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THE INDO-USA NUCLEAR DEAL AND ITS IMPACT ON INDIA'S BALLISTIC MISSILE PROGRAMME

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Upendra Choudhury*

Abstract

On July 18, 2005, the USA President George Bush and the Indian Prime Minister Manmohan Singh announced an agreement to restore US nuclear cooperation with India. Since then, the Agreement has generated unprecedented public debate in India and abroad. This paper examines carefully the merits of the arguments who oppose this deal for its negative effects on India's ballistic missile programme .It concludes that except few genuine concerns, most of these concerns are either inappropriate or untenable. On the contrary, the deal legitimises India's nuclear and ballistic missile capability, would contribute to nuclear stability in the region and strengthen global nuclear non-proliferation efforts. At the political level, the deal would help India to beak nuclear parity with Pakistan and regain strategic equivalence with China.

Introduction: On July 18, 2005, the USA President George W Bush and the Indian Prime Minister Manmohan Singh announced an agreement to restore US nuclear cooperation with India. Although this agreement is yet to be operationalised, it has generated unprecedented public debate in both India and abroad. While the proponents of the deal have described it as 'historic[1]', 'landmark[2]', 'most consequential[3]' or the first major instance of the US 'tilting' in favour of India[4], the opponents have denounced it as a 'sell out[5]', a 'hasty concession' to American power[6], a 'strategic trap[7]' or at best a 'compromise' that bypasses rules applicable to others[8].

The detractors have cited different reasons to oppose the deal but their main opposition centers around on its possible impact on India's nuclear and missile programmes. While the skeptics abroad argue that the deal will allow India to expand its nuclear arsenal substantially their fellow domestic critics maintain the exact opposite- that the deal significantly caps India's nuclear and missile deterrent capability. The domestic opposition has been so intense in recent months that it has resulted in a serious stand-off between the ruling coalition and the opposition parties on the one hand and the minority Congress party led government and the supporting Left parties on the other[9]. This stiff opposition to the deal has made its fate very uncertain.

This paper is an attempt to analyse the main arguments against the deal for its negative effects on India's ballistic missile programme It is important to mention in this context that although India has a number of strike aircrafts which could be used to deliver gravity bombs[10], New Delhi has made land-based ballistic missiles as the 'core' of its nuclear deterrent posture because they are generally believed to be the most reliable vehicles for the delivery of its nuclear weapons in a retaliatory strike. Ballistic missiles are also relatively inexpensive and their speed and accuracy make it virtually impossible to take effective defensible measures against them[11].

Against this backdrop, the paper has been divided into several parts: the first part outlines the main features of the Indo-USA civilian nuclear agreement, the second part briefly describes India's current ballistic missile status and capability, the third part reviews the possible impact of the nuclear deal on India's ballistic missile programme. A brief conclusion is given at the end of the paper.

India-US Nuclear Deal: The Joint Statement between President Bush and Prime Minister Singh issued on 18 July, 2005 lays down the broad contours of USA nuclear energy cooperation with India in future[12]. Breaking away from the long-term US non-proliferation policy, President Bush recognised India as "a responsible state with advanced nuclear technology". He has committed himself to working to achieve "full civil nuclear energy cooperation with India as it realizes its goals of promoting nuclear power and achieving energy security". Towards this objective, he will

a) seek agreement from the US Congress to adjust domestic laws and policies.
b) work with friends and allies to adjust restrictive international regimes so that India can benefit from "full nuclear energy cooperation and trade".

On his part Prime Minister Manmohan Singh has committed India to:

a) "separate its civilian and military nuclear facilities and programmes in a phased manner",
b) "place voluntarily its civilian nuclear facilities under International Atomic Energy Agency (IAEA) safeguards",
c) "sign and adhere to IAEA's Additional Protocol with respect to civilian nuclear facilities",
d) "continue unilateral moratorium on nuclear testing",
e) "work with the US for the conclusion of a multilateral Fissile Material Cut Off Treaty" (FMCT),

f) “ put in place comprehensive export controls on sensitive goods and technologies” and
g) ‘harmonise and adhere to the Missile Technology Control Regime (MTCR) and Nuclear Supplier Group (NSG) guidelines.

Since July 2005, both India and the USA have undertaken a number of initiatives as required under the Joint Statement. India, for instance, has submitted a Nuclear Separation Plan[13] to the US in March 2006, the US Congress then passed the Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act[14] in December 2006 and both India and the USA have released the 123 Agreement[15] in August 2007 that seeks to translate the law into a mutually acceptable bilateral framework.

India’s Ballistic Missile Status and Capability: India began a comprehensive missile development programme, known as the Integrated Guided Missile Development Programme (IGMDP) [16], in 1983. With an initial budget of Rs 380 crore, the programme envisaged "to take up simultaneously the design and development of five missiles which would provide the nation a comprehensive missile-based defence umbrella within ten years". The five missiles include the short-range surface-to-air missile Trishul; the surface-to-air missile, Akash; the smokeless high-energy anti-tank guided missile Nag; the surface-to-surface missile Prithvi, and the intermediate range missile Agni. Of these, only Prithvi and Agni are ballistic missiles.

