear weapons more widely available, deterrence is decreasingly effective and increasingly hazardous;" and 2) There is a very real possibility that, "the deadliest weapons ever invented could fall into dangerous hands." Under the circumstances, "the U.S. soon will be compelled to enter a new nuclear era that will be more precarious, psychologically disorienting, and economically even more costly than was Cold War deterrence". In short, nuclear weapons today have become a security problem -- not a solution.⁸

There may be another reason that the authors touched on, but did not elaborate. By holding high the banner of nuclear disarmament, nuclear weapon states like the United States would reoccupy the moral high ground. This would be particularly important when Washington is coming under increasing pressure from the non-nuclear weapons states to implement their disarmament commitments and have not been able to show tangible progress in that respect.

IMPLICATIONS FOR CHINA'S NUCLEAR STRATEGY AND DISARMAMENT POSTURE

Emerging trends in the world strategic situation no doubt have profound influence on China's nuclear strategy and its position towards nuclear disarmament, as well. The implications can be summarized as follows.

Despite the reduction of the two major nuclear powers' arsenals by more than one-half, the current world nuclear architecture remains a smaller version of its Cold War structure in Beijing's perspective. The US and Russia continue to maintain the preponderance of nuclear weapons with the other powers each having relatively small arsenals. To China, the main nuclear threat seems increasingly to come from the US ambition to strengthen its nuclear eminence and the uncertain strategic intention towards Beijing's small nuclear retaliatory force suggested by its efforts to deploy missile defense forces.

The emergence of regional nuclear powers, particularly on China's periphery, has no doubt complicated China's threat perceptions, as well as its contingency preparations. However, Beijing may address this as a proliferation issue, rather than the appearance of new strategic threats that would demand Beijing to fundamentally change its strategic focus. In Beijing's perspective, it is almost inconceivable to imagine a major conventional war leading to a future nuclear exchange with India, Pakistan, the DPRK, or any other nuclear-armed developing country. Japan may be a different story, however. But a nuclear Japan would certainly pose as many, if not more, strategic challenges to the United States as to China. Why should China be particularly worried if the United States is not? This assessment does not suggest, of course, that China would welcome regional nuclear proliferation. What is worthy of note in Beijing's view is that since regional proliferation affects the security of all the other regional states, it can best be solved through the concerted efforts of all the countries concerned, preferably within a regional framework, similar to the one taking place with the Six-Party Talks for the DPRK's nuclear issue. To put it another way, although regional nuclear proliferation is a serious problem from Beijing's perspective, it can hardly distract China from its major concern over the practical threat from the United States – because it is that country that still seriously prepares for a nuclear strike in a possible military conflict against China.

If the US were to renew its efforts to upgrade the quality of its nuclear forces (offensive and defensive), and with the prospect of the US

acquisition of new military capabilities in space, Beijing may feel increasingly less confident in the reliability of its small nuclear forces for retaliation. Imagine the military pressure from the US that Beijing may well be confronted with: A numerically reduced but upgraded precision-guided offensive nuclear capability; a robust missile defense system; some offensive capability in space, like an anti-satellite capability; and a more aggressive preemptive nuclear doctrine. All these are backed up by powerful conventional capabilities and the potential resurging capabilities of a nuclear infrastructure that had been rebuilt even after drastic reductions to the size of the arsenal. Under the circumstances, Beijing may need to answer two critical questions: 1) Will China continue to maintain an absolute self-defensive nuclear posture?; and 2) if the answer to the first question is yes, what should China do to ensure the reliability and effectiveness of its retaliatory nuclear force in the future?

