CLAWS

Seminar Report

Report on

National Seminar on

INDIA'S NUCLEAR DOCTRINE AND STRATEGY FOR THE FUTURE

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CENTRE FOR LAND WARFARE STUDIES

Seminar Report on

NATIONAL SEMINAR – INDIA'S NUCLEAR DOCTRINE AND STRATEGY FOR THE FUTURE

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The Centre for Land Warfare Studies (CLAWS), New Delhi, is an autonomous think tank dealing with contemporary issues of national security and conceptual aspects of land warfare, including conventional and sub-conventional conflicts and terrorism. CLAWS conducts research that is futuristic in outlook and policy-oriented in approach.

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EXECUTIVE SUMMARY

- Our doctrine is now 14 years old and the regional and international nuclear environment has seen tremendous changes which has a bearing on our nuclear strategy.
- The **US** will invest $ 1 trillion in three decades to replace its ageing ICBMs, SSBNs, B-21 Long Range Strike bombers, advanced command and control systems and National Missile Defence (NMD) system.
- **Russia** has come up with a doctrine entitled – 'Defence Vision or mission' in which they refer to ***nuclear use as use for de-escalation***. It is bringing in new ICBMs, SSBNs, SLBMs and BMD.
- China has elevated the Second Arty Corps (SAC) to Rocket Forces (PLARF). The Chinese capability has seen dramatic improvements in ballistic missiles, SSBNs, ASAT (Anti Satellite System), BMD (Ballistic Missile Defence) and Cyber.
- China is moving towards **limited deterrence** from the Credible Minimum Deterrence - which is not war fighting but a capability short of arms race.
- Pakistan's nuclearisation started in the early 1950s when Pakistan Atomic Energy was formed and today it is the fastest growing nuclear arsenal in the world.
- Pakistan's nuclear programme is purely focused against India to offset India's conventional superiority. With the addition of TNWs, Pakistan thought to have achieved **Full Spectrum Deterrence** basically to cater for India's so called cold start strategy.
- If the role of the country towards its nuclear weapons changes; there is a need to change the doctrine. India is approaching its doctrine with a much deeper understanding and keeps reiterating the basis of India's sole purpose of acquiring nuclear weapons, viz., *for deterrence*.

- The general view on India's nuclear doctrine of **No First Use (NFU)** is that it is **defensive, which reflects passivity.** Such a doctrine puts India at a disadvantage because India is accepting the idea of large scale destruction of Indian population.
- However, counterview is that NFU meets India's strategic nuclear objective of deterrence as India does not want to engage in nuclear war fighting. The argument that India is openly laying itself to destruction is countered by having NFU as a doctrine. Through NFU, India is exhibiting greater confidence in deterrence, and protecting from any large scale destruction.
- In a fog of war where the adversaries are not in engaging in a dialogue, one would rather have the adversary not on edge; but would be doing that if an adversary has a First Use doctrine.
- **Ballistic Missile Defence (BMD)** is an essential corollary of NFU that a state with nuclear weapons must have certainty of retaliation. **Credible NFU demands survivability** and BMD can be one of the factors of enhancing survivability. India could use its BMD for enhancing the credibility of its deterrence and increase the assuredness of assured retaliation.
- **Credible Minimum Deterrence (CMD)** as a concept stresses on the minimum essential size and the character of the deterrent. CMD highlights two aspects of the deterrent – **credibility and minimalism**.
- *Credibility* is a politico-psychological concept where India is trying to convey its nuclear capability and resolve to inflict unacceptable punishment to nuclear adventurism of any sort.
- *Minimalism* implies is that nuclear deterrence should be of minimum essential numbers, size, types, and posture. It is meant to avoid excessiveness of posture, pace of development, deterrence and attendant costs.
- CMD has been effective, which has deterred Pakistan from any form of nuclear adventurism and nuclear coercion or conventional attack by China.

- It is difficult to say whether India would respond by 'massive retaliation by nuclear weapons' to a small scale/ suspected chemical or biological attack attributed to non-NWS or to non state actors. The **policy against chemical and biological threat needs to be much more nuanced in its current form in order to be credible**.
- If we shift to the option of flexible response vis a vis massive retaliation, it would ***entail a basic change in our doctrine from deterrence to war fighting with nuclear weapons.***
- India's nuclear doctrine seems effective and adequate in addressing the Pakistan predominant threat. However, if the China threat becomes more predominant and gets closer, then there is a need for India to examine every tenant of its nuclear doctrine afresh.
- To be truly effective our nuclear doctrine will have to be dovetailed into our conventional operational strategy with lowering of authority at some stage of the battle.
- **Peacetime response, signalling by India has not been very encouraging**. India needs to do more extensive and credible signalling with its current doctrine.