Prithvi[17] is a single stage, road mobile, liquid fuel battle-field support missile. This 8.5 m short-range missile was first test-fired in February 1988. Several variants of the missile have been developed. Prithvi-I, or the Army version, has the maximum range of 150 km and a payload capacity of 1,000 kg. This missile has been produced and inducted into the Army. Prithvi-II, or the Air-force version, has a range of 250 km with a warhead weight of 500-700 kg. The development work on this missile is complete. The Prithvi-III, also called Dhanush, is developed for the Navy. It has a range of 250 km and a warhead weight of 500 kg. This missile is under development.

The intermediate range Agni is India's second ballistic missile and has four versions — Agni-I, Agni-II[18], Agni-III[19] and Agni-IV[20]. The Agni-I has a range of 700 km and a payload capacity of 1,000 kg. This surface-to- surface 15-metre, 12-tonne and single-stage solid propellant missile was first test-fired on 25 January, 2002. The Agni-II was

flight-tested on April 11, 1999 and has a range "in excess of 2,000 km", which it can cover in 11 minutes. Other features of the 20-meters long and 16-tonne weight Agni-II include: mobile launch capability, solid-solid propulsion system, features designed to carry special payload of over 1,000 kg, state-of-the-art navigation, guidance and control systems and sophisticated on-board packages including advanced communication interface. Agni-III is a two-stage solid fuel missile that can carry 1.5 tonne nuclear warhead to 3,000 plus kilometer range. After three postponements, it was first test-fired in July 2006 but failed due to a defective heat shield. This was overcome in April 2007 during its second launch which was successful. With its 3,000 plus range, the Agni-III is capable of hitting most parts of the Asian continent and brings for the first-time the Chinese cities of Beijing and Shanghai within its striking distance. With this test, India has achieved credibility in its nuclear deterrent posture vis-à-vis China, something it has been striving for long. The Agni-IV is now under development and the first test trial is expected in 2009. The details of India's present and future ballistic missiles are given in Table 1.

Table 1

Indian Ballistic Missiles

Name of the Missile	Range (Kilometers)	Payload (Kilograms)	Comments
Prithvi-I	150	1,000	Deployed
Prithvi-II	250	500	Undergoing usher trials
Prithvi-III (Dhaush)	250	500	Ship-launched version in development

Agni	1,000-1,500	1,000	Shelved in favour of Agni-II
Agni-I	700-800	1,000	Single stage version of Agni-II, fully operatinalised and inducted into the Army.
Agni-II	2,000-2,500	1,000	Tested to a range of more than 2, 000 kms , inducted into the Army but yet to be fully operational.
Agni-III	3,000+	1.5 tonnes	First tested in July 2006 and currently undergoing developmental trial
Agni-IV	5,000	1.5 tonnes	Under development and first trial expected in 2009.

Impact of the Nuclear Deal on India's Missile Programme: Having outlined the main features of the nuclear deal and India's current ballistic missile status and capability, let us now examine how the deal impacts India's ballistic missiles programme. These are discussed in two parts: the deal's direct impact on the country's missile programme and its impact on the missile programme vis-a-vis its effect on India's nuclear deterrent posture.

The first direct impact of the nuclear deal is the American recognition of India's nuclear and ballistic missile programmes and its acceptance of New Delhi's right *to retain and pursue* those programmes outside the international non-proliferation regimes. The Joint Statement of 18 July, 2005 that declares India as "a state with advanced nuclear technology"[21], the March 2, 2006 Nuclear Separation Plan[22], the

Hyde Act that made necessary changes in the US Atomic Energy Act of 1954[23] in order to accommodate nuclear cooperation with India, the 123 Agreement which provides for a non-hindrance clause in respect of India's nuclear weapon's programme, the India-specific IAEA Safeguards Agreement that makes India different from other non-nuclear weapon states[24], the NSG exemption[25] and the final ratification of the nuclear agreement by the US Congress would all grant India's nuclear and missile programmes a de facto recognition ending New Delhi's 30 year quest for such recognition.

This is no mean an achievement considered when the official objective of the USA till recently remained "to cap, roll back and eventually eliminate" the nuclear and missile capabilities of India[26]. India came under intense pressure from the USA in the early 1990's to modify its nuclear and missile posture. The US had opposed the deployment of the short-range Prithvi missile and the development of the medium range Agni missile and had imposed sanctions against India's civilian space programme on cryogenic rocket technology issue in 1992 claiming that this would 'contribute' to India's ballistic missile capability. India saw the American missile and space policy as very 'unfair' and hence 'unacceptable' because it brushed aside the Chinese dimension of the problem and told India to abandon its missile programme in a purely Indo-Pakistani context. Moreover, India complained that the USA had consistently turned a blind-eye to the Sino-Pak technological co-operation in the nuclear and missile field even though its own intelligence agencies had confirmed this[27].

