



Mutual Assured Destruction.

Future of Proliferating South Asia?

South Asia's Strategic Environment

Briefing Paper
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About CommandEleven

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South Asian strategic environment is shaped by power struggle between India & Pakistan in lieu of People's Republic of China. For Islamabad, Nuclear weapons are key aspect of attaining strategic stability against New Delhi. India's quantitative edge in conventional forces is counter balanced by Pakistan's qualitative approach related to development of Tactical Nuclear Weapons. Both states, under the pressure of achieving upper hand in South Asian strategic environment are engaged in conventional as well as nuclear arms race one way or another. Nuclear arms race in South Asia involves the proliferation of nuclear weapons as well as advancement in their delivery systems. Though India is extensively working on development of Ballistic Missile Shield comprising of indigenous as well as off the shelf purchases of missile defense systems, but due to geo graphic constraints & several other factors, BMDs still counts little in South Asian strategic environment particularity after development of [long range stand-off munitions](#) as well as [multiple independent targeted re-entry vehicle \(MIRV\)](#) by Pakistan. Continuous nuclear proliferation in South Asia raises a credible question, are both India & Pakistan heading towards the situation of Mutual Assured Destruction (MAD)?

MAD is not a new term in strategic studies as it was extensively discussed during Cold war era. Since pretty much nuclear parity still exists between United States & Russia, thus this term is still valid & may find another axis i.e. South Asia, other than classical Washington vs Moscow example. A glimpse at modernizing plans of India and Pakistan points out that these states are also heading towards the same path which was once followed by Soviet Union and United States.

Mutual Assured Destruction can be defined as the condition in which both rival nuclear armed states have capability to conduct massive first as well as second nuclear strike leading to destruction of both states on massive scale. It's like "reversible" massive retaliation. Just like Massive Retaliation, MAD also involves striking counter force in addition to counter value targets of adversary. Even today, despite of superiority of United States in conventional grounds, pretty much parity exist in nuclear forces between USA & Russia. Hence condition of MAD is still alive. USA is conducting extensive Research & Development related to development & integration of credible Missile Defense Shield. This shield, consisting of multilayer defense interception systems, ground based radars & passive sensors, satellites, early warning systems integrated with each other and run by advance command & control systems, in near future will be able to dissolve the risk of MAD at least from American perspective. Russians have responded in similar fashion but their technology is not as advance, integrated & comprehensive as that of Americans. Thus, Moscow still follows the path of [MIRV based ICBMs](#) and [Non-Strategic Nuclear Weapons \(NSNW\)](#) with hostile doctrinal posture. Along-side, it has focused to achieve advancement related to SEAD (Suppressing Enemy Air Defense) and DEAD (Destroying Enemy Air Defense). These measures & counter measures justify the security dilemma which still exist between both arch rivals to this day, with MAD at focal point.

For MAD to exist, following conditions must full fill

1. Rival States must have sufficient stockpile of operational nuclear warheads. Number of warheads & their destructive power is linked with geographical facts & figures. Bigger the enemy, more warheads will be needed. Mountainous terrains receive less damage from nuclear strike compared to plain or desert terrains. In

case of Soviet Union & United States, both states have large land mass and are also geographically apart. For complete destruction of counter force & counter value assets of both states, a large number of nuclear weapons were needed. And both USSR & USA possessed and still possess enough nuclear stock pile to carry out this role, thus full fill this criterium.

2. Antagonists must have credible delivery systems for carrying those warheads. In case of USSR & USA, most eminent delivery mode was (still is) Inter Continental Ballistic Missile (ICBM) for overcoming the geographical large distance between both. These ICBMs are installed in land based fixed silos, mobile launchers called TEL (Transporter Erector Launcher) in addition to SSBM (Nuclear Ballistic Submarines). Along-side, Washington raised numerous off shore air force bases for housing long range strategic bombers which could carry & deliver nuclear payload, thus completing nuclear triad. Soviet Union followed the same approach, however it focused less on offshore bases and relied on its own geo graphical periphery for establishment of military bases of nuclear strategic importance.
3. Both States must have assured second strike capability and that capability must be sufficient enough to retaliate massively. Otherwise the responding state will not be able to strike back as hard as the aggressor state first strike, hence losing the meaning of "mutual" in concept of Mutual Assured Destruction.
4. Another condition includes a robust command & control system which can survive the first strike and still properly manipulate own strategic assets through-out the nuclear conflict. An advance early warning & alert system can allow to build up capacity of "launch on strike" which involves the detection of hostile missile launch & launching of own strategic missiles before that upcoming enemy missile could hit its assigned target.
5. An aggressive doctrinal posture, particularly which involves the threat of massive retaliation also paves the way for Mutual Assured Destruction. As states develop their strategic forces based upon their strategic posture, so states having a posture which involves rapid deployment & launching of several strategic missiles greatly enhance the probability of MAD condition to occur.