CONCEPT NOTE

Nuclear deterrence in western writings has evolved from massive retaliation to Fourth Wave Deterrence. There is a change from a relatively symmetrical situation of mutual deterrence to a greater concern with what have come to be called asymmetric threats. In response to these challenges and their own security requirements, nations review periodically their National Security strategies, doctrines and instruments of both conventional and nuclear deterrence. Closer home, *India is confronted by two nuclear armed neighbours*, who maintain an opaque arsenal of nuclear warheads and have been pursuing technological upgrades and modernisation at a hectic pace.

China's Nuclear Strategy

China has always claimed to have a No First Use (NFU) doctrine. However its NFU commitment is qualified, in the sense, that it is not applicable to states that are non-signatory to the NPT. China has reiterated its unconditional provision of negative security assurances to all Non Nuclear Weapon States (NNWS) and undertakes to provide these countries with positive security assurances. Progressively, China is graduating to a stand of 'Limited Nuclear Deterrence' which '*requires a limited war-fighting capability to inflict costly damage on the adversary at every rung on the escalation ladder, thus denying the adversary victory in nuclear war*'.

Pakistan's Nuclear Strategy

Pakistan's option of 'First Use', is dictated by early use of nuclear weapons in a conventional conflict as indicated by the ex DGSPD and other strategists, some linking the use to 'redlines'. Pakistan has reiterated the national resolve to maintain 'Full Spectrum Deterrence Capability' and has gone for development of Tactical Nuclear Weapons (TNWs). Pakistan has linked Nuclear Deterrence to the conventional and sub conventional spectrum of conflict. By developing TNWs it has entered the nuclear war fighting domain.

Indian Nuclear Doctrine

- The Indian Nuclear Doctrine is based on the principle of Credible Minimum Deterrence (CMD), with a policy of NFU, Negative Security Assurance (NSA) and 'retaliation only'. This is a dynamic concept related to our strategic environment, technological imperatives and the needs of National Security. India will not resort to the use or threat of use of nuclear weapons against states that do not possess nuclear weapons, or are not aligned with nuclear weapons powers.
- India will not be the first to initiate a nuclear strike but will respond with massive retaliation, should deterrence fail. There are some analysts who recommend 'Flexible Response' in place of massive retaliation.
- Analysts feel that with NFU policy, it is essential that India qualitatively and quantitatively operationalise its Ballistic Missile Defence (BMD) system to thwart adversaries' first strikes, while some feel that BMD would lead to nuclear arms race. There is a need to highlight the relationship between NFU and BMD.
- In spite of NFU as one of the pillars of Indian Nuclear Doctrine, India talks of use of nuclear weapons in response to a 'major attack' with chemical or biological weapons (CBW). Has it diluted the NFU pledge and Negative Security Assurance because India could be forced to use nuclear weapons against a state that does not have nuclear weapons?

DETAILED REPORT

Introduction

- It is worth arguing whether it would ever be possible to achieve a state of 'perfect' credible nuclear deterrence, but a nation can, and must, aspire for it by optimally developing the building blocks that are required. It is imperative that in view of the current universal global trends and security environment in its neighbourhood, India's Nuclear Doctrine and strategy for future is re-evaluated.
- In this backdrop, a seminar on the India's Nuclear Doctrine and strategy for future was conducted by CLAWS, New Delhi to discuss various facets of Nuclear Doctrine and Strategy.
- The Seminar encompassed the following topics:
  - Current Nuclear Paradigm in Indian Sub-continent – Dr Bharat Karnad, Research Professor, CPR.
  - International Trends in Nuclear Deterrence – Rear Adm Raja Menon (Retd), Distinguished Fellow, IPCS and NMF.
  - China's Nuclear Policy – March towards Limited Deterrence – Amb Rakesh Sood, Distinguished Fellow, ORF.
  - Pakistan's Nuclear Strategy – Full spectrum Deterrence – Lt Gen Amit Sharma, PVSM, AVSM, VSM (Retd), Former C-in-C, SFC.
  - Evolution of India's Nuclear Doctrine – Vice Admiral SPS Cheema, PVSM, AVSM, NM (Retd), Former C-in-C, SFC.
  - India's Policies on No First Use (NFU) and Ballistic Missile Defence (BMD) – Dr Manpreet Sethi, Senior Research Fellow, CAPS.
  - Credible Minimum Deterrence (CMD) and options against Chemical and Biological Weapons – Lt Gen Philip Campose, PVSM, AVSM**, VSM (Retd), Former VCOAS, Distinguished Fellow and COAS Chair of Excellence CLAWS.