Despite these confrontational aspects of the relations among nuclear weapon states, there is a bright side to the evolution of the world strategic situation—the growing, overlapping interests among these countries to deal with their common problems that no one power or group of powers can address single-handedly. Common interests give rise to a growing need for international cooperation. Sino-American relations are perhaps a particularly good case-in-point. Despite the fact that the two countries are so discrepant in terms of their nuclear capability, and so divergent in their perspectives with regard to the role of nuclear weapons, they often seem to find that cooperation, rather than confrontation, serves their best interests. Both hope to build a new nuclear world order, for example, that can ensure sustained international security and stability. Efforts to that end would include closer cooperation, particularly in the field of the nonproliferation of nuclear weapons. It is precisely in this spirit that China has become a valuable constructive partner of the United States in the international effort to solve the regional nuclear crisis on the Korean Peninsula, as well as the fight against international terrorism. Furthermore, both capitals also seem to be keenly aware of the significance of maintaining strategic stability between the two sides. Indeed, nuclear stability could well become an inherent part of the overall China-US relationship in the future. On the other hand, as long as the overall relationship remains good, there is a propitious political basis for strategic stability, based on strengthened confidence and trust in each other. The two countries would then be able to keep their nuclear weapons as a background issue in their relationship. The key to the success of this process will be

sincere political will on both sides, with an adequate sense of sensitivity over the core security interests of the other side. China should continue to maintain a defensive nuclear posture, exercise self-restraint, and refrain from taking provocative measures to challenge the US core interests, while the US has to make sure that further developments in its nuclear posture do not threaten the credibility of Beijing's small nuclear retaliatory force.

Against this backdrop, it is extremely unlikely that China will fundamentally change its nuclear posture and nuclear strategy. Continuity will continue to characterize its self-defensive nuclear posture. As China's Defense White Paper in 2006 put it:

China's nuclear strategy is subject to the state's nuclear policy and military strategy. Its fundamental goal is to deter other countries from using or threatening to use nuclear weapons against China. China remains firmly committed to the policy of no first use of nuclear weapons at any time and under any circumstances. It unconditionally undertakes not to use or threaten to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones, and stands for the comprehensive prohibition and complete elimination of nuclear weapons. China upholds the principles of counterattack in self-defense and limited development of nuclear weapons, and aims at building a lean and effective nuclear force capable of meeting national security needs. It endeavors to ensure the security and reliability of its nuclear weapons and maintains a credible nuclear deterrent force. China's nuclear force is under the direct command of the Central Military Commission (CMC). China exercises great restraint in developing its nuclear force. It has never entered into and will never enter into a nuclear arms race with any other country.⁹

Within this policy framework, Beijing will advance the evolution of its nuclear strategy in the future with a two-pronged approach.

First, Beijing will continue to modernize its nuclear forces in modest ways. With the backing of its economic development and scientific and technological achievements, China will accelerate its weaponry and equipment modernization drive mainly by relying on its own efforts. The aim is to build a streamlined and effective strategic force with both nuclear and conventional capabilities. The major initiatives would include quickening steps to raise the informational level of its weapon systems, building an agile and efficient operational command and control

system, and increasing capabilities of land-based, strategic, nuclear counter-strikes and precision-strikes with conventional missiles, among others. In other words, China may only continue to respond to the implications for its security in spite of what the other nuclear weapon states, the US in particular, are doing. If we look at the US missile defense programs, for example, for all the official reassurance that they are not intended against China, Beijing believes that these systems are chiefly meant to neutralize China's nuclear force provided technology permits.¹⁰ Under the circumstances, China has no other alternative than to quicken the pace and scope of its modernization drive, including increasing the number of its warheads and building more mobile intercontinental-range ballistic missiles (ICBMs). This is perhaps the main reason explaining why China seems still to strive to expand its nuclear force, albeit in a small way, while other nuclear weapon states are reducing the number of their nuclear warheads, according to the Western reports.

Second, China will take measures to enhance international cooperation, to build up a world nuclear order which is conducive to world peace, security, and stability, as well as to China's own interests. These measures will mostly include efforts to maintain nuclear stability among nuclear weapon states, to strengthen the international nuclear nonproliferation regime, and to create necessary conditions to reactivate progress in multilateral negotiations for nuclear arms control and disarmament.