While dealing with contemporary strategic environment of South Asia, it's easy to comprehend why situation of MAD is yet to establish since several crucial conditions related to MAD are absent. However, in near future, provided that India & Pakistan continue to proliferate & enhance their strike capabilities, a situation of MAD may create. New Delhi & Islamabad already have enough fissile material to [raise 130 & 140 nuclear warheads respectively](#) and their missile systems easily cover entire up land mass area of each other. But what they lack is robust command & control system; capable of surviving the first strike while remaining operational, and assured second strike capability up to the scale of massive retaliation. As far as doctrinal postures are concerned, there exist ambiguity to how much extent can both state practically follow their nuclear doctrines of Minimum Credible Deterrence, Massive retaliation, First Use and No First Use policies. By nature, it's wise to assume that Pakistan has active offensive nuclear doctrinal posture while India has reactionary offensive nuclear doctrinal posture. Such doctrinal postures, if maintained in future too can pave the way of Mutual Assured Destruction condition in South Asia; at least theoretically.

Significant efforts are underway from both states to improve their delivery systems which will ultimately result in creation of nuclear triad. Both India & Pakistan have enough ballistic prowess to conduct nuclear strike anywhere on adversary land. They are making eminent efforts to improve range, payload & capability of cruise missile systems which in modern strategic environment can serve as important component of strategic balance. Thanks to their capability to adopt flexible trajectory & to serve as linkage between nuclear capable Ballistic missiles & conventional munitions, cruise missiles have earned crucial focus as in contemporary era, Air Launched Cruise missiles constitute the "Air Leg" of [nuclear triad](#) and their capability rightly justifies why both South Asian powers are so inclined towards their cruise missile program alongside ballistic missile program. Both states are in final phases of integration of ALCM on their fighter air crafts and judging from strategic needs of both states, it can be figured out that both air forces will keep at least two dedicated squadrons of fighter air crafts for nuclear strike role with option of more. This will greatly strengthen the Air arm and will allow both air forces to strike deep targets at stand-off range with flexible launch strike capability. Thus, there exist pretty much parity among both states as far as delivering nuclear weapons from land & air is concerned.

Difference exist in naval leg which even in modern times is considered as paramount for attaining assured second-strike capability. India is on final stages of operationalizing their sea based nuclear strike capability by induction of new Nuclear Ballistic Submarine (SSBN) & development of Submarine Launch Ballistic Missile (SLBM). K4 & K15 SLBM, with their ranges of 3,500kms & 1,500kms respectively and payloads of roughly one ton can provide devastating assured second-strike capability for India; provided that if India further expands its SSBN program and induct more SSBN with missiles of greater payload.

Pakistan on the other hand, restricted by its diplomatic, economic & technological constraints is focused on Sea Launched Cruise Missiles (SLCM) instead of Sea Launched Ballistic Missiles (SLBM). SLCM do not require expensive Nuclear-Powered Submarines to serve as launch platform, even conventional diesel electric submarines (SSK) can be utilized as launch platform, on condition that ALCM diameter must be suitable enough to facilitate its launch from torpedo tubes. Otherwise it will require Vertical Launch System, similar to that of SSBN, making conventional subs expensive & maintenance prone. Pakistan's Babur 3, and recent purchases of 8 SSK submarines from China can provide Islamabad a flexible & assured second strike capability. However, major obstacle for Pakistan will be to bring increment not only in range but also in payload of its SLCM systems. If Pakistan manages to induct fleet of 8 SSKs armed with nuclear tipped SLCM, then still with current capabilities, it will not be able to cover entire Indian mainland thus raising questions about "assurity" and "destructive potential" of Pakistan's assured second strike capability.

One facet of MAD is linked with technological advancement. Unlike 'common' fission based nuclear weapons, fusion based thermonuclear weapons also called in common language as Hydrogen Bomb can greatly modify the criterium of Mutual Assured Destruction. If a state possesses this technology, it can achieve great destructive power even with small sized nuclear warheads. Size small enough to fit in cruise missiles which can provide flexible targeting not very achievable in case of ballistic missile. Though there is no credible evidence confirming the existence of thermonuclear weapons in Indian or

Pakistani arsenal, but in a hypothetical case, if either of them, particularly Pakistan, is in possession of these weapons then it can arm its naval leg of nuclear triad with SLCM loaded with thermonuclear warhead and providing similar (or even more) destructive potential as ballistic missile.

To conclude, in current nuclear environment, South Asia is free from fear of MAD. But ultimately, considering rapid modernizing of nuclear forces of rival nuclear powers, it's safe to assume that deterrence will ultimately lead both Islamabad & New Delhi at stale mate of Mutual Assured Destruction. The strategic equations applied to define and understand MAD in USA vs USSR will be of limited use in South Asian case as dynamics are very different. Unlike USA vs USSR, BMD will play little role in South Asian nuclear environment. Both India & Pakistan are neighbors unlike United States & Russia, adding another chapter of Tactical Nuclear weapons and short range ballistic missiles (SRBM). These examples in general were not applicable in USA vs USSR case. Questions like, ultimately how strategic environment in South Asia will shape? How and when situation of MAD will be born between Islamabad & New Delhi? How both states will maintain concept of deterrence after birth of MAD? To how much extent MAD will work in Indo-Pak strategic environment? What will be their relevant doctrinal postures and to how much extent they will maintain the practical aspect of nuclear weapons utility viz-a-viz theoretical doctrines? will be answered by time in near future.

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