– Massive Retaliation Vs Flexible Response – Lt Gen AK Singh, PVSM, AVSM, SM, VSM (Retd), Former GOC-in-C, Southern Command & former Lt Gov, Andaman Nicobar Islands & Puducherry.

International Trends in Nuclear Deterrence

- Since the cold war, deterrence has moved from a monolithic relationship between two pacts to more diffused relationships – *dyads and triads*; primarily because of changed boundaries that are to be defended.
- For a country of the GDP of 12 trillion, **China** has a very small arsenal of *260 nuclear warheads* of which only 120 can reach continental US. China follows *minimum credible deterrence*.
- The **USA** triad consists of land based minuteman missiles capable of carrying 481 nuclear warheads, 230 SLBMS, 12 B2 Bombers and 52 B-58 Bombers.
- **Russian** triad is more weighted towards land-based ICBMs than SLBMs. Both sides depend relatively highly on land based missiles. Most of them are in silos as compared to camouflage or dispersal. Having silos dictated a first strike strategy due to less number of SLBMs.
- The Russians have come up with a doctrine entitled - 'Defence Vision or mission' in which they refer to ***nuclear use as use for de-escalation***. The Russian document creates a *disruptive hierarchy of conflict* while discussing nuclear weapons. The hierarchy of conflict is armed conflict: *Local wars* - war of limited political goals limited to borders of two states, *regional wars* and the last is *large scale war* with uncompromising political and military goals.
- If Russia gets into a conflict with the US, the initiative for escalation lies with the US. Russians have realised that their conventional weakness should not prevent them from maintaining the initiative. As they are a strong nuclear power, they would *threaten nuclear use to prevent conventional war escalation which they called de-*

escalation. Russia believes that war in Georgia and Crimea did not escalate because Russia had nuclear weapons.

- This strategy finds an echo in the sub-continent. In an American debrief of Kargil and Parakram, the Pakistanis were adamant that these wars did not escalate because they have nuclear weapons. The Indians held the view that Pakistanis were adamant in thinking that they had de-escalated the conflict with nuclear weapons.
- *India* has adopted the triad but technological hurdles have slowed the SLBM route which is demanded by our doctrine.
- *Hypersonic Missiles*. There have been claims about the *end of nuclear deterrence arising from the US hyper-sonic non-nuclear devastatingly accurate missile programme*. As per Russia, the mere development of this weapon is so destabilising that it could *spark a nuclear war because Russia believes that hypersonic attack could deprive her of its nuclear weapons and would be a precursor to a larger attack*.
- Hypersonic missiles are part of a *Prompt Global Strike programme* which is a loosely designed pentagon programme. The US needs a long range strike capability due to the reconfiguration of US forces whereby the US cannot put boots on the ground everywhere. Current assets such as Tomahawk could be deceived as was the case of missile attack in Khost, Afghanistan. Hence, the QDRs have come up with the prompt global strike idea with the help of tridents. Prompt global strike is seen by US to be useful in varied scenarios:
  - A peer competitor is about to launch to take out a US satellite.
  - To destroy nuclear material shipped to a neutral country
  - A small cache of nuclear weapons is located in a neutral country.
  - The leadership of a terrorist organization is fleetingly collected in a far off place
  - A rogue state threatens a US ally with a nuclear weapon.
- *Russia* and *China* have hypersonic missiles programmes as

WYU-71 and *WU-14* respectively. This missile presents the only technological threat to nuclear deterrence. *Success of this missile programme will prompt Russia to pull out of the arms control programme and destabilise deterrence*. To prevent the failure of nuclear deterrence, there is a need for both US and Russia to talk to each other. There has been a long distrust between US and Russia. Military to military hotline between NATO and Russian general staff set up in 2013 was cut during the Ukraine Crisis.

- *BMD*. The BMD system will also be influencing the concept of nuclear deterrence. Shooting incoming missile by another missile is not a BMD system. Missile defence is the ability to deal with a strike with dozens of warheads mixed up with decoys in real time war scenarios. Even the US west coast defence is meant to deal with only *eight North Korean missiles*.
- The threat of inducting BMD will instigate the other side to expand arsenal, induct decoys and also shoot at lower trajectories.
- *India needs to look at this issue as part of a larger grand strategy for nuclear stability with China and Pakistan*. If this means we have to re-learn lessons of cold war then and we should relook at these lessons once again.

