CONCLUSION
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The whole concept of India's Nuclear Policy is so elusive that no one can say for certain that, such a policy is the best and an infallible one. In the arena of international power politics the unthinkable can happen rendering the most well planned and thought out policy formulation topsy turvy. In my concluding analysis I would endeavor to fill in certain gaps that seem to be evident in the Nuclear Doctrine released by the NSAB. At the outset let me make it clear that the whole strategic analysis has been made by a generalist like me who cannot match the strategic acumen of the country's think tanks and defence experts. I would like to sum up my analysis by taking up different issues that are to be delved deeper while formulating the country's nuclear policy, which is of course to have an affordable minimum credible deterrence.

India's Economic Constraints

India in the twenty first century is firmly in the path of liberalization, privatization and globalization. It can hardly take up anything that will hit its fledging economy and reverse the development process. Thought it is true that no cost is too high for preserving the country's security, but it cannot also be denied that the cost factor of building a deterrent is of extreme importance to the socio economic development of the country. We cannot just go on adding to our nuclear armoury like a military dictatorship as in Pakistan or a totalitarian communist state like China for the sheer show of our military might. We have to accept Kenneth Waltz's logic that "more is not better, if less is enough." We have highlighted a tentative cost-benefit analysis of our nuclear programme and the economic viability of our deterrent building capability. Because of our "no first use" and deterrence philosophy there is a greater
need to strengthen our conventional weapons system and harmonise the conventional and nuclear force structure in keeping with the realistic threat perception.

The Socio-Political Mileu

The Nuclear Doctrine laid down by the BJP led coalition government has to be further refined and a coherent nuclear strategy has to be formulated by the successive government to make it meaningful and operationally workable. This development cannot happen in a vacuum. A stable social and political environment is necessary to make it feasible. An unstable government with weak political backing cannot take the country's nuclear policy to its logical end and implement such a policy.

Therefore a strong government with a will to develop a credible minimum deterrent (has to take the opposition into confidence) is requisite precondition for building a nuclear deterrent posture. In addition to a stable polity, societal cohesion is equally important. A society fragmented by divisive social forces like communalism, regionalism and casteism cannot project itself as a strong nation and thus will be more vulnerable and too tempting a target for its adversaries. The whole theory of deterrence is going to fail if we are politically and socially unstable and divided. Those at the helm of affairs have to give special attention to these factors while implementing India's nuclear policy.

Targeting Options for India - Counter Value or Counter Force

At the heart of a nation's targeting philosophy is the question: what deters? Is the adversary to be deterred by threatening major cities with annihilation? Or, is it to be
deterred by threatening decapitating strikes against its political and Military leadership? Or, would it be deterred by rendering strategic nuclear forces and conventional strike corps incapable of effective and coherent action? Civilian and military nuclear planners have for long wrestled with the dilemma of whether to base their targeting philosophies on "Value target" or on "Counter force" target or a judicious mix of the two." 1

"Value target" consists of major population centers and industrial installations and are the ones that exemplify terror in the "balance of terror" equation.

"Counter Force target" is primarily strategic military targets and are generally those that are connected with the storage, launching and delivery of nuclear weapons and their command, control and communications (C3). Even if counter force targets are attacked exclusively, there is an inherent danger of "collateral" civilian damage since most of these are likely to be located close to cities and small towns.

Democratic states, in particular, are increasingly placing much greater emphasis on the value of human life than was the case even a few decades ago and are most uncomfortable with the concept of massive urban ad industrial destruction that was the hallmark of cold war strategies like the "Mutually Assured Destruction" (MAD).

For India's doctrine of minimum deterrence and "no first use" nuclear strategy to be credible, India's targeting philosophy must be based on a counter value strategy of massive punitive retaliation to inflict unacceptable damage against the adversary's

population centers and industrial assets. The retaliatory strike should be massive regarding of the level (quantum, yield, type of target, location) of a first strike against India and its armed forces.

This is more so because India has been placed between two hostile totalitarian nuclear neighbors with a past record of confrontation with them. Under these circumstances India can ill afford to present itself as a soft or banana state whose policies can be moulded to suit the interests of other great powers rather than safeguard its own national security interests. So as argued by Brigadier V.K. Nair against Pakistan the assured destruction of six to ten metropolitan centres, the destruction of minimum of one corps sized offensive formation in its concentration area, the neutralization of a large number of communication centres, industrial facilities, strategic bridges, military airfields, nuclear installations, hydro electric and thermal power station, railway centres and ports which would critically limit Pakistan’s war potential. Similarly, against China, the destruction of four to five of her metropolitan centers and nine to ten of her strategic industrial centers, thereby radically degrading China’s economic growth. Despite several references to the complete destruction of Pakistan as a viable political entity, Brig. Nair offers no justification for these varying perceptions of deterrence between Pakistan and China. (Brig. Nair has listed 17 targets in Pakistan and only 8 in China for a retaliatory nuclear strike).