It is in this context that the initiative launched by the Western political elites for a nuclear-free world may well fit into Beijing's long-sought objective of the complete prohibition and thorough destruction of nuclear weapons. One might recall that on October 16, 1964, the very day that China exploded its first atomic bomb, the Chinese government issued the following statement:

[China] proposes to the governments of the world that a summit conference of all the countries of the world be convened to discuss the question of the complete prohibition and thorough destruction of the nuclear weapons, and that as the first step, the summit conference conclude an agreement to the effect that the nuclear powers and those countries which may soon become nuclear powers undertake not to use nuclear weapons either against

non-nuclear countries and nuclear-free zones or against each other.¹¹

This was indeed the first-ever proposal from a nuclear weapon state calling for not only the building of a nuclear-free world, but also a practical and effective approach to that end. China has put forward on numerous occasions similar views and proposals on the issue, and has never given up the objective of a nuclear-free world. In light of this consistent position, it can be envisioned that Beijing would welcome the proposal by the four eminent politicians from the United States to renounce reliance on nuclear deterrence and make concerted efforts for a nuclear-free world. China may be proactive in joining international efforts to explore what steps should be taken that might lead to this lofty goal. The devils, however, are in the details, particularly when people are trying to define a realistic roadmap towards the goal of global zero.

Two major challenges may arise that could hinder China in joining in the process of nuclear disarmament in the future:

The first is that China is only a weak nuclear power. As such, China must decide on the circumstances in which it would be ready to join the US and Russia in the process of disarmament. This could prove to be a complicated issue. Since China always maintains that it would participate in this process only when the United States and Russia seriously implement their special responsibility, the particularly pertinent question is what level of reductions by the two major nuclear powers could induce China to join in the process. Some Western specialists have suggested deep-cuts by the two states to a level on the order of 1,000 or 800 warheads in each of their nuclear arsenals may be an indicative point that would require China's involvement in further disarmament. But, from China's perspective, although numerical reductions are certainly one essential part of nuclear disarmament, it alone cannot reduce the nuclear threat that China is faced with today. Thus, what matters more to China is the reduction of threat, rather than the reduction in number of nuclear weapons by the United States and Russia, in order to produce a truly propitious environment for all the nuclear weapon states to join these two major powers for further nuclear disarmament.

In this connection, it might be in order to recall a proposal entitled, "Proposal on Essential Measures for an Immediate Halt to the Arms Race and for Disarmament," put forward by the Chinese Delegation at

the Second Special Session of the UN General Assembly on Disarmament (SSOD II) in 1982, which highlighted systematically the guidelines, as well as specific measures, to be taken for nuclear disarmament. On the basic principles for nuclear disarmament, the Chinese proposal set forward six points:

1. Efforts for disarmament cannot be separated from those for the maintenance of international security. They must be combined with those for the maintenance of world peace and security. In order to create a favorable climate and conditions for disarmament and to achieve real progress in this field, it is essential to uphold the Charter of the United Nations and the norms of international relations. No country is permitted to seek any form of hegemony anywhere in the world. The use or threat of force against the sovereignty and territorial integrity of any state should be strictly prohibited.
2. The two superpowers should take the lead in reducing their armaments. They possess the greatest nuclear and conventional arsenals and their rivalry and arms race are menacing international peace and security, hence they bear the primary responsibility for disarmament and should be the first to reduce their armaments. After they have substantially cut back their armaments, the other nuclear states and militarily significant states should join them and reduce their armaments according to a reasonable proportion and procedure.
3. Nuclear disarmament should be carried out in conjunction with conventional disarmament. It is certainly important to take effective measures to achieve the objective of nuclear disarmament in view of the grave threat to mankind posed by nuclear war, but one should not overlook the fact that conventional arms are used in committing aggression against or otherwise threatening other countries. Only a combination of measures for both nuclear and conventional disarmament can help reduce the danger of war. Simultaneously with nuclear and conventional disarmament, all other types of weapons of mass destruction should be banned.
4. Small and medium-sized countries are all entitled to take what measures they deem necessary to maintain their defense capabilities for resisting aggression and safeguarding their

independence. The measures and steps decided at different stages of disarmament must not prejudice or endanger the independence, sovereignty and security of any state.