Current Nuclear Paradigm in Indian Sub-continent

- Our doctrine is now 14 years old and the regional and international nuclear environment have witnessed tremendous changes which has a bearing on our nuclear strategy.
- China has elevated the Second Arty Corps (SAC) to Rocket Forces (PLARF). The Chinese capability and modernisation has seen dramatic improvements in ballistic missiles, SSBN, ASAT (Anti Satellite System), BMD (Ballistic Missile Defence) and Cyber. Besides conventional capability new reforms have also been instituted.
- *China* possesses approximately 1200 SRBMs, nuclear warhead capable DF 21/31s, CJ-10 /20 cruise missiles, Jin Class SSBNs

with JL-2 SLBMs with range of 7200 km, Multiple Independently targetable Re-entry Vehicles (MIRVs), Penetrator Aids, Hypersonic Glide Vehicles etc in its inventory.

- *Pakistan* has the fastest growing nuclear arsenal in the world. Four Khushab Reactors and expanded Highly enriched uranium (HeU) plants estimate that Pakistan will have nuclear weapons between 220-250 or even 350 by 2025. Introduction of TNWs, its control by the military, enunciation of First Use strategy, continuation with the policy of Proxy war, sabre rattling and efforts for completion of the Triad by Pakistan – all these issues would result in a *cocktail for disaster.*
- The US will invest $ 1 trillion in three decades to replace its ageing ICBMs, SSBNs, B-21 Long Range Strike bombers, advanced command and control systems and National Missile Defence (NMD) system. *Russia* is bringing in new ICBMs, SSBNs, SLBMs and BMD.
- Indian triad is now in the final stages of deployment and this would enhance its second strike capability.

China's Nuclear Policy – March towards Limited Deterrence

- From the time China went nuclear in 1964, it is maintaining a modest nuclear arsenal with a reasonable degree of uniformity in its capabilities. It is said to have 150 land-based ballistic missiles, 48 sea based ballistic missiles and limited amount of warheads for long range bombers.
- In 1990s, China went for modernisation of its nuclear arsenal which was accompanied by restructuring of forces into PLA strategic force and nuclear support force. China added mobility to ensure survivability and quicker launch response. Short range and medium range missile platforms constitute the majority of its arsenal. Approximately, 3000 miles of tunnels have been assiduously built with rail links.
- China now has SSBN deterrent patrols which were first seen in 2015. They have four SSBNs and are further developing advanced

Jin Class SSBNs. They are to carry 48 JL-2 SLBMs. There was a surfacing of nuclear submarine in Karachi this year. It's not clear whether they were deterrent patrols and if they were carrying JL-2 missiles.

- China is moving towards limited deterrence from the Credible Minimum Deterrence – which is not war fighting but a capability short of arms race. It is not yet clear how the transition to limited deterrence will happen in terms of early warning, quick launch and the necessary investment to change deployment postures. There is an element of imitativeness as China gets more familiar with western mode of thinking.
- China talks of a self-imposed restraint but there are developments of dual use cruise missiles, N6K long range bombers, air launched cruise missiles, hyper sonic glide vehicle, ASAT capability in sub orbit and higher orbits, offensive cyber capabilities and certain amount of BMD capability.
- China thinks that self-imposed restrain gives them higher security with Russia and US. China has a strict political control of these weapons and takes prides to be a special nuclear state that is different from Russia and US. In the *white papers of 2013*, there was a reiteration of NFU which was not mentioned in the earlier paper on China's strategy. In theoretical terms, there is no perceptible shift in China's nuclear policy, but *no one believes that NFU was earlier dropped accidentally*.
- China believes that proliferation was all right and there is a lobby who want to master every new technology whether they use it or not in future. They see new technologies of US as most destabilising and mean to reduce Chinese confidence in its own retaliatory capabilities.
- *India-China nuclear issue is a part of broader India-China policy* which is based on 1988 and subsequent agreements. These agreements have not helped in improving relations between the two nations, in contrary, China continues to keep India on the back foot.

- The policy needs a rethink as per the understanding in 1988 between the two countries that emphasises India to create an environment which will help in resolving the boundary dispute and China would see less utility in Pakistan; but neither of these two assumptions is holding as on date. China sees more utility in Pakistan and India-China gap has widened. While China is willing to listen to the views of the adversary, it is building up capabilities to essentially negate the United States. If China can develop capabilities to blunt the US capabilities, it can certainly blunt India's capabilities. *Therefore the change in Indian nuclear policy towards China will come as part of a relook towards the overall China policy*.