This can of course be understood if we remember that India's targeting philosophy is not premised on "proportionate deterrence" Because it is based on the

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principle of 'minimum deterrence' India does not need tactical or battlefield nuclear weapons. Also the inherent disadvantages of tactical nuclear weapons (primarily, the lower threshold of use the need for launch on warning and launch through attack strategies, complex command and control challenges, increased cost of manufacture and maintenance, the problem of storage, transportation and handling in the field and the greater risk of accidental and even unauthorized use) should preclude the use of these weapons for deterrence.4

India's Nuclear Force Structure

Should deterrence fail a nuclear strike be launched against India, the Indian nuclear force should be able to survive in adequate numbers to respond in a punitive manner to inflict unacceptable damage to the adversary who initiated the nuclear exchange. The question which arises here is how much damage does the adversary consider unacceptable.

K.Subramanyam writes, "minimum deterrence is not a numerical definition but a strategic approach. If a country is in a position to have a survivable arsenal, which is capable of exacting an unacceptable penalty in retaliatory it has minimum deterrence as opposed to an open-ended one aimed at matching the adversary's arsenal in numerical terms. Those arsenals in thousands were produced in an era when the strategic establishments believed in nuclear war fighting and did not understand its ecological consequences. Today, sections of the US strategic community argue that the US can discharge its global responsibilities with an arsenal of 200-war heads.5

Nuclear Capabilities of India

Due to the secrecy surrounding the nuclear weapons research and development programmes it is extremely difficult for an analyst to estimate the number of nuclear warheads possessed by nuclear weapon states with any degree of precision. Estimates are based generally on the quantity of unsafe guarded enriched uranium or plutonium that the NWS may have accumulated over the years. Dr David Albright of ISIS had estimated that India's stockpile of weapons grade Plutonium was 370 kg and was enough to make about 74 nuclear weapons. 6 this number is of course not accepted by all and the expert's estimate varies. But the upper limit does not exceed 80 to 90 weapons. Given lack of transparency in these matters, it will be long time before this controversy is resolved.

Strategic Delivery Systems

The number and variety of nuclear warheads and their level of technological sophistication are ultimately of value only to the extent that accurate strategic delivery systems are available for reaching them to the intended targets. The real test of genuine deterrence capability lies in the possession of strategic delivery systems. In this field China is much ahead of India. It has a wide range of land based missiles (of the SRBM, IRBM and ICBM range), SLBMS, Tactical weapons, aircraft, artillery and short range missiles. SIPRI's assessment of Chinese nuclear force is included in the list of tables. 7

A 1999 RAND report stated that India lacks the capability to launch effective

7. Reproduced in Gurmeet Kanwal's India's Nuclear force Structure. Strategic Analysis.
missile strikes against China and is incapable of withstanding a nuclear first strike by China. The report entitled "From Testing to deploying Nuclear Forces: The Hard Choice Facing India and Pakistan" observed that India has an 'unready force' vulnerable to a first strike, does not have the means to detect enemy ballistic missiles in flight and does not have a command control and intelligence structure that is resistant to an attack aimed at decapitating India's civilian leadership." Pakistan has a host of delivery systems, which it has received, from China, North Korea and Saudi Arab. It has 'state of the art' strike aircrafts with the range and specialized avionics to penetrate and reach key cities and military targets throughout North West India. Because of the asymmetry existing between India and Pakistan in the reach of existing delivery means, Pakistan may be induced to opt for a pre-emptive strike. To this India would need a suitable 'launch on warning' system. Clearly India is at a major disadvantage and it is imperative that the foremost national security priority should be the development and operational fielding of Agni-I and Agni-II ballistic missiles (to a range of 5000 km to cover all likely targets in China), followed by SLBMS and Surya ICBM with a global reach to cater to all future threats. Till such time as these missiles become fully operational, India's nuclear deterrent will continue to lack credibility, especially against China.

Thus the first requirement for an effective and credible nuclear deterrent is the need for the Indian nuclear arsenal to be based on high yield thermo nuclear weapons.

The second requirement is to accelerate the missile development programme, especially the development of ICBMS... India cannot be said to have a truly
effective nuclear delivery system against China if they are not adequately developed so that the CEP is reduced to less than 0.01 percent (50 mts at 5000 km. Also as the thermonuclear weapons do not cost substantially more than fission weapons, it would make sense to optimize India's meager fissile material stockpile by producing sufficient thermonuclear weapons in the megaton class to equip at least all ballistic missiles with them... since the demonstrated thermonuclear is limited to only 200 kt warheads, India will have to make do with 200 kt weapons till (and if) further testing enables the development of megaton class warheads. 

India's Nuclear Options

In the post pokhran-II period there has been no visible movement towards creating the nuclear forces and command and control system that would make nuclear deterrence a reality. Though leading scientists like APJ Abdul Kalam (now the President of India ) and Dr P. Chidambaram have announced the tests as successful and the government decided to declare a moratorium on further tests, doubts are still being raised. Dr P.K. Iyengar who as former head of BARC and AEC himself had been associated with India's nuclear programme for many years has questioned the nuclear establishment assertions that more tests are not necessary to attain a minimum deterrence capability.

