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# Pakistan in the Global Nuclear Order

Zafar Khan and Rizwana Abbasi



Institute of Strategic Studies Islamabad (ISSI)

# THE INSTITUTE OF STRATEGIC STUDIES ISLAMABAD, PAKISTAN

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**Pakistan in the Global Nuclear  
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**Institute of Strategic Studies Islamabad (ISSI)**

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## Foreword

In the recent past, some studies have been published to make projections and predictions about Pakistan's nuclear programme. Some of them make exaggerated forecasts and delineate trend-lines, which have nothing to do with the reality. Such studies tend to give reductionist estimates about India's conventional and strategic capabilities and alarmist accounts of Pakistan's strategic objectives. This distorts the picture and misses the point. Growing conventional asymmetry between India and Pakistan and the tendency to give currency to doctrines targeting Pakistan can create a nuclear nightmare in our region. A far more prudent approach would be to fully grasp the value of Pakistan's proposal for an elaborate strategic restraint regime in South Asia that would decelerate arms race, promote nuclear and missile restraint, maintain some semblance of conventional balance and create conditions conducive for conflict resolution.

Pakistan has a well-constructed perspective about its nuclear programme and what it aims to achieve. This perspective is not just a synthesis of official documents and pronouncements but a well argued *expose* which Pakistan's academic community and civil society also owns.

One such perspective has been put together by two young academics — Dr. Zafar Khan and Dr. Rizwana Abbasi — teaching at Pakistan's prestigious National Defence University, Islamabad. In this monograph, they bring out the rationale behind Pakistan's nuclear programme and address some apprehensions and misgivings held in the Western policy circles. Their work will be

a useful addition to the current literature on the subject and a substantial input for the discourse on nuclear politics in South Asia.

Since the subject is vast and discussion on it continues, authors and the Institute of Strategic Studies Islamabad (ISSI) would appreciate readers' comments and feedback.

**Ambassador Masood Khan**  
**Director General**  
**Institute of Strategic Studies Islamabad (ISSI)**



## Executive Summary

India introduced nuclear weapons in this region in 1974, compelling Pakistan to pursue a similar path. Indian nuclear explosions in 1998 forced Pakistan to develop a more elaborate nuclear force posture, doctrine and command and control system. Pakistan developed its nuclear weapons programme for defensive purposes only and to address its acute security concerns against India. Pakistan's nuclear weapons programme is India-specific and it will continue to play a deterring role in the national security of Pakistan to defend itself by thwarting both major and limited wars in South Asia.

The introduction of Indian war-fighting strategy — the so-called Cold Start Doctrine (CSD) — purports to exploit the space for war under the nuclear overhang. India buttresses this strategy by building Ballistic Missile Defense (BMD) and rapidly developing a nuclear triad which includes fighter-bombers, Intercontinental Ballistic Missiles (ICBMs), and Submarine-Launched Ballistic Missiles (SLBMs). In response to the Indian war-fighting strategy, Pakistan has developed low-yield nuclear weapons alongwith short-range delivery vehicles such as *Nasr* (with the range of 60 kilometers) to deter a limited war. Arguably, India's military Cold Start Doctrine appears to be offensive aimed at waging a limited war whilst *Nasr* is defensive to prevent India's offensive strategy.

In parallel, Pakistan's development of medium-range ballistic missile capability (Shaheen-3, 2750 kilometers) is to neutralize India's second-strike capability from the Andaman and Nicobar

Island bases. Pakistan says that it maintains a credible minimum deterrence; and that it neither seeks an arms race nor parity with India. Pakistan's strategic policy is part of the perceived full spectrum deterrence, which remains consistent with broader contours of its credible minimum deterrence and is designed to deter all forms of aggression. The international community largely misperceives Pakistan's declaratory statements on full spectrum deterrence by associating the concept with bigger numbers. Pakistan continues to pursue a policy of producing a smaller number of deterrent forces with no interest in pursuing a weapon to weapon equalization strategy. It aims to sustain balance rather than parity and does not want to be part of an unending arms race.

The international community should not overlook the gradually changing South Asian strategic environment influenced by India's CSD, its development of non-strategic battlefield weapons, its preparation for hydrogen/ thermonuclear weapons, its strides towards an assured second-strike capability in the form of nuclear submarines, and its known and unknown nuclear facilities/reactor outside the International Atomic Energy Agency (IAEA) inspection, including a secret-city project in Karnataka.

The development of ICBMs, Multi-Independently Targetable Reentry Vehicles (MIRVs) and the BMD system has further accentuated strategic instability in South Asia. The changed strategic environment in South Asia puts greater pressure on Pakistan to upgrade and streamline its deterrent in order to sustain deterrence stability and avert a war.

Domestically, Pakistan has commendably worked to improve its legal order, fight terrorism in its all forms and manifestations, create a rigorous export-control regime and construct a nuclear security regime. Regionally, it is ready to work on these parametres with other countries. Internationally, Pakistan adheres to the United Nations Security Council Resolution 1540 (2004). It is party to the Convention on Nuclear Safety, the Convention on the Physical Protection of Nuclear Material and Global Initiative to Combat Nuclear Terrorism, and the Container Security Initiative, and Incident and Trafficking Database. Moreover, Islamabad has established Pakistan's Nuclear Regulatory Authority (PNRA) that closely works with the IAEA. Other important institutions such as Pakistan's National Center of Excellence, Pakistan Institute of Engineering and Applied Sciences and the School for Nuclear and Radiation Safety provide world-class training and specialization in the field of nuclear security and radiation safety.

Pakistan has serious concerns in regard to the Indo-US nuclear deal and the US-backed Nuclear Suppliers Group (NSG) waiver for India. This volte-face in American policy, which has always championed non-proliferation, has undermined the non-proliferation regime and fuelled India's defence modernization and expansion. Pakistan's consistent diplomatic stance on the proposed Fissile Material Cut-off Treaty (FMCT) does not mean that Pakistan would necessarily increase its deterrent forces. Despite not being a part of the Non-Proliferation Treaty (NPT) and non-signatory to the Comprehensive Test Ban Treaty (CTBT), Pakistan unilaterally and voluntarily maintains a moratorium on nuclear testing, has a modest number of deterrent

forces, follows credible minimum deterrence, keeps nuclear weapons for defensive purposes only and accepts the internationally verifiable, non-discriminatory and criteria-based non-proliferation endeavors.

Efforts should, therefore, be made to create an effective and enduring “criteria-based approach” for the non-NPT states to protect their right of peaceful uses of nuclear technology. Inclusion of Pakistan in the NSG through a revised criteria-based mechanism to preserve its right to peaceful uses of nuclear technology would strengthen, not weaken, the nuclear order.

This paper offers five proposals that seek a delicate balance in the competing interests amongst various parties in achieving strategic stability in South Asia and preserving each state’s right to peaceful uses of nuclear technology without expecting Pakistan to compromise its legitimate imperative of maintaining credible minimum deterrence. The proposals are: 1) normalizing the global nuclear order to make it consistent with emerging realities; 2) regulating India’s emerging nuclear modernization by addressing the growing conventional force asymmetry; 3) addressing the issues that hinder arms control in South Asia; 4) re-considering strategic dilemma affecting South Asia; and 5) resolving the issue of Jammu and Kashmir between India and Pakistan.

The significance of these proposals is to assist international community in understanding Pakistan’s nuclear legitimacy and its consistent endeavours to join international nuclear mainstream to be part of the evolving global nuclear order as a responsible

nuclear weapons state. All the above mentioned recommendations are linked with the decisions of major states, mainly the US. Problems within the international nuclear order are not because of Pakistan. Major Powers' double standards — application of more stringent rules towards one state and a lax approach towards other — have made the international nuclear order skewed. Trust and cooperation have been lacking due to non-fulfilment of the powerful states' commitments to Article VI of the NPT. Pursuit of these proposals may help strengthen non-proliferation norms, promote peace, reduce the risk of nuclear weapons' use in South Asia and support peaceful uses of nuclear technology. Also, it is important for India and Pakistan to rationalize their military plans under some budgetary regime and secure peace and stability in South Asia.