5. Disarmament agreements should provide for strict and effective international verification.
6. All states may participate in the settlement of disarmament issues on an equal footing. As disarmament has a bearing upon the security and interests of all states, big or small, nuclear or non-nuclear, militarily strong or weak, every state is entitled to participate on an equal footing in the deliberations and negotiations on this matter and in supervising the implementation of the agreements reached.¹²

In the spirit of the above said principles, the proposal also suggested the following four essential measures for an immediate halt to the arms race and for disarmament:

An agreement should be reached by all the nuclear states not to use nuclear weapons. Pending such an agreement, each nuclear state should, without attaching any condition, undertake not to use nuclear weapons against non-nuclear states and nuclear-weapon-free zones, and not to be the first to use such weapons against each other at any time and under any circumstances.

The Soviet Union and the United States should stop testing, improving or manufacturing nuclear weapons and should reduce by 50 percent all types of their nuclear weapons and means of delivery.

After that, all other nuclear states should also stop testing, improving or manufacturing nuclear weapons and should reduce their respective nuclear arsenals according to an agreed proportion and procedure.

Conventional disarmament should be effected simultaneously with nuclear disarmament. As a first step, all states should undertake not to use conventional armaments for intervention or aggression against and military occupation of any country.¹³

A careful look at these basic principles and specific measures suggests they constitute a comprehensive, as well as operational, roadmap for the task of nuclear disarmament. Obviously, what China hoped the two

major nuclear powers would do included, at least: 1) a dramatic change of their nuclear doctrines pending complete nuclear disarmament; that is, adoption of a commitment to NFU; 2) drastic quantitative reductions in their nuclear arsenals; 3) stopping qualitative improvements of nuclear weapons (like testing, improving, or manufacturing new nuclear weapons); and, 4) other vital disarmament measures that would greatly facilitate nuclear disarmament like conventional disarmament, etc.

In the meantime, this proposal did not put China on the sidelines as an indifferent onlooker. In the speech by the then-Foreign Minister Huang Hua to introduce this proposal at the session, he pledged that China would be a constructive participant and be ready to undertake its due share of responsibility in the process of nuclear disarmament. He solemnly announced that:

If the two superpowers take the lead in halting the testing, improving or manufacturing of nuclear weapons and in reducing their nuclear weapons by 50 per cent, the Chinese Government is ready to join all other nuclear states in undertaking to stop the development and production of nuclear weapons and to further reduce and ultimately destroy them altogether.¹⁴

Over 26 years have passed since China's proposal, yet the two major nuclear powers still failed to meet completely the demands contained in the proposal so as to create the essential condition for all the nuclear weapon states to join the process of nuclear disarmament. Much has changed in the strategic situation since then, and China's specific proposal may become obsolete in the new and different strategic environment. But the guiding principles for the matter of nuclear disarmament in the proposal remain valid, and would still provide inspiration for the condition in which China would be ready to participate in the process of nuclear disarmament and the realization of a nuclear-free world.

The second challenge is that China must also overcome a conceptual ambivalence towards the role of nuclear weapons in order to get ready to participate in the process of disarmament in the future. As noted above, China has always held a dialectic view of nuclear weapons—it has a strong repugnance towards these particularly devastating weapons of mass destruction. At the same time, it must keep and upgrade them to ensure its national security. With the passage of time, this dialectical view has developed into ambivalent feelings towards nuclear weapons. Like other nuclear weapon states, China had also adopted measures to

modernize its nuclear capability. This modernization process had started in the early 1960s in the form of the projects dubbed as “two-bombs, one-satellite”— meaning developing an atom bomb, a hydrogen bomb, and a man-made satellite. It has proved to be a symbol of the nation’s spirit of developing its national defense science and technology chiefly through self-reliance, despite its initially backward economic and technological conditions. It has become the pride of the whole Chinese nation that China can achieve whatever the Western powers have achieved and may do it better.