Pakistan's Nuclear Strategy – Full Spectrum Deterrence

- Pakistan's nuclearisation started in the early 1950s when Pakistan Atomic Energy was formed. With the help of China, in 1990, Pakistan had the capability to build a nuclear device which was tested in China. Due to this reason merely 17days after India tested its nuclear weapon in 1998, Pakistan exploded five nuclear weapons in Balochistan.
- The speed with which Pakistan conducted its nuclear weapons shows that they had the wherewithal, but were waiting for India to take the first step. Between 1999-2000, Pakistan went in for its Missile Force Development Programme which was based on 'credible minimum deterrence', purely focused against India. It was divided into two parts – *the strategic and the operational*. The strategic was based on – larger yield, longer range, aimed at counter-value and counter-force targets, whereas the operational was based on - lesser yield, less range and focused on operational targets of both counter-value and counter-force.
- Pakistan felt that their policy deterred India from going to war, be it the Mumbai bomb blasts in 1990s, Kargil war in 1999 or Parliament attack in 2001. India did not take a strong conventional action against Pakistan because of the *nuclear factor*.
- In the early 2000s, India went in for a *Cold Start strategy*.

Except the Indian military, no one was clear what the doctrine was about. There was some confusion even within the defence community. Pakistan thought it was meant to create space for a short, swift, intense war, keeping below the perceived Pakistani nuclear threshold, regulating the tempo and forcing the onus of escalation to the nuclear level by Pakistan. This thought was reinforced by a number of our defence planners. Without realizing we reinforced Pakistani thought process as Pakistan has nuclear weapons and any war would be short, intense and limited. The objectives would be shallow, keeping in mind the Pakistani nuclear capability.

- Pakistan realised that despite having strategic and operational capability, it did not have anything against an Indian offensive that would be *short, swift and shallow*. That's when it went in for the Tactical Nuclear Weapons (TNWs). With the addition of TNWs, Pakistan thought to have achieved *Full Spectrum Deterrence* as it had *weapons for strategic, operational and tactical level*. Pakistan was confident that India would not go to war and it was proved right after 26/11 terrorism attack when we didn't use the military option. With tactical weapons, India does not even have the option to strike back. Indian conventional capability has been stymied and there is no question of a conventional war, irrespective of what Pakistan does.

Evolution of India's Nuclear Doctrine

- One of the fundamental changes that took place after the end of the Cold War was the strategic shift from disarmament to non-proliferation. *The central plank of this non-proliferation order was the NPT, which was indefinitely extended in 1995. The CTBT and FMCT were also proposed as interim steps for total abolition of nuclear weapons*. But without movement towards disarmament, they became only a distant non-proliferation measure. All of these put India in a very tight spot. Thus, India's nuclear test of 1998 was conducted in a fragile geopolitical environment where both China and Pakistan were nuclear armed, thus raising serious security concerns for India and also

due to India's disillusionment for the lack of progress on nuclear disarmament among the nuclear weapons states.

- When the *draft nuclear doctrine* by NSAB was released as a *discussion document on 17 August 1999*, a debate had begun. The opening sentence of India's nuclear doctrine condemns the use of nuclear weapons as the gravest threat to humanity and to peace and stability of international system. There was an argument that the doctrine was necessary to explain India's nuclear position from anti-nuclear to pro-nuclear.
- When the doctrine was operationalised in 2003, the **CCS** stated the following:
  - Building and maintaining a credible minimum deterrent;
  - A posture of 'No First Use': nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or on Indian forces anywhere;
  - Nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage.
  - Nuclear retaliatory attacks can only be authorised by the civilian political leadership through the Nuclear Command Authority.
  - Non-use of nuclear weapons against non-nuclear weapon states;
  - However, in the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons, India will retain the option of retaliating with nuclear weapons;
  - A continuance of strict controls on export of nuclear and missile related materials and technologies, participation in the *Fissile Material Cut-off Treaty* negotiations, and continued observance of the moratorium on nuclear tests.
  - Continued commitment to the goal of a nuclear weapon free world, through global, verifiable and non-discriminatory nuclear disarmament.