However, all this changed rapidly. A series of events like India's nuclear tests in 1998, the Kargil war of 1999 and the Musharraf coup in Pakistan in October same year created the circumstances for putting the relations on a new footing. Through an intensive year long dialogue between India and America, the USA came close to a de facto recognition of India's nuclear capability and posture only to be officially announced in July 2007. The Joint Statement between President Bush and Prime Minister Singh recognized India as a de facto nuclear weapon state and in a stroke, made India to join the ranks of China, France, Russia, the US and the UK as a legitimate wielder of the influence that nuclear weapons and the means of their delivery confer[28].

The USA approval of India's missile programme can also be evident in two other ways. First, under the nuclear deal although India has agreed to 'adhere' to the MTCR guidelines, it is not required to dismantle its missile programme unlike Brazil. On the contrary, India has been given the same status as other nuclear weapon states

like Russia and China which have become adherents of the MTCR without giving up their missile programmes[29]. Second, during the test-firing of the Agni-III in July this year the USA reaction was mute unlike the past. The USA stated that the countries in the region should not take any action that would destabilize the balance in Asia[30].

While there is no doubt that the USA has clearly accepted India's right *to retain* its ballistic missiles, it is controversial whether it also recognizes New Delhi's right *to persue* its missile programme towards its logical conclusion . In fact there are reports recently that India's willingness to cap the range and reach of its missiles facilitated the nuclear deal with America[31]. The CNN-IBN news channel, for instance, reported in June 2007 that India has decided not to develop missiles with the range over 5,000 km as a goodwill gesture towards the USA. It also said that the move to limit the missile range was intended to reassure the US of India's peaceful intensions. The Indian Foreign Ministry and the US Embassy in New Delhi have however declined to comment on the report. The critics argue that the USA will support India or its missile programme to the extend New Delhi is made a counterweight to Beijing. It would not prefer India to become a challenging nuclear power like Russia and China. Therefore it wants to limit India's missile (ICBM) capability and undermine its attempt to emerge as a global nuclear player of any reckoning[32].

There have been arguments and counter arguments about whether India should continue its missile programme to the extent of developing ICBMs. Critics in the USA and elsewhere argue that India actually does not need an ICBM against China and there is no obvious reason for it to want such a capability against Europe. So they are convinced that an Indian ICBM could only be used against the US mainland in future. They therefore warn that the US should not facilitate the acquisition or improvement of that technology directly through the transfer of missile related technologies or indirectly through close space co-operation with India[33].

The pragmatic opinion has, however, argued that India is a friend of America so the US should not unnecessarily worry about New Delhi's strategic programmes. Robert Blackwill, the former US Ambassador to India, for instance, has questioned "why should the USA want to check India's missile capability in ways that could lead to China's permanent nuclear dominance over democratic India"[34]? According to C Raja Mohan & Parag Khanna, "if the USA should welcome the emergence of any one Asian power, it should be India which shares America's concern over the spread of Islamic fundamentalism, sub-state nuclear proliferation and China's ambitions". To

them, "there is not a single area in which India's rise threatens America's interests"[35]. Thus, according to them, America has to transcend its non-proliferation dilemmas and consider the geopolitical importance of strengthening India's power capability.

It is instructive to note that India's desire for an ICBM capability is motivated more by its desire to be recognized as a great power and symbolic nuclear parity with China than its military usefulness[36]. In fact, there is a domestic consensus in India that in order to be taken seriously the country has to achieve both economic and military power. India's domestic political situation is quite favourable for this. Whenever the non-proliferation regime managers imposed new restrictions, India has reacted with more nuclear and missile tests. Past efforts to cap Indian programme through the NPT[37], the CTBT[38] and the MTCR aroused intense nuclear nationalism in India. This form of nationalism is much stronger in India than any other nuclear countries and it is very much tied to India's notion of national independence and their peculiar colonial history[39].

It is for this reason successive Indian Governments have insisted that India must retain the right to test the various missile systems under development. In response to the UN Security Council Resolution 1172 of June 6, 1998, the then Prime Minister A.B Vajpayee, for instance, had stated that 'the call made in the Resolution that we should stop our nuclear or missile systems is unacceptable"[40]. The Manmohan Singh Government has also reaffirmed that India would continue with its missile tests.

India's missile programme together with its nuclear programme and its drive for a permanent seat in the UN Security Council is part of its ongoing efforts to establish itself as a world power. The USA has also announced that its goal is to help India become a major world power in the 21st century. This is not an altruist decision but based on the calculations of its interests in respect of Asian and world developments[41]. As new business interests and arrangements materialize between the two countries, coupled with India's record as a responsible democracy and China's growing global clout, there could be a change in USA's strategic calculations towards India.

Secondly, India's readiness to harmonise and adhere to the MTCR guidelines under the India-USA nuclear agreement has major implications for global non-proliferation regimes on the one hand and its missile programme on the other. Although its past record on exports of proliferation related items is exemplary, India has recently undertaken several other measures to strengthen its export control laws on nuclear, missile and dual use technologies to bring them to line with global norms. New

Delhi has, for instance, enacted the Weapons of Mass Destruction and their Delivery System (Prohibition of Unlawful Activities) Bill in 2005, upgraded its export control lists so as to bring them at par with those of the NSG and the MTCR, submitted its Nuclear Separation Plan in 2006 to the US that brings much of its nuclear facilities within the ambit of international safeguards and would negotiate an Additional Protocol with the IAEA. These will contribute immensely to global non-proliferation efforts and increase the confidence of the international community in the robustness and effectiveness of India's export control system.