As Deng Xiaoping once put it:

It has always been, and will always be, necessary for China to develop its own high technology so that it can take its place in this field. If it were not for the atomic bomb, the hydrogen bomb and the satellites we have launched since the 1960s, China would not have its present international standing as a great, influential country. These achievements demonstrate a nation’s abilities and are a sign of its level of prosperity and development.¹⁵

Deng’s view has been embraced by the succeeding leaders of China and, indeed, by the whole nation. Development of nuclear weapons has been held as the new, valuable spiritual wealth created by the Chinese people in the 20th century for the Chinese nation. In September 1999, a special conference was held in Beijing to solemnly give commendation to those scientists and technological specialists who had made outstanding contribution to the development of China’s projects of “two bombs and one satellite.” In the conference, Jiang Zeming, the then Party Secretary General stressed that:

[T]he progress of ‘two bombs and one satellite’ has not only resulted in the qualitative leap forward of China’s national defense capability, but also contributed to the broad development of science and technology of the nation, promoted its socialist construction, and foster a contingent of science and technology, who are particularly able to be hard-working, to tackle key problems, to bring about innovation, and to carry out collaboration.

This progress has greatly strengthened the confidence and strength of the whole nation to march forward and to go all out to make the country stronger. The great cause of ‘two bombs and one satellite’ is the important symbol of the

progress of the development of the new China, the glory and pride of the Chinese nation. It is also the magnificent feat of bravely scaling new heights in science and technology in the history of human civilization.¹⁶

In this spirit, China's national defense science and technology industrial department decided in 2000 to regard the "two-bombs, one-satellite" as its trade spirit to promote the cross-century reform and development of the national defense science and technology industry and set off an upsurge in learning and carrying forward this spirit in the whole industry.¹⁷

Under the circumstances, developing nuclear weapons seems to have created significance for China beyond the basic defense needs. Whether this national sense of pride will influence China's attitude towards nuclear disarmament in the future may be an open question. But, obviously, much depends on the evolution of the global strategic situation. Furthermore, it would also require some new strategic insights as well as greater political courage of China's leaders to reevaluate the role of nuclear weapons in the new strategic situation, and lead the nation to embark on the nuclear disarmament process ahead.

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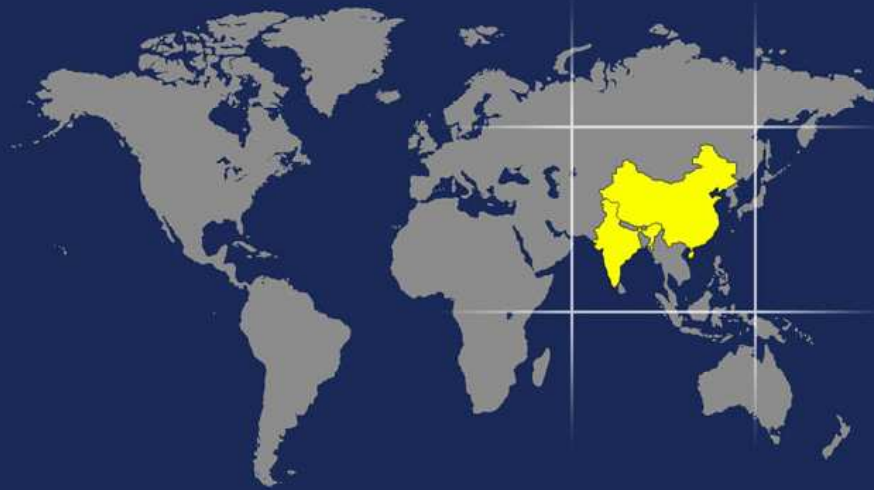
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