# **Pakistan in the Global Nuclear Order**

## **Introduction**

South Asia is a complex region where rivalry between India and Pakistan continues to grow and stability remains elusive despite the induction of nuclear weapons. The two countries have fought wars (1948, 1965, 1971, and a limited war in 1999) and experienced prolonged crises. Periods of peace, on the contrary, have been short since 1947. India went nuclear in 1974, prompting Pakistan to pursue a nuclear weapons programme. Indian nuclear explosions in 1998 forced Pakistan to develop a more credible and overt nuclear posture, doctrine and command and control. Since the introduction of nuclear weapons in 1998, continued border skirmishes, routine violations at the Line of Control (LOC) and entry of the phenomenon of terrorism into the threat spectrum of both the states have further complicated the peace process in South Asia. Lack of progress in Confidence Building Measures (CBMs) and frequent cancellation of bilateral dialogues have made the South Asian region increasingly prone to crises, conflicts and wars.

Nuclear weapons have preserved only a fragile peace as the probability of the outbreak of a war remains high in South Asia. The Kargil war of 1999 ushered a new era rooted deep in the notion of stability-instability paradox.<sup>1</sup> The introduction of Indian war-fighting strategy — the so-called CSD further exploited and increased the space for war under the nuclear overhang. In response to the Indian limited war-fighting strategy, Pakistan developed short range *Nasr* (60km — the battlefield weapon) as a

deterrence. Also, Pakistan considers the development of its medium range ballistic missile capability as a deterrent against India's second-strike capability, say, from the Andaman and Nicobar Island bases. Pakistan has several times asserted that it maintains credible minimum deterrence; it neither seeks an arms race nor parity with India. Paradoxically, this minimalist approach adopted by Pakistan is misperceived; whereas India's massive conventional and nuclear force posture developments attract scant global attention.

Pakistan's strategic endeavours become part of the perceived full spectrum deterrence, which in turn remains consistent with broader contours of credible minimum deterrence as Pakistan conceptualizes. Presumably, repeated assertions of adopting full spectrum deterrence measures are Pakistan's efforts to plug the gaps in its deterrent capability that India seeks to exploit. It has more to do with quality than quantity.

Will conceptualization of minimum deterrence be the ultimate nuclear strategy for Pakistan? How will it cope with the changed strategic environment where, on the one hand, the agreed non-proliferation regime has failed to persuade nuclear weapons states party to the NPT to work for complete disarmament? These powers have consistently retained their nuclear weapons capabilities and many NPT non-nuclear weapons states have already achieved the status of virtual nuclear weapons states, that is, they have the technological capabilities and financial means to build nuclear weapons if they choose to do so.



On the other hand, Pakistan has serious concerns towards the Indo-US nuclear deal and the US-backed NSG waiver for India. This volte-face in American policy of championing non-proliferation has undermined the non-proliferation regime, fuelled India's conventional capability, and spurred development of its BMD system. This has emboldened New Delhi to only pay lip service to sign the CTBT or participate in the negotiations on the FMCT. India's strategic partnership with the US has reinforced its hegemonist mind-set. India has been given a free hand to build a "top-secret nuclear city — the subcontinent's largest military-run complex of [new generation] centrifuges, atomic-research laboratories, and weapons-and-aircraft-testing facilities when it is completed, probably sometime in 2017."<sup>2</sup> Under this project, India aims at developing a new generation of more powerful megaton weapons, including hydrogen/thermonuclear bombs. These are some facets of the complex strategic scenarios under which the contemporary scholarship has to closely analyze these emerging challenges to the concept of minimum deterrence in South Asia.

This paper assesses Pakistan's nuclear commitments, goals and role of its nuclear weapons within the remit of its policy of credible minimum deterrence. It broadly discusses Pakistan's policy options asking the question why Pakistan initially opted for a policy of minimum deterrence and why its full spectrum capability does not violate the principle of credible minimum deterrence. The paper also examines Pakistan's normative posture towards the global commons of non-proliferation in pre-and-post-nuclear weaponization period, and its reasons for not joining the NPT and the CTBT or the FMCT negotiations.

Pakistan's legitimate aspirations to join the NSG on the basis of uniform and non-discriminatory criteria have also been discussed.

This paper offers five proposals that seek a delicate balance in the competing interests amongst various parties in achieving strategic stability in South Asia and preserving each state's right to peaceful uses of nuclear technology without expecting Pakistan to compromise its legitimate imperative of maintaining credible minimum deterrence. The proposals are: 1) normalizing the global nuclear order to make it consistent with emerging realities; 2) regulating India's emerging nuclear modernization by addressing the growing conventional force asymmetry; 3) addressing the issues that hinder arms control by India and Pakistan; 4) re-considering the strategic dilemma affecting South Asia; and 5) resolving the issue of Jammu and Kashmir between India and Pakistan.

These proposals would assist the international community in comprehending Pakistan's nuclear policy, and why its consistent endeavours to join international nuclear mainstream and becoming an integral part of the evolving global nuclear order would be in the interest of international peace and security.

### **Deterrence: Policy Options for Pakistan**

Before understanding Pakistan's policy of credible minimum deterrence and the perspective of full spectrum deterrence, it is important to review various policy options for deterrence Pakistan had after testing nuclear weapons in 1998.

The first option available to Pakistan was *assured destruction*. This option would have been very costly. It would have required a bigger and larger number of strategic, conventional and tactical deterrence forces that would have put extreme pressure on Pakistan's leadership and command and control system. This would have also required a larger number of personnel to oversee the deterrence forces and their related facilities; and would have demanded a larger number of delivery vehicles. Only two states — the US and the Soviet Union — during the peak of the Cold War possessed that kind of technological and economic capacity to uphold high levels of deterrence capabilities, but later on they, too, started to realize that it was a strategy of “overkill” and self-annihilation because neither power could have “won” or sustained this race. Thus, the policy based on *mutually assured destruction* (MAD) proved an ineffective nuclear strategy during the Cold War.<sup>3</sup> Given the potential risks and costs associated with this option, Pakistan simply did not embrace this strategy, which could have re-created a competing strategic environment similar to the Cold War period.

The second option to Pakistan was *limited deterrence*. This option would still cost Pakistan dearly because of poor economic conditions, economic sanctions and a relatively low threshold of technological advancement. China can be considered a classic case of practicing limited deterrence.<sup>4</sup> Limited deterrence would “require sufficient counterforce and counter-value tactical, theatre, and strategic nuclear forces to deter the escalation of conventional or nuclear war,” and in case of deterrence failure, “this capability should be sufficient to control escalation and to

compel the adversary to back down.”<sup>5</sup> This may be termed as a restricted version of assured destruction that allows for the sufficiency of deterrence forces covering all essential areas of force structure.<sup>6</sup> However, the operationalization of this deterrence concept would require some configuration of BMD system and effective space-based early warning capabilities.<sup>7</sup> Pakistan, in the embryonic stages of its nuclear weapons programme, had not yet obtained sophisticated deterrence force capabilities that other nuclear weapons states would have already developed. Therefore, it could not opt for this type of deterrence at the initial stages of its nuclear weapons development.

The third option available to Pakistan was *virtual deterrence*. Pakistan could have practiced this type of deterrence in the early 1980s where it could have achieved nuclear capability without testing nuclear weapons. Japan is a classic example of a state that practices virtual nuclear deterrence because it has the economic and technological wherewithal to acquire nuclear weapons swiftly if it desires to do so. Although Japan has the capability to acquire nuclear weapons, the United States’ extended deterrence and its security assurances in the form of deployed defence systems in Asia obviate the development of a nuclear weapons capability by Japan.