How will India's decision to adhere to the MTCR guidelines affect its missile programme? Before dwelling on this, let us briefly discuss about the MTCR and how it affected India. The Missile Technology Control Regime was established in 1987 to restrict the proliferation of WMD capable ballistic missiles, cruise missiles and unmanned aerial vehicles and their associated technology to non-missile states[42]. India did not join the MTCR because it considered the regime as more inequitable and discriminatory than the NPT as there was no mutuality of obligations between the missile and non-missile states. It incorporated no commitment on the part of the missile powers—akin to the Article VI of the NPT—to work towards complete missile disarmament[43]. Notwithstanding these criticisms, India has however refrained from spreading its missiles or missile related technologies to other states in spite of many requests to do so[44].

While India was informally observing the MTCR even though it did not subscribe to the regime, it was subjected to stringent export controls during that period. This had compelled Indian space and missile planners to indigenously develop the components and equipments denied to them, but the forced indigenization of the items and technologies had slowed down projects (especially the development of an independent space launch capability and the building of a missile deterrent capability against China) and increased the budgets[45].

Despite these odds, India has, however, established itself as a world-class nuclear and missile power and emerged as a potential supplier of nuclear, missile and space technologies. This has led the USA to secure India's adherence to the MTCR under the nuclear agreement. The critics have cited this as one of their main reasons to oppose the nuclear deal. They argue that India is now forced to accept the MTCR guidelines and any future amendment thereto even as they victimize it[46]. They, therefore, suggest that either India should join the MTCR as an equal partner, abiding

by the rules and gaining better access to missile-related technologies or remain outside the technology denial regime as it did before. This is because being a mere 'adherent' of the regime does not in any way serve India's interests but binds New Delhi to the rules and interpretations of the MTCR by the US and other member countries.

It may however be argued that even if India did not join the MTCR, it was informally observing its guidelines. Now as a responsible nuclear state, India can not do otherwise and in any case it will abide by the MTCR guidelines. Second the issue of WMD proliferation is not just an American concern. India is equally threatened by it. The source of proliferation in its neighbourhood has been, for instance, of grave security concern for India as much as it is a cause of worry for the US and the international community. China's assistance to Pakistan's nuclear weapons and missile programmes over the decades for ever altered the balance of power between India and Pakistan. The Sino-Pak WMD nexus exposed India to unending terrorism and permanent nuclear blackmail from Pakistan[47]. Thus, as a responsible nuclear state, India's decision to support international efforts to limit the spread of WMD technologies is as much to strengthen nuclear non-proliferation regimes as it is to serve its own security interests.

One positive impact of the deal is, however, the "dismantling of the technology denial regimes which have hitherto targeted India". But this relates to India's nuclear trade and commerce with the USA and globally and not to the transfer of missile-related technologies under the MTCR. The only consolation at the moment could be that if the restrictions by the NSG are eased, India is likely to find favour with the MTCR.

There are, however, a number of reasons why India should not be denied access to critical technologies under the MTCR. First, India has already developed nuclear weapons and medium range missiles, so continuous denial of the technology does not make any sense. Second, India has emerged today as a rapidly expanding industrial economy with a wide array of technologies that are relevant to proliferation. As a major rising power, it can do much to either contribute to or frustrate global non-proliferation efforts. But India's support towards global non-proliferation regimes will be difficult to muster if it perceives itself as unfairly treated despite its demonstrated commitment to a rule bound system. As the former Foreign Secretary Shyma Saran has correctly remarked "the international community has to ask itself whether India is a partner or a target for the global non-proliferation regime. It clearly can not be both at the same time".[48] Third, any policy that allows China's nuclear and missile build up but

constraints India's missile capability is not only against India's interest but clearly not in the interest of Asia. Asia requires a balance of forces between its most important powers[49].

Thus making India a stakeholder of the regime and ending global high-technology flows against it would not only strengthen global non-proliferation efforts but also contribute to balance of power in Asia.

Now let us examine how the nuclear deal impacts India's ballistic missiles programme via its effects on the country's nuclear deterrent capability. The most important criticism against the deal is that it would enable India to rapidly expand its nuclear arsenal[50]. Consequently this will lead India develop and acquire appropriate number of ballistic missiles to deliver those nuclear warheads to their target. Those who have subscribed this viewpoint include: nuclear non-proliferation experts Henry Sokolski[51], Joseph Cirincione[52] and Daryl G Kimball[53], former Senator Sam Nunn[54] and peace activist Praful Bidwai[55] and M.V Ramanna[56]. Their criticism is based on two crucial assumptions;

a) First, India seeks the largest nuclear inventory consistent with what its capacity permits,
b) Second, the Indian desire for a large nuclear arsenal has been stymied so far by a shortage of natural uranium.