Others have also raised serious doubts about the wisdom of India signing the CTBT before the controversies regarding the May 1998 tests are cleared. Some issues that have been raised are:

(1) Are the tests conducted sufficient to build high yield, mega tonnage capacity weapons?

(2) Does India have the requisite technology to conduct nuclear test by computer simulation as the advanced nuclear weapon states have.

(3) What kind of bargain would justify an Indian signature of CTBT.

(4) Was it necessary to declare a moratorium on tests without a diplomatic bargain with the US and Western Powers.

(5) The US Senate's refusal to ratify the CTBT and its attempt to build a National Missile Defence (NMD) and a Theatre Missile Defence (TMD) indicates the increasing lack of faith in its own deterrence capability as well as in global arms control regimes.

(6) China has already begun to upgrade and enhance its nuclear and missile capabilities, which has significant security implication for India.

(7) Last but not the least China's continuing supply of nuclear and missile technology to Pakistan has serious consequences on India's security and arms control.

(8) The above issues have wide ranging implications regarding policies on India's nuclear profile, participation in arms control and investments in a survivable nuclear force structure.

The first step towards formalizing India's nuclear strategy would be to make overt signs of weaponisation as mere declaratory statements are not enough. It is
therefore essential that all scientific and technical controversies be settled regarding India's warhead and weapon building capabilities and the issue of further testing as early as possible. This could be easily done by the government sharing its information with a select group of scientists, strategic experts, the National Security Council and the NSAB. If the opinion of the expert panel is that further tests are required to have an effective force structure then political and diplomatic initiatives must be quickly coordinated to carry out a few more tests before signing the CTBT.

India needs to undertake several other key measures to enhance the credibility of India's Nuclear deterrence like the establishment of a viable command and control system with well published procedures for nuclear decision making a clearly enunciated chain of succession and a well conceived targeting philosophy. Unless India demonstrates the will to develop the required delivery systems and commits sufficient funds and efforts to their development, India's nuclear deterrence will continue to lack credibility.

Once India has taken steps to acquire the minimum deterrent nuclear forces, India must continue to pursue its nuclear disarmaments efforts. Though total elimination of nuclear weapons is the ultimate goal of India's nuclear policy and since it is not achievable in near future other measures should be taken so as to totally wipe out nuclear weapons from the face of earth. This seems to be an utopian dream as nuclear energy and nuclear weapons seems to be inextricably related to each other. Already India has taken the right step in this direction by unilaterally declaring 'no first use' and a moratorium on tests. But the next step should be to initiate Nuclear Risk Reducing Measures (NRRM) with both Pakistan
and China (e.g. it can keep nuclear weapons operationally ready but need not deploy them). It is also necessary that it should get de jure recognition of US, UK, France and Russia as a nuclear weapon state. There by it can get entry into the Nuclear Suppliers group or the Security Council as its permanent member. From this position of strength it can undertake arms control obligation without jeopardising its security interests unilaterally. With its impeccable record as a non exporter of either nuclear technology or nuclear weapons it can be a part of NPT regime once its status as NWS has been recognized.

The same is the position regarding CTBT and FMCT. Through political and diplomatic efforts it has to build better relations with US and Russia so as to build a strategic partnership with them so that it does not invite a fresh round of sanction or international opposition when tests are conducted to develop megaton yield fusion warheads before signing the CTBT. For this it has to be economically strong so that it can overcome economic sanction as the previous sanctions did. The development of the nuclear deterrent should be a slow but steady process and at the right opportune moment the advanced tests should be conducted (where by nuclear weapons can be tested through computer simulation) and there after the CTBT, NPT and FMCT can be signed without affecting our deterrent capability.

A more realistic rather than idealistic approach will be more helpful in building a credible nuclear deterrence for India. If India is accused of aspiring for major power status by building nuclear weapons there is nothing wrong in it and we need not deny it. In real politics power is the currency of International politics. The greater power you have the better you can bargain and mould others to your point of view. I would
like to conclude by saying that, “It is better to be envied than to be pitied”. It is better to be acknowledged as a potential major power rather than treated as a weak kneed, economically backward developing country, whose aspirations can be brushed aside with contempt. To make India’s nuclear strategy viable and credible a strong political leadership is required who has the will and capability to take the policy objectives to its logical end. India’s nuclear posture has to be robust stable and foolproof while reiterating its commitment to disarmament and total elimination of nuclear weapons. India’s strategy should be to move in a steady but incremental manner towards a small ready arsenal capability from its hitherto recessed deterrent posture which will be compatible with its economic resources. This will help in preventing nuclear blackmail by either China or Pakistan and enhance India’s image as a nuclear weapons power possessing nuclear arsenal only for self defence which is allowed even under the U.N Charter. A visible nuclear force structure will enhance the quality of its deterrence by aiding credibility and forcing India’s adversaries to negotiate confidence building measures like signing a mutual no first use treaty, declaring weapon free zones and non-deployment of missiles in comparison with its earlier ambiguous recessed deterrent posture.