*Opaque deterrence* could have been the fourth option for Pakistan. In this type of deterrence, a state does not announce that it has nuclear weapons; and it does not give any official statements on the possession of deterrence forces. Things remain shrouded in deep secrecy with no public debate on the deterrence forces. Israel is a classic example that practices nuclear opacity.<sup>8</sup>

It neither confirms nor denies possession of nuclear weapons. Pakistan no longer practices nuclear opacity because it has already tested its nuclear weapons capability and many ingredients with regard to its nuclear strategy are in a declaratory form one way or the other. Nuclear opacity does not suit Pakistan any longer viz-à-viz India, though ambiguity in various doctrinal areas serves the purpose of deterrence. That is why all nuclear weapons states maintain a degree of ambiguity in their declaratory policies.

*Primary deterrence* is yet another policy option whereby a nuclear weapons state protects its own homeland by projecting its deterrence capabilities. It is different from the extended deterrence — the US employs to deter the adversaries of its strategic allies and also as a non-proliferation tool against the latter. The extended deterrence guarantees often come into question when the US and North Atlantic Treaty Organization (NATO) allies in East Asia perceive that they are not sufficiently reassured or protected. This was a major driver for the French and British decisions to develop their independent nuclear deterrent despite the American umbrella. Moreover, prestige and power are perhaps other two motivations for an independent nuclear capability, as both these powers faced no major threats. Thus, the UK and France basically practice primary deterrence. North Korea practices primary deterrence believing that nuclear weapons could protect the regime, which implies that Pyongyang could actually use nuclear weapons if it was attacked.<sup>9</sup> In the absence of nuclear guarantees, increasing asymmetry in terms of India's growing conventional and nuclear capabilities and growing abnormality of the non-proliferation regime in the so-

called international nuclear order, where norms and values for complete disarmament are not being upheld, it became imperative for Pakistan to practice primary deterrence for protecting its homeland and achieving stability in South Asia.

The concept of *Credible Minimum Deterrence* existed during the peak of the Cold War where, on the one hand, the Soviet Union and the US acquired a large number of nuclear forces along with sophisticated delivery systems and, on the other hand, critics suggested an alternative policy option, namely, to pursue effective minimum deterrence.<sup>10</sup> China, France and Britain follow a modest level of deterrence forces. The US and Russia have also been moving away from the Cold War MAD arms race by reducing their numbers, though not in sufficient numbers, to pave the way for disarmament in accordance with the NPT. The minimum deterrence of that nature may not be applicable to South Asia. Besides, the minimum pursued by one state may differ from the minimum practiced by another state. The language of minimum deterrence is relatively simple, but its application is more complex.

It is essential to understand the vital ingredients associated with the term “minimum.” The term “minimum” is simple that could mean “*a few*”, but gets complex and ambiguous when it comes to an actual deterrence force number as strategic forces comprise different types and categories of warheads and delivery systems; some may be few; while others need to have an adequate number. Similarly, a few types of deterrent forces could be enough for deterrence, but others may not measure up to the concept of minimum. Each of these force structure embodies a specific deterring capability. Some are deployed as ready arsenal

(e.g., sea-based deterrence) absolutely essential for deterrence purposes, while others may be recessed and could be quickly mated when and if required; and all of these types of deterrence forces and delivery systems require consistent upgrades and refinement, correcting ranges, credibility, penetrability, modernization, accuracy and survivability.

These characteristics are an essential part of the classic concept of deterrence, which in turn become *essentials* of minimum deterrence mentioned here. Minimum deterrence invariably requires necessary upgrades and modernization to maintain the credibility of deterrence forces, keeping in view the adversary's growing capabilities. In a strategic context, minimum cannot be fully defined. The more we look for an answer, the more complex the language of minimum becomes. The concept still requires a well-developed and integrated definition within the broader ambit of deterrence.

The best conceptual interpretation of minimum would encompass the following elements: 1) minimum deters; it is safer, cheaper and easier to handle and operate; 2) minimum does not remain static; 3) it evolves in accordance with the changed strategic environment and circumstances; as today's minimum may not be valid for tomorrow; 4) the minimum deterrence forces vary from one nuclear weapons state to another depending on the threat perception; 5) the minimum one state pursues could be affected by the minimum of the other/s; and it may be proportional to what the other side's strategic projection and the size of the arsenal is; and 6) the concept of minimum, though simple, cannot tell how much is sufficient and why more would

be required to survive and sustain the credibility of deterrent forces.

### **Pakistan's Policy of Credible Minimum Deterrence**

Pakistan's nuclear policy and doctrinal strategic posture revolve around the broader contours of minimum deterrence as discussed above. In a similar context, Pakistan officially declares and practices credible minimum deterrence. The concept of minimum was espoused by Pakistan even before the nuclear tests in 1998. Pakistan's former Chief of Army Staff, General Aslam Beg, for instance, stated in an interview in September 1992 that "In the case of weapons of mass destruction it is not the number that matters, but the destruction that can be caused by even a few...The fear of retaliation lessens the likelihood of full-fledged war between India and Pakistan."<sup>11</sup> The logic is: if *few* could deter why go for *more*.

Pakistan decided to adopt a credible minimum deterrence policy for various reasons: 1) Pakistani security establishment was convinced that minimum would deter, as few had sufficed in the past to stave off an Indian attack; 2) it deflected the international community's direct pressure as part of the general non-proliferation efforts, though Pakistan was not a party to the NPT nor had it intended to join it; 3) the minimum eases the pressure on strategic command and control with regard to both development and employment. With more, there would be a greater pressure on command and control. More importantly, for Pakistan minimum can be better protected and secured. The minimum can also be better concealed and dispersed as part of



nuclear strategy, which in turn enhances the credibility of deterrence. The minimum is, thus, better, safer and more prudent;<sup>12</sup> 4) In Pakistani context, the minimum has the advantage of being cost-effective. Although Pakistan's economy is growing gradually, a bigger number would still require an even bigger economy and a stronger industrial base. The minimum, apart from being an effective deterrent, is affordable for a developing country like Pakistan.

Empirical evidence suggests that Pakistan has successfully deterred India with its minimum deterrence capability.<sup>13</sup> The policy statements of Pakistani leaders, however, indicate that minimum is not a static capability; it is flexible; and it would evolve in accordance with the changing strategic environment. For example, Sattar *et al* stated: "Minimum is open for debate. It has got an open interpretation. It remains flexible. There is no number game. It, thus, remains a non-fixed entity."<sup>14</sup> They added: "Minimum nuclear deterrence will remain the guiding principle of our nuclear strategy. The minimum cannot be quantified in static numbers."<sup>15</sup>

Abdul Sattar, the Foreign Minister of Pakistan during the early period of President Musharraf regime, told the first author of this report that "the minimum what we had in 2000 may not be similar in the year we are. It has to gradually change in accordance with the changed strategic circumstances."<sup>16</sup> This reflects the centrality of ambiguity around minimum deterrence in South Asia. In fact, ambiguity has become the central part of both Pakistan and India's nuclear thinking. However, the level of ambiguity varies from one nuclear weapons state to another for

strategic reasons. Pakistan's security establishment, for example, considers ambiguity a hallmark of minimum deterrence. They consider that ambiguity has served the purpose of deterrence. It keeps the adversary guessing as to how the other side may strategize. Simply put: if ambiguity serves the purpose, why go open. We argue that ambiguity is one of the essentials of Pakistan's credible minimum deterrence. Nuclear weapons states believe that too much openness and transparency in nuclear policy erode the credibility of deterrence.