Ashley J Tellis, a senior associate at the US-based Carnegie Endowment for International Peace in his well researched report *Atoms for War? US Indian Civilian Nuclear Co-operation and India's Nuclear Arsenal* has found both these assumptions deeply flawed[57]. He finds that India is currently separating about 24-40 kilograms of weapons grade plutonium annually, far less than it has the capability to produce. This suggests that India has so far adopted a relaxed nuclear posture and is in no hurry to build the biggest nuclear stockpile. He further mentions that India has the indigenous reserves of natural uranium necessary to build the largest possible nuclear arsenal it may desire (India is widely acknowledged to possess reserves of 78,000 metric tons of uranium) and consequently, the US-Indian nuclear co-operation agreement will not materially contribute towards New Delhi's strategic capacities in any consequential way either directly or by freeing up its internal resources.

If the criticism above has exaggerated the deal's benefits to India's nuclear and missile deterrent capability, there is another criticism that exaggerates its costs to the country's nuclear/missile weapons programmes. It is leveled by some members of

India's strategic community, the opposition parties and sections of the media and the scientific community. They argue that the implementation of the deal would have an adverse impact on India's nuclear weapons programme[58]. Their argument is based on two crucial assumptions. First, they are worried that the premature separation of the civilian and nuclear facilities would compromise the size of India's nuclear arsenal thereby limiting the number of ballistic missiles required. Second, the deal would make it difficult for India to carry out an atomic test in future undermining thereby its ability to build a new generation of lighter and more powerful nuclear weapons. This, according to the skeptics, would force India to develop heavy-payload than high range ballistic missiles. In other words, according to this view, if India were to develop an ICBM in future, it would not be built for its range but for its payload capability[59].

Are numbers at all relevant in the Indian context? The rapid expansion of nuclear arsenals by the two Super Powers during the Cold War led to dangerous doctrines like MAD and counter-strike capability. This led to further expansion of arsenals and the readiness to use these utterly destructive weapons. There is a danger that given certain weapons availability, states would attempt to convert it into war-fighting advantage. Reagan Gorbachev together stated in 1985 that a nuclear war can not be won and must not be fought[60].

Soon after the nuclear tests in May 1985, India has declared a minimum credible deterrence and a No-First-Use nuclear policy. Although it has made no effort to define minimum in terms of number or types of nuclear weapons, New Delhi has stated that the country is determined not to commit the follies of the other nuclear powers in accumulating large arsenals because it regards nuclear weapons in purely defensive terms and rejects them as instruments of blackmail or coercion[61].

It is worth mentioning that in case of nuclear weapons, mere numbers (or their yield) beyond a certain minimum are not critical to credible deterrence. China, for instance, has maintained a successful deterrent capability with an NFU nuclear doctrine for four decades with a figure of around 450 odd nuclear weapons with only 25 ICBMs to deter the two Super Powers notwithstanding their numerical and technological conventional military superiority[62]. Thus in the Indian context 'one bomb one city' would be fine.

The nuclear realists in India are also confident that the country currently possesses sufficient stockpiles of weapons grade plutonium to implement a minimum nuclear deterrence posture against both China and Pakistan and the eight nuclear

reactors that will remain outside the IAEA safeguards be sufficient to take into account the unknowable developments of the future[63]. Moreover, the agreement is very liberal in its demands it places on India and the choice of which facilities are civilian and which are military has been left entirely to New Delhi.

Similarly, the argument that India's ability to test in future will be severely constrained under the deal needs close scrutiny. Under the 123 Agreement, India has neither given up its right to test nor agreed to sign the CTBT which bans nuclear testing. In fact, Article 2.4 affirms that the agreement "will be implemented in a manner so as not to hinder or otherwise interfere with any other activities" involving material and technology, military or civilian, acquired independent of this agreement. Similarly, Article 14.2 offers immediate bilateral consultation in the event of an Indian test and commits the two sides "to take into account whether the circumstances that may led to termination or cessation resulted from the party's serious concern about a changed security environment or as a response to similar actions by other states which could impact national security." To put another way, India reserves the right to test if other countries do the same[64].

Moreover, today the reliability of nuclear weapons is tested by conducting stimulation exercises and according to Mr. R Chidambaram, the Principal Scientific Advisor to the Government of India who supervised India's second series of nuclear weapons tests at Pokhran in May 1998, India has considerable commuter stimulation capability to ensure the safety and reliability of its nuclear weapons[65].

The final argument put forward against the deal is if implemented it will set off a nuclear and missile race in South Asia and undermine the nuclear deterrence stability in the region[66]. Those who subscribe to this viewpoint argue that an Indo-USA nuclear co-operation agreement would reinforce Chinese suspicions about a collusion between the US and India to encircle and contain it. This would not only gravely hurt Sino-India detente but also lead China to expand its nuclear and missile forces both qualitatively and quantitatively. This would make China an even more potent danger for India than it already is. Moreover, Beijing might enhance its already substantial strategic cooperation with Pakistan on nuclear and missile issues, further endangering India's immediate security. India's attempt to match the Chinese arsenal will propel Pakistan in the same direction, thereby generating a nuclear and missile race in the region.