India's Policies on No First Use (NFU) and Ballistic Missile Defence (BMD)

- The general view on India's nuclear doctrine of **NFU** is that it is **defensive, which reflects passivity.** Such a doctrine puts India at a disadvantage state **by accepting the idea of large scale destruction of Indian population and assets before India decides to do anything about it.** A change to first use will invite international criticism. As such, it is the international climate which is making India stick to its NFU doctrine. India's Strategy must ensure minimum loss to our citizen while eliminating adversary's capability to cause maximum damage should be the mainstay of our doctrine.
- *NFU is not a defensive or a pacifist strategy*. India has adopted it not because it is a defensive country but because there is certain logic to having NFU. NFU is not for brownie points. There are stability benefits of NFU for any country that is in a nuclear dyadic relationship. NFU meets India's strategic nuclear objective of deterrence as India does not want to engage in nuclear war fighting. Therefore, if the purpose of India's nuclear weapons is deterrence, then NFU is a way of meeting that objective. Deterrence best promises protection from large scale destruction of population and assets. The argument that India is openly laying itself to destruction is countered by having NFU as a doctrine. *Through NFU, India is exhibiting greater confidence in deterrence, and protecting from any large scale destruction*.
- First Use is not a good idea when the adversary has secure second strike capability. In case of India, it is in a situation of classical deterrence with Pakistan and China that already have a secure developed second strike capability.
- First Use is credible in case of conventional defeat. For instance, Pakistan insists that in the face of a conventional defeat it does not have any other option but resort to 'First Use'. There is tendency of putting India in the same scenario vis-à-vis China. If India were to face such a scenario with China, it will be alright for India to use nuclear weapons first against China because India is a weaker power.

- First Use is inevitable when a state sees its adversary preparing for a nuclear strike. Under such a circumstance, it is alright for a state to have a nuclear pre-emption and resort to 'First Use' instead of sticking to NFU. However, it is important to note that preparation is no guarantee for a strike. In fact, nuclear preparation is part of a coercive strategy.
- Decisions to retaliate may sound barbaric, but such is the norm of deterrence. As far as stability benefits of NFU are concerned, *there is no need for a forward deployment of the arsenal, to keep missiles on trigger alert and pre-delegation of authority*. Most importantly, NFU does not put pressure of use or lose on the adversary, which is a critical point. *In a fog of war where the adversaries are not engaging in a dialogue, one would rather have the adversary not on edge; but would be doing that if an adversary has a First Use doctrine*.
- Ambiguity is desired in exercising deterrence with nuclear weapons. NFU is argued to be providing such ambiguity. Therefore, by not putting the adversary on the edge is a massive stability factor. It also raises the chances of 'no use of nuclear weapons' because the adversary does not want to take a chance either. *Putting the onus of escalation on the adversary is a good idea, which NFU does through the promise of retaliation*.
- *BMD* is an essential corollary of NFU that a state with nuclear weapons must have certainty of retaliation. *The promise of retaliation is essentially the bed-rock on which NFU is built. Credible NFU then demands survivability – of the arsenal, command and control and communication, and political will – through SSBNs, nuclear triad, and BMD can be one of them*.
- There is a sort of political consensus as far as deployment of BMD in India is concerned. If one takes a look at the array of missiles in India and the neighbouring countries, one can see a rapid inventory building up. There is accuracy and mobility, improvements in penetrability particularly in the case of China because its focus is on the US, and cruise missile proliferation.

- The missile threat environment in Indian neighbourhood is akin to the situation US and USSR faced during the Cold War as they went in for an Anti Ballistic Missile (ABM) Treaty because they wanted to escape the effects of arms race. In the Indian case, India is further facing a situation of overlapping dyads. So, what China does in relation to the US has an effect on India and what India does, it has effect on Pakistan. So, the mix of all of these makes the situation even more difficult for India.
- As part of its nuclear strategy, India could use its BMD for enhancing the credibility of its deterrence and increase the assuredness of assured retaliation. *If NFU is built on assured retaliation, then in order to remove uncertainty from the mind of the adversary and to improve the survivability of the arsenal and command and control structures, BMD could be put to use.*
- Ensuring the retaliation will protect the whole nation. The advantage of this approach is that technologically it is more achievable since India does not have the resources and technological wherewithal to put an *iron-dome over India*; and it limits the destabilising aspects of BMD because India's vulnerability essentially still remains in place. Finally, India could use BMD mechanics effectively in the NFU strategy, if it wants to avoid the damaging influence of getting into an arms race and offence-defence spiral.

Credible Minimum Deterrence (CMD) and Options against Chemical and Biological Weapons

- As far as nuclear deterrence is concerned, the Indian approach is that it is the 'only' way of assuring security in the face of an adversary's nuclear weapons. The core of nuclear deterrence in the Indian context involves convincing potential adversaries that the cost of an undesirable action in the form of a nuclear/chemical/biological attack will be more than the rewards as it will be responded by a punitive nuclear attack.
- As a pillar of India's nuclear doctrine *Credible nuclear deterrence* echoes important aspects – security with a thrust on deterrencethat

India is a responsible nuclear weapons state and committed to global disarmament. *CMD as a concept stresses on the minimum essential size and the character of the deterrent*.