A Carnegie-Stimson report on Pakistan<sup>17</sup> claims that Pakistan is expanding production of its nuclear weapons, delivery vehicles and fissile material to an alarming scale. The authors of the report estimate that Pakistan has the "potential" to produce 20 nuclear warheads yearly whereas India appears to be producing five warheads annually. The report speculates that "in the next 5 to 10 years Pakistan could have a nuclear arsenal not only twice the size of India's but also larger than those of the United Kingdom, China, and France, giving it the third-largest arsenal behind the United States and Russia."<sup>18</sup>

Kristensen and Norris have produced another parallel account that makes the Carnegie-Stimson report's estimates about Pakistan's nuclear power look exaggerated. Kristensen and Norris believe that, "Pakistan simply does not have the industrial capacity to develop, produce and deploy that many additional nuclear weapons systems in a decade."<sup>19</sup> They add: "Calculations must take into account that not all of a country's fissile material ends up in warheads."<sup>20</sup> For them: "Pakistan lacks enough nuclear capable delivery vehicles to accommodate 200-300

warheads. In addition, all of Pakistan's nuclear capable delivery systems are dual-capable, which means some of them are presumably assigned non-nuclear mission.”<sup>21</sup>

As per International Panel on Fissile Materials (IPFM), India has overtaken Pakistan and enjoys a huge advantage in fissionable material stocks, which means India has achieved the capability to produce more warheads than Pakistan could ever produce. Also, the IPFM has dubbed the Carnegie-Stimson report projecting Pakistan's capability of producing more warheads than India in the next ten years as exaggerated.

There is something seriously amiss with the Carnegie-Stimson “estimates” as they do not pick the correct Indian samples and do not factor in the fuel from eight unsafeguarded reactors on the assumption that it would be utilized in India's upcoming fast breeder reactors. That is a huge and simplistic assumption, which erroneously disregards tons of weapons-grade plutonium that India has accumulated over the years. Some recent revelations indicate that the Indo-US nuclear deal “also allowed [ten] other reactor sites subject to the IAEA inspection to use imported uranium fuel, freeing up an indigenously mined supply of uranium that was not tracked by the international community — and could now be redirected to the country's bomb programme.”<sup>22</sup>

Seen simplistically, how could have India remained in its comfort zone, developed a number of delivery systems in its inventory and a full triad of nuclear forces if it were to remain at the stock levels that the Western authors have been projecting for

over a decade. Conversely, Pakistan has a modest missile programme of eight land-based systems. Its fissile material requirements, too, have remained meagre.

Pakistan's official stance remains unchanged as it continues to follow credible minimum deterrence. If Pakistan strictly follows the basic ingredients of deterrence and does not expand to the level of the classic Cold War arms race, then its policy posture remains consistent with the basic essentials of credible minimum deterrence. Pakistan has not built deterrence forces on a massive scale, nor does it plan to do so. Pakistan may not need to follow major nuclear weapons states or India for an open-ended arms race. Pakistan's deterrence forces are India-centric. Therefore, the "minimum" remains the most feasible and desirable option to deter Indian aggression as reiterated from time to time by Pakistan's National Command Authority (NCA). Pakistan is confident that its policy of credible minimum deterrence has worked and thwarted India in the past and that it would work in future. Its predilection for full spectrum deterrence is not about numbers; it is about deterring India from initiating any type of war that plugs all the gaps in deterrence.

### **Full Spectrum Deterrence**

Like the minimum deterrence, the concept of full spectrum deterrence emerged during the peak of the Cold War when both the US and the Soviet Union were building deterrence forces for both offensive and defensive purposes in order to plug the gaps within their deterrence capabilities, which included full spectrum

of targeting through a Single Integrated Operational Plan (SIOP).<sup>23</sup> Neither of them opted for minimum deterrence.

Evidently, Pakistan's articulation of full spectrum deterrence subsumes credible minimum deterrence, and it is conceived in a strategic environment different from the Cold War period. Interestingly, the Carnegie-Stimson report attempts to place Pakistan within the Cold War strategic environment and assumes that Pakistan is competing against India in terms of acquiring various types of deterrence forces along with their delivery systems,<sup>24</sup> whilst completely overlooking India's rapid and ambitious nuclear expansion. The report does not capture the prevailing strategic environment of South Asia where one country's deterrence capability affects the other. Pakistan cannot be analyzed in isolation without India. The report does not specifically define what full spectrum deterrence would be in South Asia, nor covers ground on *how* and *why* Pakistan is being, willy-nilly, pulled into an arms race. Also, the report fails to distinguish between the full spectrum deterrence and strategic deterrence. We link strategic deterrence to bigger nuclear weapons particularly designed to hit the cities as part of the counter-value targeting strategy, whilst full spectrum deterrence is a supplement to the strategic deterrence, but it embodies miniaturized/smaller nuclear weapons used for counter-force targeting. In the Pakistani context, it would mean to plug the gaps in strategic deterrence in response to India's conventional and nuclear strategies. However, in effect, both strategic and full spectrum deterrence are intertwined and, thus, remain consistent with the broader contours of Pakistan's credible minimum deterrence.

Hence, the Carnegie-Stimson report's frame of reference needs to move away from the Cold War's full spectrum deterrence which, strictly speaking, is not relevant to Pakistan's credible minimum deterrence, as it aims at deterring all forms of aggression. Pakistan's NCA has recently stated that, "Pakistan would not remain oblivious to evolving security dynamics in South Asia and would maintain a full spectrum deterrence capability to deter all forms of aggression."<sup>25</sup>

In the same context, a Pakistan's Inter-Services Public Relations (ISPR) statement elaborated that, "in view of the growing conventional asymmetry, the NCA reiterated the nation's resolve to maintain full spectrum deterrence capability in line with the dictates of credible minimum deterrence to deter all forms of aggression, adhering to the policy of avoiding an arms race."<sup>26</sup> Conceptually, full spectrum deterrence capability falls within the broader parameters of the minimum deterrence; has nothing necessarily to do with increasing number of deterrent forces this stays as one of the essential pillars of Pakistan's nuclear policy; eases the unexpected pressure on command and control system; reinforces nuclear stability; strengthens the credibility of minimum deterrence; avoids the erosion of deterrence stability in South Asia; addresses the issues of increasing conventional asymmetry; remains defensive; bridges the gaps within deterrence; and aims to deter all forms of aggression at the strategic and conventional levels.

In response to India's military CSD, whereby India has been preparing to fight a limited war to achieve its political and military objectives under the nuclear overhang, Pakistan was

compelled to include low-yield nuclear weapons into its inventory. How would a “normal” nuclear weapons state respond to such an aggressive posture when its conventional asymmetry viz-a-viz its nuclear adversary widens exponentially? Pakistan’s development of *Nasr* is not meant to wage a limited war against India, but to prepare for such an eventuality signaling to the adversary strong and punitive retaliation and reducing the probability of any kind of aggression or limited war.

The predicaments of “use it or lose it” with regard to the tactical nuclear weapons (TNWs), pre-delegation,<sup>27</sup> and the issue of command and control, all influenced by the bigger geographical distances between the US and the Soviet Union, largely existed during the Cold War period. Pakistan’s centralized command and control and shorter distances between India and Pakistan immediately rule out these risks.<sup>28</sup> If a “normal” nuclear Pakistan considers low-yield battlefield weapons as meant to deter a CSD-driven limited war offensive, then it is essentially an instrument to avert aggression. The political considerations with regard to *Nasr* development remain consistent with Pakistan’s credible minimum deterrence posture. Therefore, the CSD appears to be offensive whilst *Nasr* is a defensive system designed to uphold deterrence and strategic stability in South Asia and prevent a major war.

It would be extremely pessimistic, as the Carnegie-Stimson report suggests, that Pakistan would need to find an alternative nuclear future to become a “normal” nuclear weapons state, keep “strategic deterrence”<sup>29</sup> based upon the principles of “assured destruction”<sup>30</sup> and stop developing short range delivery vehicles

in response to a limited war that could be imposed on Pakistan by India's proactive military doctrine. In other words, Pakistan would need to keep strategic weapons for the worst-case scenario and cap the short and longer-range deterrence capabilities against the adversary. This proposed alternative nuclear future does not fully serve Pakistan's security and national interests. Some reasons are highlighted below.

First, such a policy would undercut the credibility of its minimum deterrence if Pakistan did not develop a short-range deterrence capability to counter the CSD that aims at waging a limited war against Pakistan from eight integrated points<sup>31</sup> under the nuclear overhang.