The above argument, it clearly seems echoes China and Pakistan's concerns against the Indo-American nuclear deal. Although three other nuclear weapon states--

Russia, France and UK-- and several other major powers like Australia and Japan have supported the new nuclear initiative, China is the only nuclear country which has expressed its opposition to the deal[67]. Beijing has argued that it is fundamentally wrong to change the global non-proliferation regime for the sake of only one country. It has stated that if at all there will be any change in the rule, it must be based on a 'principled criteria'. This is seen by India as barely a disguised attempt to get Pakistan the same benefits that New Delhi is about to gain from the nuclear agreement and confirm its thesis that Beijing is determined to perpetuate 'nuclear parity' between India and Pakistan.

China's emphasis on a 'principled criteria' is ridiculous. Various reports and studies suggest that desspite the fact that China joined the NPT in 1992, its missile and nuclear cooperation with Pakistan continued unabated through the subsequent years violating its international commitments, including the pledge given to the USA in 1996 not to transfer the prohibited technologies[68]. On the contrary, it is widely acknowledged that India has never used nuclear proliferation as a foreign policy tool unlike its close neighbours.

Pakistan has similarly argued that the Indo-US nuclear deal will allow India to "produce significant quantities of fissile material and nuclear weapons from un-safeguarded nuclear reactors which would adversely impact on strategic stability in the region". Desperate for a similar nuclear deal that preserves its much- vaunted nuclear parity with India, it has formally approached key members of the NSG seeking an exception from its rules on the lines being suggested for India[69]. The US has, however emphatically rejected equating India and Pakistan in any nuclear order because of Islamabad's questionable non-proliferation credentials.

It is not only alarmist but unrealistic that the deal will lead to an expansion of Chinese nuclear and missile arsenal. China's nuclear and missile capabilities are several times bigger and better than those of India. Moreover, China has already been modernizing its nuclear forces aimed at cutting the military's size while qualitatively improving its weapon systems for the last several years and will continue to do so despite the nuclear deal[70]. Similarly China has already deployed a large number of medium and short-range nuclear-tipped missiles and nuclear capable aircraft in Tibet. As Beijing has already signed a NFU agreement with Russia and a de-targeting agreement with the US, it is evident that these are targeted at India[70]. The argument that the agreement will encourage missile and nuclear proliferation is also not valid because

China and Pakistan had been in the proliferation racket long before the deal was signed and with full knowledge of the other Nuclear Weapon States. It is the only way Beijing constrains New Delhi. China views India, along with Japan its nearest peer competitor in Asia-Pacific and will continue to pursue its strategic goals irrespective of what India does with the US on the nuclear issue[71].

Contrary to the common belief, the nuclear agreement will actually contribute to nuclear stability in South Asia. India and Pakistan have started several rounds of nuclear risk reduction dialogues with each other since 2004 but they have not made any significant headway so far. Of the several reasons for their lack of progress, the most important one is that India perceives significant nuclear threats from China and New Delhi would not negotiate any credible nuclear risk reduction measure with Islamabad unless Beijing is brought into the fold. Till today the Chinese have strictly opposed to any nuclear dialogue with the Indians. This is because China still refuses to acknowledge India as a nuclear weapon state and considers a nuclear dialogue with India would be tantamount to acknowledging its nuclear weapon status .Once the nuclear deal passes through the IAEA, NSG and ratified by the US Congress, China would find it easy to enter into a meaningful nuclear dialogue with India[72].

Conclusion: The above discussion clearly shows that much of the concerns on the deal's effect on India's missile programme is either inappropriate or untenable. In fact, under the present agreement, India's nuclear and missile programmes are not any worse off than the status quo. The deal legitimises India's nuclear weapon status and ballistic missile capability, would contribute to nuclear stability in South Asia and strengthen global nuclear non-proliferation regime. At the political level, the deal will help India to beak nuclear parity with Pakistan and regain strategic equivalence with China. There are, however some genuine concerns --- India continues to be denied access to missile-related technologies despite its support to the MTCR & the reported US pressure on India to cap the range of its missiles—that can not be glossed over and need to be considered in view of India's past record as a responsible nuclear state and its likely emergence as a world power.

However, India has to overcome several obstacles in order to 'operationalise' the nuclear deal[73]. First, consensus should be reached at home. Second, it has to negotiate and finalise a safeguard agreement with the IAEA. Third, the NSG has to grant an exemption to India. And finally, the US Congress has to ratify the 123 Agreement with India.

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4. Dhruva Jaishankar, "US Tilts towards India", *Indian Express*, August 29, 2007

5. This criticism is made by Bhartiya Janata Party, India's principal opposition party.

6. This is the criticism made by the Communist Party of India (CPI-M), the party that supports from outside the minority Congress party-led UPA government at Centre.

7. John Cherian, "Strategic Trap", *Frontline*, Vol.24, No. 17, pp.14-6.

8. This has been one of the major criticisms of the USA nuclear non-proliferation community. For more on this aspect see Rajesh Kumar Mishra," Indo-US Nuclear Deal and Non-Proliferation", *Strategic Analysis*, Vol.29, No. 4, pp.612-28.