- CMD highlights two aspects of the deterrent – *credibility and minimalism*. Credibility is a politico-psychological concept where India is trying to convey its nuclear capability and resolve to inflict unacceptable punishment to nuclear adventurism of any sort. It implies demonstration or signaling of political resolve, nuclear capability, effective and assured retaliation, intelligence and survivability of the arsenal.
- The essence is maximum credibility has to be provided to the minimum deterrence. Even NFU in this context is meant to reinforce credibility because the implication is what India tries to project about its retaliation capabilities even after absorbing a first strike.
- As far as minimalism (minimum deterrence) is concerned, implication is that nuclear deterrence should be of minimum essential numbers, size, types, and posture. Counter-value targeting; the idea of massive civilian damage contributes to minimalism.
- Minimum deterrence is maintained through the smallest size of the arsenal, a defensive posture, NFU, non-use against non-nuclear weapons states, de-alerted and de-mated warhead status, absolute civilian control, and the minimum eventuality of use thereby minimising financial, human and social cost of a nuclear exchange. *Minimum defines the lower limit of the arsenal for deterrence*.
- A quick look at the problems of Pakistan's nuclear arsenal will help understand more clearly how India's 'minimum' can be a credible deterrent for India. As far as China's nuclear weapons is concerned, China keeps India engaged with Pakistan. It is important to note that changes in US's nuclear policy will have a concomitant impact on China's nuclear position and its capabilities.

- As far as the current status of the Indian credible minimum deterrence is concerned – *overall CMD has been effective, which has deterred Pakistan from any form of nuclear adventurism and nuclear coercion or conventional attack by China*. The numbers of nuclear weapons are adequate to absorb a first strike and launch an effective second strike. This capability will improve after the third pillar of the triad, the nuclear submarine Arihant is operational. The current posture of absence of TNWs in India's arsenal does not provide credible options for limited use. But this does not necessarily result in disadvantage towards CMD.
- Contradictions in India's CMD policy and posture have been largely related to India's nuclear doctrine of 'one size fits all' CMD doctrine. It is a doctrine wherein it is perceived to be serving India against Pakistan and China. However, *such a doctrine cannot work in perpetuity for India when India's relative threat with respect to China and Pakistan are different. India's nuclear doctrine as it stands presently is addressing the Pakistan predominant threat. From this point of view, India's nuclear doctrine seems effective and adequate. However, if the China threat becomes more predominant and gets closer, then there is a need for India to examine every tenant of its nuclear doctrine afresh*. Therefore, to assume that India's nuclear doctrine is adequate or inadequate is a fallacy.
- Dynamism related to the Chinese threat is what needs to be focussed on. India's nuclear doctrine – NFU, CMD, and Massive Retaliation – appear adequate in current Pakistan-centric threat perspective, which is relevant in the next 5-10 years. As the possible threat with China looms, the tenants of India's nuclear doctrine would need review as there is also a need to deter China's conventional threat. Also, can India respond by 'massive retaliation by nuclear weapons' to a small scale/suspected chemical or biological attack? What would be the target for such retaliation? Can India respond to a chemical/ biological attack attributed to non-NWS or to non state actors by 'massive retaliation by nuclear weapons'? The policy against chemical and biological threat needs to be much more nuanced in its current

form in order to be credible. *The wording could be changed to 'appropriate retaliation, if necessary with nuclear weapons' with respect to chemical and biological weapons as at present it stretches our credibility.*

Massive Retaliation Vs Flexible Response

- Russian, American and Chinese doctrines have evolved with changing strategic environment. *Indian environment has not remained static so we should not shy away from relooking at it, even if we end up concluding that status-quo is the best option.*
- There are questions that need to be considered:
  - Do we view nuclear weapons for deterrence or are we ready to move to the next stage of war fighting? A shift of stance would require changes in preparation.
  - Does Pakistan want to escalate to de-escalate? This is the term being used by the Russians today.
  - What is the effect of theatre nuclear weapons?
  - Do we look at any lessons coming out of the Kargil operations?
  - Have we pushed the bar a little with the cross LOC strikes?
- India's doctrine cannot be for one country, it has to cater to both China and Pakistan. *It is better to cater for the stronger threat than the weaker threat. Threat from chemical and biological weapons stretches credibility to a certain extent.* The Treaty that bans chemical weapons limits its access. In case of limited use of chemical weapons there will be pressure to respond as per our doctrine. That can damage the credibility of our doctrine.
- *Nuclear deterrence works on the principle that use of nuclear weapons is so destructive that it is unthinkable.* Many experts believe that the notion that effective deterrence requires a carefully calibrated equivalence at each step of every possible escalation is seriously flawed. *The notion that tactical nuclear weapons are tactical in nature and can be confined to a space of itself is flawed since most experts agree that any use of nuclear weapons in any form will invite corresponding response.*