Second, plugging no gaps against the possibility of CSD operations for a "limited conventional war", as the report suggests, would allow India to exploit Pakistan's vulnerabilities and deterrence weaknesses. This is not merely theoretical because India in pursuance of the CSD did contemplate a surgical strike against Pakistan in the aftermath of the Mumbai terrorist attacks in 2008.<sup>32</sup> Conceptually, the development of *Nasr* as a low-yield battlefield weapon demonstrates what Lawrence Freedman once stated "I exist; therefore, I deter."<sup>33</sup> *Nasr* can, therefore, be seen as an instrument for nuclear peace in South Asian deterrence stability disrupted by India's *Pragati/Prahaar* short range nuclear capability.<sup>34</sup> Therefore, the development of *Nasr*, specific to India's development of battlefield nuclear weapons and CSD, becomes part of Pakistan's deterrence capability without which its deterrence credibility could be extremely weakened.



Third, strategic deterrence, as defined by the Carnegie-Stimson report in the worst-case scenario resulting in nuclear exchanges and major conventional warfare,<sup>35</sup> cannot be a rational response to deter a limited war emanating from the CSD. If this was the case, both the Soviet Union and the US would not have crafted a strategy for building and deploying the TNWs to deter a limited war. Although neither the US nor the Soviet Union had used the TNWs, they still exist both in Europe and Russia, successor to the Soviet Union, for deterrence purposes. In fact, despite the end of the Cold War, TNWs still play a role in the United States' extended deterrence in Europe.

Finally, *Nasr's* development falls within the broader contours of Pakistan's declarations on credible minimum deterrence and full spectrum deterrence. It does not imply numerical expansion in deterrence forces. The increase within Pakistan's deterrence capability would be in proportion to India's planned expansion. This may, however, not exactly be within the parameters of weapon-to-weapon competitive strategy practiced during the Cold War. Whether Pakistan would practice recessed deterrence or follow the ready-arsenal strategy for some of its deterrence forces would depend on the prevailing strategic environment.

### **Recessed Deterrence: A Holistic Look**

The term "recessed deterrence" was coined for India by Jasjit Singh<sup>36</sup> and was later elaborated in Ashley Tellis's work in 2001 explaining what India's nuclear strategy would be after it tested its nuclear weapons in its May 1998 nuclear tests.<sup>37</sup> George Perkovich called it "non-weaponized deterrence."<sup>38</sup>

The aim of this type of nuclear strategy is “non-deployment” prohibiting the mating of weapons with delivery systems and maintenance of readiness at low level, but other plans, procedures and organizational mechanisms for deterrence strategy remain intact.<sup>39</sup> A nuclear weapons state can establish a particular “encapsulated” and/or “canisterized”<sup>40</sup> mechanism that can enable the state to pre-mate warheads with delivery system. Some deterrence forces can be kept at recessed position while others can be readily deployed for deterrence purposes. Still other deterrent forces that remain in the recessed form could quickly be mated when and if the security establishment would deem it necessary to deploy them. However, neither all deterrence forces can be recessed nor deployed as ready arsenals. Deterrence stability may be retained in both forms under a centralized command and control mechanism. Most importantly, a nuclear weapons state would need to carefully assess the prevailing strategic environment and make sure that the strategic deterrence is not undermined either by recessed or deployed nuclear strategy. Although Dalton and Krepon, authors of the Carnegie-Stimson report, propose that Pakistan practice recessed deterrence so that India follows suit, theirs is not a holistic approach. For example, the authors do not provide concrete evidence on whether India practices a recessed/non-weaponized deterrence for all of its deterrence force. Ironically, the Carnegie-Stimson report does not substantively discuss what India’s Defence Research and Development Organization (DRDO) is actively pursuing.

India is not keeping all of its strategic forces in a non-deployed form (recessed deterrence) as it reportedly planned in

the earlier years after the nuclear tests. For instance, the rationale India gives for its sea-based deterrence is that it would need to keep it deployed as its nuclear submarine finally goes deep into the blue seas. India is gradually shifting from a recessed deterrence posture to a more ready arsenal posture. Vipin Narang has recently stated that, “India already has some subset of the force within minutes of readiness. This is likely to include co-location of subcomponents and in some cases, potentially fully mated system.”<sup>41</sup> In the same vein, former DRDO head Dr. Avinash Chader stated, “[DRDO] is working on canisterized systems that can launch from anywhere at any time...[and] making much more agile, fast reacting, stable missiles so that a response can be within minutes.”<sup>42</sup>

It is, therefore, evident that India seems departing from the recessed deterrence posture to a more ready-arsenal posture. Some officers within India’s Strategic Forces Command claim that “some portion of the nuclear force, particularly those weapons and capabilities designed for retaliation against Pakistan, [are] now kept at a much higher state of readiness, capable of being operationalized and released within seconds, or minutes, not hours, as has been previously assumed.”<sup>43</sup> These deterrent forces’ structural shifts have strategic implications. First, this makes India appear more proactive by demonstrating its force assertion as part of its retaliatory nuclear strategy. Second, it enables India incrementally to deviate from its declared no-first use policy to use its deterrent forces in the early stages of war. Third, the innovative developments in terms of its deterrence forces deployment and a shift in nuclear force posture raise questions whether these strategic developments remain

consistent with India's minimum deterrence. Finally, even if Pakistan is not interested in an arms race in South Asia, it cannot remain oblivious to the Indian developments.

Conceptually, it is not Pakistan but India that creates deterrence force competitive environment which pushes Pakistan into this "unending arms race."<sup>44</sup> India argues that it modernizes and increases its deterrence forces as it confronts both Pakistan and China. Subsequently, it creates a *strategic dilemma*, that is, what is credible for China may not be credible minimum for Pakistan; and what is minimum for Pakistan may not suffice for China.<sup>45</sup>

### **Deterrence Force Competing Environment**

Considering India's present drive for defence modernization and outlook, it seems that its ambitions go beyond Pakistan and China. According to recent estimates, India has produced 110-120 nuclear warheads.<sup>46</sup> Adrian Levy has lately provided compelling facts, based on satellite images and primary source data, that establish that India is building a "top nuclear secret city to produce thermonuclear weapons at Challakere in its Karnataka state"<sup>47</sup> — a clandestine project to produce highly enriched uranium and plutonium to meet military demands. Levy reports that this project was running under the direct oversight of the Indian Prime Minister's office and that two Indian secret agencies were behind this project.<sup>48</sup> Indeed, this project will out-compete the Chinese programme and will be considered the subcontinent's largest military-run complex of [new generation] centrifuges, atomic-research laboratories, and weapons-and-

aircraft-testing facilities when completed by 2017.<sup>49</sup> Under this project, India also aims to develop a new generation of more powerful megaton weapons, including hydrogen/thermonuclear bombs.

In addition to *Dhruva* Plutonium production reactor, India plans to install another one near Visakhapatnam on its east coast.<sup>50</sup> Yet another “unsafeguarded prototype fast breeder reactor is also under construction, 650km South at the Indira Gandhi Centre for Atomic Research near Kalpakkam, which will significantly increase India’s plutonium production capacity once it becomes operational.”<sup>51</sup> Indian reactor grade plutonium — weapon useable existing stockpile outside the IAEA safeguards raises serious concerns. This in turn enables India to produce much more than Pakistan. After the US-India Nuclear deal in 2005, Tellis said that India could produce nuclear weapons not in hundreds, but thousands. Tellis stated: “If this problem could actually be overcome, and weapons-grade materials are produced according to the assumptions in this iteration, then India would be able to generate between 16,180 and 18,306 kilograms of weapons-grade plutonium, sufficient to add some 2,697 –3,051 nuclear weapons to those modest numbers already existing in the Indian inventory.”<sup>52</sup>