9. The BJP says that it will seek a revision of the 123 Agreement if it is voted to power. It is of the view that the deal compromises India's 'strategic autonomy' and be put into vote in both Houses of the Parliament. The Left parties who support the UPA coalition at the Centre strongly oppose the agreement and asked the Government not to operationalise it. The deal according to them compromises India's independent foreign policy and its sovereign rights for developing a self-reliant nuclear programme. The Congress party, which heads the coalition Government, thinks that the Government has gone far ahead with the nuclear deal and can not make even a semblance of a turnaround at this point of time come what may. However, recently, the Prime Minister Manmohan Singh and the Congress Chief Sonia Gandhi in their interactions at the *Hindustan Times* Leadership submit said while they would be disappointed if the deal fell through, once has to live with certain disappointments and move on. For BJP's view see Yashwant Sinha's interview to Venkitesh Ramakrishan, "Intellectual Dishonesty of the Highest Order", *Frontline*, Vol.24, No. 17, pp.22-3. For Left and Congress views on the deal also see the above *Frontline* issue, pp. 6-7 & pp. 10-11.

10. India has four different types of nuclear capable strike aircraft: the British Jaguar low-level strike aircraft, the French multi-role Mirage-2000 fighter jets, the old Soviet MiG-29 fighters, and the new Russian multi-variant SU-30 fighter-bomber. While the SU-30s, MiG-29s and Mirage-2000s are designed primarily for air-superiority missions, they could also be converted to serve effectively as nuclear delivery platforms. However, the uncertainties over their penetration capabilities and survivability of fighter aircraft after a pre-emptive strike have already forced India to shift its force structure towards land-based ballistic missiles.

11. Upendra Choudhury, 'Security in a Period of Strategic Uncertainty: A Study of India's Ballistic Missile Programme', Unpublished Ph.D. thesis, CPS/SSS, JNU, New Delhi, 1999, pp. 190-96.

12. For the US-India Joint Statement of July 18, 2005 see

http://www.whitehouse.gov/news/releases/2005/07/print/20050718-6.html

13. For India's Nuclear Separation Plan see http://indianembassy.org/newsite/press_release/2006/Mar/sepplan.pdf

14. The Hyde Act that gives US Administration the waiver o reach a pact with India, which has not signed the NPT, has been severely criticized in India because it has many conditionality and even seeks to dictate foreign policy. While the Govt. claims that its prescriptions are not binding, the opposition seeks further clarification. For details of this Act see http://thomas.loc.gov/cgi-bin/cpquery/R?cp109:FLD010:@1%28hr721%29:

15. The 123 Agreement between India and the US is an Agreement under section 123 of the Atomic Energy Act of 1954. It contains 22 pages and 17 Articles. For a detail text of 123 Agreement sees http://www.stimson.org/southasia/pdf/US-India-FinalTextof123Agreement.pdf

16. For a detail history of India's IGMDP see Choudhury, op. cit, No. 11, pp. 92-5.

17. For more on Prithvi see Upendra Choudhury, "Dealing with the Danger of Ballistic Missiles in South Asia", paper available at www.ceip.org/files/projects/npp/pdf/SABM.pdf.

18. For Agni-I and Agni-II see Upendra Choudhury, Ballistic Missiles and India–Pakistan Strategic Balance', *Journal of Peace Studies*, vol. 9, no. 5, pp.52-5.

19. For Agni-III see " Agni-III, With Reach Up to Beijing Tested", *Times of India*, April 13, 2007, "Agni-III Test-fired Successfully", *Hindu*, April 13, 2007, Mannu Pubby, "Long Range Questions", *Indian Express*, April 16, 2007 and Avinash Chander's interview to T.S Subramanian, *Frontline*, Vol. 24, No. 8, pp. 22-7.

20. For Agni-IV see "DRDO Begins Work on Agni-IV Missile", *Hindu*, August 9, 2007 and "DRDO Eyes 5,000 km Range Missile", *Indian Express*, April 15, 2007.

21. The US can't treat India as a Nuclear Weapon State under the NPT so India is a state with advanced nuclear technology.

22. India has kept 8 out of its 22 operating/under construction power reactors out of the IAEA safeguards. The US has accepted the Indian civil- military separation of nuclear facilities as "credible, transparent and defensible from a non-proliferation standpoint".

23. The US Atomic Energy Act of 1954 prohibits America from selling nuclear materials to states that have nuclear weapons but who have outside the ambit of the NPT and the IAEA monitoring system.

24. R Ramachandran, "Indo-US Nuclear Agreement and IAEA Safeguards", *Strategic Analysis*, Vol.29, No. 4, pp.574-92.

25. The NSG is a 45 country consortium that was established immediately after India conducted its first nuclear test in 1974 as a way of specifically keeping nuclear materials out of the country.

26. For more see C.Raja Mohan, "Indo-US Cooperation in Arms Control", in *Bridging the Non-Proliferation Divide*, ed. Francine Frankel (New Delhi: Konark Publishers, 1995), pp. 354–80

27. Upendra Choudhury, "China Has a Role", *Newstime*, June 27, 2002.

28. Ashton B Carter, "America's New Strategic Partner?" *Foreign Affairs*, Vol.85, No.4, p.36.

29. Jasjit Singh, "MTCR Bid to Button-Hole India in a Round Robin Dialogue", *Indian Express*, September 3, 1994.

30. "US Reacts Cautiously to Agni-III Missile Test", *Hindu*, April 14, 2007.