- Some argue that by raising the bar for response we are inviting the certainty of enemy second strike against our value targets instead of capping it locally. Pakistan's option enhancing policy, as enunciated by Stephen Cohen, offers ample scope for equivalence for response so as to avoid mass scale casualty in the sub-continent. As evident from the experience of NATO and Warsaw pact *the term limited nuclear exchange is in itself an oxymoron.*
- *Flexible response.* If we shift to the option of flexible response it would *entail a basic change in our doctrine from deterrence to war fighting with nuclear weapons.* We would need to invest in a range of weapons, from low yield to high yield, which may entail going against our moratorium on testing. We would need to build more complex intelligence, early warning and command and control systems to cater for this. *To be truly effective our nuclear doctrine will have to be dovetailed into our conventional operational strategy with lowering of authority at some stage of the battle.* On the positive side, the doctrine of flexible response will give out greater options in the hands of our political authority and the subcontinent may be saved from a nuclear holocaust.
- There is also the possibility of Pakistan and China getting deterred if we have a range of options. If we adopt flexible response, how will it play out with respect to China? For India, to change its doctrine to flexible response, major changes will be necessitated in all aspects of build-up and war fighting. This needs further evaluation and deliberation before any change is contemplated.
- The *major issue in the case of India is the will to respond with massive retaliation.* Pakistan is convinced that no Indian Prime Minister will authorise massive retaliation with nuclear weapons. This is a gamble as Pakistan is not prepared for a situation in which India follows through with its response. Pakistan's nuclear doctrine is opaque and there are many disconnects. *The nuclear thresholds are not as shallow as some of us make them out to be. There is little evidence of nuclear weapons being merged*

into military strategy, including in major exercises conducted by Pakistan.

- There is likely to be confusion over use of nuclear/conventional war heads, SRBMs/cruise missiles, which have serious implications for crisis stability, especially with reference to China. An attack by conventionally armed ballistic/cruise missile in early stages of the battle may lead India to believe it is under nuclear attack and could lead to irretrievable actions/reactions. That's why introduction of TNWs is a deeply destabilising action.
- *Peacetime response, signalling by India has not been very encouraging.* India needs to do more extensive and credible signaling with its current doctrine. Where necessary, involve major international powers. Adequate space exists for a range of sub conventional and conventional options against Pakistan to deter it from waging a proxy war against India. If we have so far failed to do so, it is our own weakness to call Pakistan's bluff. War games prove Pakistan has not merged TNWs in a conventional war fighting. The impression of irrational people occupying power in Pakistan self deters India and plays into Pakistan's hand.
- The inclusion of BMDs is a positive step in ensuring the credibility of our doctrine. We need to pursue nuclear CBMs with Pakistan and China from a position of strength and being a responsible power.

Conclusion

- Overall, the seminar highlighted a number of critical issues related to the India's Nuclear Doctrine and Strategy for the future. It covered the whole gamut of nuclear doctrine and strategy of India and its neighbours. A number of takeaways emerged in the seminar.
- It is not possible to respond with missile-for-missile strategy as we do in conventional operations. *No first use is relevant even today*. In response, massive retaliation also makes sense. With every missile the destruction is going to be massive. Nuclear

weapons are not for war fighting, they are from deterring the enemy from using nuclear weapons, irrespective of the yield that the enemy uses. India does not differentiate between tactical, operational or strategic nuclear weapons.

- The duration and depth of conflict is in no way related to the enemy being nuclear. It is related to the *politico-military objective* given to the armed forces by the Government of India. The Full Spectrum Deterrence that our neighbour has created should have no bearing on the conduct of conventional weapons or on our nuclear doctrine.
- One aspect which was endorsed by Most of the speakers endorsed this aspect that *India's doctrine is obsolete that, needs a revisit*. Whether it needs to be revamped on a big scale or only some tweaking is required; or it needs no tinkering, can be decided only if the doctrine is discussed in a formal manner.


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