In a similar context, Levy says that India has acquired “roughly 4,914 tons of uranium from France, Russia, and Kazakhstan, and it has agreements with Canada, Mongolia, Argentina, and Namibia for additional shipment.” Moreover, India has signed an agreement with Australia “to make Australia a long-term, reliable supplier of uranium to India.”<sup>53</sup> According

to Levy's latest assertions, "the IPFM estimates that *Arihant*-class submarine core requires only about 143 pounds of uranium, enriched to 30 per cent — a measure of how many of its isotopes can be readily used in weaponry. Using this figure and the estimated capacity of these centrifuges, India is installing in Mysore alone — not including Challakere and even after fuelling its submarines fleet there would be 352 pounds of weapon-grade uranium left over every year, or enough to fuel at least 22 H-bombs."<sup>54</sup> Presently, India is actively focusing on its sea platforms. It is understandable that India deliberately left its doctrine open-ended in 1999 (at the time of declaration) and later 2003 (at the time of operationalization) to complete its triad. India publicly unveiled the *INS Arihant*, the first SSBN in its naval inventory, in 2009 that had undergone sea trials in 2013 and awaits eventual operational deployment. The *Sagarika* K-15 SLBM is being inducted for its *Arihant*, SSBN. The K-15 class missiles are being augmented with the nuclear-capable 350km *Dhanush* ship launched ballistic missile as well. These "K" class cruise missiles are critical for India's nuclear deterrent-arsenal because they provide it with a much more invulnerable second-strike capability.<sup>55</sup>

The K-15 still requires submarine-based testing and adaptation and its January 2013 "test launch was conducted from an underwater pontoon."<sup>56</sup> The K-15 still has limitations and the problems associated with its range (700 km) still put a question mark on it. Unquestionably, India does not intend to abandon this programme and would inevitably improve the range of K class missiles. It is working on K-4 SLBM with a maximum range of 3,500 km, which will enable a submarine to operate from a

longer distance to cover a wide range of targets.<sup>57</sup> India is also planning to include three additional SSBNs to its naval fleet by 2015-2025. For example, Levy highlights that Indian *INS Aridhaman* SSBN is under construction that will be loaded with up to 12 nuclear-tipped missiles.<sup>58</sup>

Arguably, activating the sea-based system is a daunting task and India still has a long way to go “to push this first vessel into a deterrent patrol and even longer to attain a credible and [survivable] sea-based deterrent force.”<sup>59</sup> Thus, India’s ability to actually launch nuclear-capable ballistic missiles from submerged and moving submarines is still doubtful at this stage.

In addition, India currently holds five land-based nuclear capable ballistic missile systems from the short range *Prithvi I* to the long range ICBM *Agni V*. Between 2015-20, India’s strategic nuclear missile force is likely to include *Agni III* and *Agni IV* missiles equipped with warheads. India may employ these two systems for MIRVs to aim at adversaries beyond China.

India is on an ambitious path to acquire the BMD system that consists of two types of interceptor missiles –Prithvi Air Defence (PAD) and Advance Air Defence (AAD).<sup>60</sup> This two-tier BMD system can provide India with a multi-layered shield against ballistic missile attacks. The ballistic missiles can be launched from fixed sites, mobile launchers, aircraft, ships and submarines. Through this system, India aims at intercepting and destroying an incoming missile, at both high and low altitudes. India tested an advanced version of its BMD system in 2011. The first phase became operational in 2012 and the second phase will become

operational this year (2016). The BMD is a very complex and expansive system that involves high levels of technology. In support of these two missile defence layers, India requires various types of cutting-edge technological equipment such as the radar system, satellite, launch vehicles, launch control centers and mission control centres to help successfully deploy its BMD. Also, the DRDO has ambitious plans to work out its BMD system with an array of geostationary satellite in order to monitor missile activities within a radius of 6000 km.<sup>61</sup>

However, India is yet to successfully deploy and operationalize an effective ballistic missile system to protect all its territory and its strategic assets from incoming missiles. Currently, India claims to protect only two important cities — that is, New Delhi, where India’s leadership sits, and Mumbai, the economic hub. Sumit Ganguly argues that, “India is still quite far from being able to deploy them in battlefield circumstances or during crisis conditions. Furthermore, it is not entirely clear whether India intends to develop its BMD capabilities to protect its major population centres, key installations, or other sites of strategic significance.”<sup>62</sup> However, by any calculations, India’s deployment of missile defence system would undermine deterrence stability in South Asia. Furthermore, this will not be consistent with India’s doctrinal posture it earlier conceptualized.

It is safe to assume here that India has deliberately increased nuclear asymmetry with Pakistan to establish its superiority in strategic deterrence. India’s nuclear deterrence has thus become far more robust by achieving the third leg of its triad; and this



undermines regional deterrence stability, as well as regional and global security.

In terms of command structures, India's Far Eastern Naval Command (FENC) goes up to Port Blair in the Andaman and Nicobar Islands. This Command has 15 ships, two naval sea bases, four air force and naval air bases and an army brigade.<sup>63</sup> The Andaman and Nicobar Islands are considered enormously significant in India's strategic calculus. Moreover, the current force structure that India aims at building comprises nearly 140 vessels, including 1 aircraft carrier, 8 destroyers, 13 frigates, 25 corvettes, 16 conventional submarines, and a large number of smaller combatants. It also has nearly 650 fighters and ground attack fighters, more than 200 transport aircraft, and 326 helicopters. For instance, India has allocated US \$5.8 billion for modernizing and expanding its navy in 2014, becoming the largest spender in the Indian Ocean region. India will spend US\$25 billion on naval build up in the next decade.<sup>64</sup>

India's naval ability to deploy aircraft carriers is a key to projecting its maritime power in the region and beyond. The increased range of the new carriers will not only increase India's force projection capability, but it will also provide India with the most powerful naval strike force in the region — a significant development as the Indian navy is keen to boost its ability to decisively influence military operations on land as well.

That is why India is building a landmark secret "military-nuclear park" presently covered by seventeen miles of 15-foot high walls in the Varavu Kaval village close to Challakere, which

has a footprint comparable in size to the New York state capital, Albany.<sup>65</sup> A question arises here: what does India want to achieve out of these clandestine nuclear city projects? First, India aspires to increase its power projection ability by achieving nuclear efficiency and sufficiency, thereby matching the P-5 (Five Permanent Members of the UN Security Council) states' capabilities. Second, India wants to produce "enough fuel for [its] reactors, and to help power the country's fleet of new submarines."<sup>66</sup> Third, India wants to produce "new large yield weapons and hydrogen bombs."<sup>67</sup> Fourth, India would claim that it wants to produce hydrogen bombs to counter balance China.

Furthermore, to reinforce its sea-based deterrence and in pursuit of building blue water navy, India is acquiring eight P-8I Long-Range Maritime Reconnaissance (LRMR) aircraft.<sup>68</sup> This aircraft has significant surveillance and reconnaissance capability, is equipped with *Harpoon* anti-ship missiles and is capable of anti-submarine warfare and anti-surface warfare. Indian Air Defence System is endeavouring to acquire high altitude air defence capability, Israeli origin Airborne Warning and Control Systems (AWACS) and US-Israel Russian Ballistic Missile Shield to counter missiles or fighters. This array of cutting-edge technology — such as intelligence surveillance, reconnaissance (ISR) satellites, the day-night capable Israeli satellite *RISAT* including Phalcon AWACS, and SU-30 MK1 aircraft in Indian inventory — marks an alarming trend. In addition, the Indian *Brahmos* Cruise Missile can also be launched from submarines, ships, aircraft or land.

The US-India Defence Technology and Trade Initiative (DTTI) development offers India a much more comfortable position to expand and modernize its defence industry. The US President, Barack Obama and the Indian Premier, Narendra Modi, agreed to “treat each other (the US and India) at the same level as their closest partners”<sup>69</sup> on issues including “defence technology transfers, trade, research, co-production, and co-development.”<sup>70</sup> The two states also decided to increase their bilateral trade five times, from the current \$100 billion a year.<sup>71</sup>

The above factors demonstrate that India has enhanced its advantages in strategic deterrence. All these developments essentially undermine regional stability and strategic balance. This confirms the escalatory and aggressive nature of the Indian doctrine, which goes beyond its credible minimum deterrence to embrace security maximization dynamic. The prevailing strategic competitive environment in South Asia not only puts a greater strategic pressure on Pakistan, but also challenges the efficacy of the non-proliferation regime.