31. See for instance "India to Limit Missile Programme to Aid US Nuclear Deal" report available at: www.strategypage.com/militaryforums/72-20518.aspx and
"India Shelves Ambitious Nuclear Missile Programme report available at: www.atimes.com/atimes/South_Asia/HE25Df02.html.

32. "India-America Nuclear Deal: A Strategic Analysis" paper available at: www.india-defence.com/reports/1187.

33. Richard Speier, "US Space Aid to India: On A "Glide Path" to ICBM Trouble? *Arms Control Today*, March 2006 available at: http://www.armscontrol.org/act/2006_03/MARCH-IndiaFeature.asp?print

34. Robert D Blackwill, "The India Imperative" paper available at www.usindiafriendship.net/viewpoints1/blackwill5.htm.

35. C Raja Mohan & Parag Khanna, "Getting India Right" paper available at www.hoover.org/publications/policyreview/2913806.html.

36. For more about the Indian ICBM see "DRDO to Focus on ICBMs", *Hindu*, April 15, 2007, Harsh V Pant, "Launch into the Ivy League", *Indian Express*, May 1, 2007, Upendra Choudhury, "India as a Space Power: How the Defence versus Development Debate Became Outdated", *Indian Journal of Politics*, Vol.XL, No.2&3, pp. 115-28 and Upendra Choudhury., " India's Space Assets and the Security Implications", *Hindu Business Line*, November 15, 2002.

37. The NPT excluded India from its nuclear club membership because it failed to conduct a nuclear test before the Treaty came into force in 1970.

38. India has not signed the CTBT as it feels that the treaty came into existence after those who possessed nuclear weapons had perfected the know-how.

39. T.V Paul, 'The India-USA Nuclear Accord in Strategic Context" in *Nuclear Cooperation with India: New Challenges and New Opportunities,* ed. Wade L Huntley & Karthika Sashikumar ed. (Vancouver: Simons Centre for Disarmament and Non-Proliferation Research, 2006), pp.47-54.

40. Kanti Bajpai, 'India's Nuclear Posture After Pokhran II', *International Studies*, vol. 37, no. 4, p 271.

41. K Subrahamanyam, "Partnership in a Balance of Power System", *Strategic Analysis*, Vol.29, No. 4, pp.549-60.

42. Choudhury, op cit, No 11, pp. 157-61.

43. Brahma Chellaney, "The MTCR: Its Challenges and Regours For India" in *Bridging the Non-Proliferation Divide*, ed. Francine Frankel (New Delhi: Konark Publishers, 1995), p. 226.

44. In 1989, Iraq, for instance, attempted to study the Indian missile programme and offered to host Indian experts in order to acquire missile technology. Thereafter the Iraqis again made a lucrative offer for Indian missile technology during the Gulf crisis. In both cases, India rejected these offers. For more see, N C Menon, "The Racket in Rockets", *Hindustan Times*, January 26, 1993.

45. For how the MTCR affected India's missile and space programmes see Choudhury, op cit, No.11, pp. 167-80.

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47. "Nuclear Minuet, *Indian Express* editorial, September 9, 2007.

48. Shyam Saran, "Nuclear Non-Proliferation and International Security", *Strategic Analysis,* Vol. 29, No. 3, pp.361-69.

49. Sujit Dutta, "China's Emerging Power and Its Military Role: Implications for South Asia" paper available at: www.rand.org/pubs/con_proceedings/CF137/CF137.chap5.pdf

50. The International Panel on Fissile Materials estimates that the deal will allow India to produce 1,600 kg of plutonium a year- enough to make 500-600 Nagasaki types bombs, in additions to its existing inventory of about a hundred weapons, way beyond any 'minimum deterrent'.

51. Henry Sokolski, "Why Congress Must See the IAEA Safeguards and U.S. Nuclear Cooperative Agreements with India *before* It Amends the Atomic Energy Act", Testimony before The Senate Foreign Relations Committee "U.S.-India Atomic Energy Cooperation: Strategic and Nonproliferation Implications", April 26, 2006 available at: http://www.npec-web.org/Frameset.asp?PageType=Single&PDFFile=Why%20Congress%20Must%20See%20the%20Safeguards%20and%20Nuclear%20Cooperative%20Agreement&PDFFolder=Testimonies

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53. Daryl G Kimball, "Dangerous Deal with New Delhi", *Baltimore Sun*, March 9, 2006 available at. http://www.commondreams.org/views06/0309-25.htm and also "N-Deal: Arms Control Group Urges US Not to Give in More", *Indian Express*, May 2, 2007.

54. Cited in K Subrahmanyam, "India Needs a Deterrent", *Times of India*, April 4, 2006.

55. Praful Bidwai, "Atomic Impasse, *Frontline*, Vol.24, No. 17, pp .87-8 and his "Nuclear Deal and Beyond", *Frontline*, Vol.24, No. 15, pp.128-9.

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