### **Issues Associated with the Non-proliferation Regime**

Islamabad realizes that the existence of the non-proliferation regime is important for the prevention of further spread of nuclear weapons and their related materials for military purposes, but it also understands that Pakistan may not become part of the NPT and the CTBT or join lopsided negotiations on the FMCT that, at the moment, tend to be flawed, discriminatory and inconsistent. However, it continues to adhere to the highest standards of non-proliferation and the normative framework for

nuclear restraint and responsibility, without compromising on its core national interests. The following section elaborates the issues associated with the non-proliferation regime.

### *Why does Pakistan not join the NPT?*

Pakistan has believed in a cooperation-based policy from the outset. For example, Pakistan joined the IAEA in 1957 and later fully supported the NPT negotiations. Pakistan did not sign the NPT because it has serious reservations about the current structure of this treaty.

First, even a cursory study of the NPT Articles I, IV and VI reveals five countries are recognized as Nuclear Weapons States (NWS also known as P-5) while the rest of the treaty's signatories are regarded as Non-Nuclear Weapons States (NNWS). As a logical corollary, these NNWS are barred from acquiring nuclear weapons. Such discrimination has led to arguments that the NPT is primarily focused on safeguarding the interests of the P-5 states. This "special" arrangement legitimizes the continuous possession of nuclear weapons by only five NWS and demands non-acquisition by other non-nuclear state parties, without the *quid pro quo* of substantial disarmament by NNWS.

Second, no significant progress has been made to implement article VI of the NPT prescribing disarmament by the NWS. The indefinite extension of the NPT in 1995 referred to the article VI of the NPT obligates the NWS to make efforts in good faith to achieve global disarmament. The NPT has made no progress towards disarmament, which has thus perpetuated the status quo

and a crisis of trust.

Third, the multilateral negotiations on nuclear export controls to oversee trade of the dual use technologies and determine their end usage led to the creation of the NSG—an arrangement, which was made in response to the Indian nuclear explosions in 1974. For its part, the NSG holds no legal legitimacy or a formal structure when we compare it with the institutional basis of the IAEA.

Fourth, there is a problem with the non-universal status of the NPT and its inability to remain sustainable. From the outset, states adhered, to a greater or lesser extent, to the terms of the NPT, but India, Israel (practicing nuclear opacity) and Pakistan have never joined the NPT. North Korea withdrew in 2003 challenging the provisions of the NPT. In future, any country that would acquire nuclear weapons would be from within the NPT. There are two ways that a state would go nuclear: one, it could begin a clandestine nuclear weapons development programme; and two, it could withdraw from the NPT by asserting that it confronts an extraordinary threat jeopardizing the supreme interest and security of the country.<sup>72</sup>

Fifth, existence of Pakistan's nuclear weapons programme is rooted deep in its security compulsions. The Indian testing of nuclear devices in 1998 changed the politico-strategic canvas of the region —reducing Pakistan's options to remain a covert nuclear state —and forcing Pakistan to test its nuclear weapons capability.

In 1974, Pakistan had proposed to establish a Nuclear Weapons Free Zone (NWFZ) in South Asia; and in 1978 it proposed to India a series of measures which it rejected. These included a joint Indo-Pakistan declaration renouncing the acquisition and manufacture of nuclear weapons, mutual inspections by India and Pakistan of nuclear facilities, simultaneous adherence to the NPT by India and Pakistan, and simultaneous acceptance of IAEA's full-scope safeguards.<sup>73</sup>

All these factors, when cumulatively evaluated, indicate how Pakistan faced a security conundrum and how it was forced to shift from the normative to a strategic pathway. Pakistan's policy in pursuit of a NWFZ in South Asia became redundant when the regional security architecture changed in 1998.

The declared status of the two states has a substantive impact on the non-proliferation regime and global politics. The fact that Pakistan went nuclear and is not a party to the NPT does not mean at all that it is opposed to the global non-proliferation norms. Empirical record shows clearly that it respected global non-proliferation norms at all the international forums and continues to promote these norms.

### *Difficulties associated with the FMCT and the CTBT*

The recent Carnegie-Stimson report suggests that Pakistan should remove its "veto" on the negotiations in the Fissile Material Cutoff Treaty (FMCT), which Pakistan prefers to call a Fissile Material Treaty (FMT) in order to include existing stocks in its scope, and sign unilaterally the Comprehensive Nuclear-

Test-Ban Treaty (CTBT). Doing this, the report suggests, would mainstream Pakistan in the so-called global nuclear order to ultimately secure a membership in the NSG and that this will put pressure on India to join the FMCT negotiations and sign the CTBT.

Pakistan has a principled diplomatic stance on the FMCT. Pakistan insists that negotiations on all four items agreed to in the Shannon Mandate of 1995 Nuclear Disarmament, a FMT, Prevention of Arms Race in Outer Space (PAROS), and Negative Security Assurances (NSAs) — be pursued simultaneously.<sup>74</sup> The FMCT is a proposed treaty and may not be enforced unless security concerns of all state parties are amicably addressed and mutually agreed upon, because states would always take decisions on joining a treaty on the basis of perceived costs and benefits.

For Islamabad, many factors deepen the impasse of the FMCT negotiations. One, the FMCT needs to be a non-discriminatory and universally verifiable treaty. Pakistan has repeatedly said in the Conference on Disarmament (CD) that “a ban on the production of fissile material should be promoted through a universal non-discriminatory treaty in the CD and through universal measures.”<sup>75</sup> Two, Pakistan does not agree with the term “cut-off”<sup>76</sup> as it does not cover the existing stocks of fissile material. Three, the FMCT should be conceived as a genuine disarmament measure, not devoted merely to the goals of non-proliferation. Four, non-inclusion of “existing stockpiles” of fissile materials puts Pakistan in a disadvantageous position viz-à-viz its adversary, India. Pakistan has also called for eliminating

asymmetries in existing stockpiles of fissile materials. In 2006, Pakistan stated, “[a] cut-off in the manufacturing of fissile materials must be accompanied by a mandatory programme for the elimination of asymmetries in the possession of fissile material stockpiles by various states ...a fissile material treaty must provide a schedule for a progressive transfer of existing stockpiles to civilian use and placing these stockpiles under the safeguards.”<sup>77</sup>

Five, Pakistan believes that the US-India nuclear deal and the NSG’s special waiver to India have unquestionably given India an advantage by facilitating expansion of its existing stockpiles of fissile materials, which in turn would enable India to increase its strategic forces. Also, these two things combined would undermine Pakistan’s deterrence credibility.<sup>78</sup> Given its ambition to acquire hundreds of nuclear warheads, India faces the dilemma to build its arsenal while meeting its civilian nuclear goals. India has resolved this problem by leveraging the deal with the United States.<sup>79</sup> Finally, Pakistan has concerns that the changed South Asian strategic environment created by the US-India nuclear deal, NSG special waiver to India and India’s nuclear and conventional build-up imperils regional stability.

Regarding the CTBT, Pakistan has already declared a unilateral moratorium on nuclear testing. For some in Pakistan, the CTBT is a stagnating treaty, which still needs to be ratified by at least eight countries including the US and China (NPT nuclear weapons states).<sup>80</sup> India has never been a part of the NPT nor has it has any intention of signing the CTBT. Since Pakistan has longstanding security concerns viz-à-viz India, and its nuclear



weapons are India-specific, it would not consider signing the NPT or the CTBT unilaterally unless India does it first. Pakistan's unilateral move to sign the CTBT is not likely to impress India or put greater strategic pressure on it to follow suit, as the recent Carnegie-Stimson report suggests. Despite not being part of the CTBT, Pakistan has already conformed voluntarily to its core purpose by not conducting more nuclear weapons tests. For more than a decade and a half, Pakistan has not carried nuclear weapons tests. However, if India tests again, Pakistan could revisit its conditional moratorium. Pakistan does not see any logic in signing a treaty that has not yet been enforced. The future prospects for the CTBT's success are directly linked to the decisions of major nuclear weapons states and their approaches towards the non-proliferation regime.<sup>81</sup>

There are many reasons for Pakistan not taking a unilateral approach to signing the CTBT as it would not meet Pakistan's security interests. One, it is unclear whether India would follow suit at all, given its intention to build hydrogen bombs and its desire for power projection beyond South Asia. Two, Pakistan will not be recognized as a nuclear weapons state by the NPT member states even if it signs the treaty. Three, Pakistan may not secure substantial support for its peaceful nuclear programme unlike India, which has already gained special NSG waiver despite being a non-signatory to both the NPT and the CTBT. Four, it is not clear whether this will help "mainstream" Pakistan. Finally, unilaterally joining the CTBT does not serve Pakistan's interests especially when India could possibly go for more tests. Joining and then quitting the CTBT because of India's nuclear weapons tests, as the Carnegie-Stimson report suggests, would

also not suit Pakistan. If, hypothetically speaking, Pakistan were to join and quit because of India's possible tests, such a reversal would have a hugely negative and costly impact as strategic pressure would be mounted on Islamabad to either comply with the regime or be ready for punitive sanctions. Possibly, Islamabad could become a part of a multilateral approach (along with 43 other states mentioned in the Annex II), in reaffirming unilateral moratorium on nuclear testing.

While not joining the NPT and the CTBT or the FMCT negotiations for obvious reasons, Pakistan is conducting itself as a responsible nuclear weapons state. It participates in and contributes to the work of various international forums to join efforts to promote non-proliferation and nuclear safety and security. This unilateral conformity of Pakistan with nuclear normalcy and responsibility necessitates an appropriate strategy by the international community to remove restrictions on Pakistan to access nuclear technology for peaceful purposes.

### *Challenges of adherence to the NSG and emerging demands*

The Nuclear Suppliers Group (NSG) member states clearly laid down the admission criteria of new states in 2001 Aspen Plenary: the new aspirant states should be party to the Non-Proliferation Treaty (NPT) and agree to enforce full-scope safeguards with the IAEA.<sup>82</sup> The NPT's membership condition for states' adherence to the NSG was removed in its guidelines in 2012.<sup>83</sup> Obviously, India, a non-NPT nuclear weapons state, has not placed its eight reactors under the IAEA full-scope safeguards and, thus, it is not entitled to the NSG membership.

The NSG rules forbid nuclear cooperation with states that have unsafeguarded facilities.

India has not signed the CTBT, nor does it really support the FMCT negotiations. There is also a serious question mark on India's adherence to the Additional Protocol. Within the provisions of the Model Additional Protocol on sharing the activities and facilities with the IAEA, India only agreed to submit information on nuclear-related exports. India does not report information on nuclear fuel-cycle-related research and development, nuclear-related imports, and uranium mining.<sup>84</sup> Considering its ambitions to build a secret nuclear city to expand and modernize its programme, operationalize a triad and induct long-range missiles, India pursues undeclared nuclear activities outside of safeguards. India has been offered full space by the US and other NSG members to divert its nuclear material to finalize not only its sea-based triad, but also a huge clandestine HEU project in Karnataka.

On the issue of peaceful uses of nuclear energy, in pursuance of the NPT's Article IV, the NSG should not oppose development of peaceful nuclear energy, even as it remains strongly opposed to proliferation. The NSG lacks legal legitimacy and an institutional mechanism to address energy demands of the states on the basis of a given criteria. The NSG has to recognize current realities. In time, the NSG will have to reflect emerging trends in the global nuclear power industry.<sup>85</sup> Considering its domestic power starvation and deficiency that plagues its development and endangers human security, Pakistan too aspires to secure membership in the NSG but guided by a

“criteria based approach”, which defines nuclear cooperation with new nuclear weapons states based on equality and justice, which is consistent with current political realities.<sup>86</sup> Such a pragmatic proposition is paramount for Pakistan, as it has already started work on the Karachi nuclear power plants II and III to generate 8,800 MW of electricity by 2030 and 40,000 MW by 2050 to make up for its power deficiency.<sup>87</sup> Pakistan has planned to build more nuclear power plants to add electricity to its national grid to ensure energy security and accelerate the pace of economic development; and is confident that it can accomplish this task by promoting nuclear security norms and implementing its national energy plans, under relevant international safeguards.

### **Nuclear Security Norms and National Action Plan**

This section focuses on the security of Pakistan’s nuclear arsenals. The study argues that the right of peaceful uses of nuclear technology should not be hampered by concerns about nuclear security. Pakistan has instituted a comprehensive and stringent but home-grown mechanism to ensure safety and security of its nuclear weapons, facilities and personnel. In parallel, it closely follows international standards and fulfills global commitments. Pakistan is implementing its National Security Action Plan (NSAP) and has institutionalized a robust command and control system.<sup>88</sup>

Pakistan had established the National Command Authority (NCA) in 1999 and later its secretariat known as the Strategic Plans Division (SPD).<sup>89</sup> The NCA has improved its functions and competencies for employment and deployment of the forces over

time in a transparent and effective manner in order to build a robust communication and coordination mechanism. Pakistan believes that transparency measures, rational behaviour, international engagements and a strong democratic policy process are in its best interest. The SPD has a dedicated branch working on arms control and disarmament issues that interacts with national and global institutions and bodies to articulate Pakistan's perspective and also benefit from international best practices.

The SPD has initiated a Personnel Reliability Programme (PRP) by knitting together a cluster of agencies to monitor experts handling sensitive materials and information to avoid any risks of critical information leakage. A multi-layered system of security has been introduced for physical protection of nuclear weapons, infrastructure and installations. The Pakistan Centre of Excellence for Nuclear Security (PCENS), based on national and international best practices and standards, was established in 2012. The PCENS imparts training in the entire range of activities, directly or indirectly linked with nuclear safety and nuclear security. The Director General of the IAEA, Yukiya Amano, during his recent visit to this Centre remarked, "It is very impressive that [Pakistan organizes] the training in a very systemic and operational manner."<sup>90</sup>

In addition to this, Pakistan adhered to the Convention on Physical Protection of Nuclear Material (CPPNM)<sup>91</sup> in October 2000, to ensure safe domestic transportation of nuclear weapons and materials and is currently considering acceding to the 2005 amendment to CPPNM after its inter-agency process is completed. In addition, Pakistan passed the widely acknowledged

Export Control Act in 2004 to strengthen and regulate controls over the exports, re-export, trans-shipment and transit of goods and technologies related to nuclear and biological weapons and missiles capable of delivering such weapons. The Act led to the creation of a Strategic Export Control Division (SECDIV) in the Ministry of Foreign Affairs to formulate and enforce rules and regulations for the implementation of export controls in accordance with the above mentioned act. Pakistan has introduced a national action plan (NAP) on export controls and the safety and security of nuclear facilities and material.

The PNRA, an independent body, is committed to safeguarding and regulating nuclear facilities and safety to eliminate any possibility of insider/outsider threat to the nuclear and radiation facilities in the country. The PNRA, in tandem with the SPD, also ensures the security of the facilities against external threats. Thus, there is a synergy between nuclear safety and nuclear security in Pakistani system.

Pakistan is a member in the IAEA, the IAEA Code of Conduct, the United Nations Security Council Resolution 1540, the Global Initiative to Combat Nuclear Terrorism, the Container Security Initiative, and IAEA's Incident and Trafficking Database (ITDB).

Pakistan realizes that transparency measures, rational behaviour and a strong democratic process are in its best interest. This change is very significant and Pakistan is engaging with the international community to learn from their best practices and experiences through its proactive participation in the Nuclear

Security Summit (NSS). Pakistan has outlined five pillars of its nuclear security regime at the NSS at The Hague: comprehensive command and control structure under the NCA; intelligence and surveillance systems; an autonomous regulatory system; a rigorous/stringent domestic export control regime; and proactive cooperative arrangements with the international community.<sup>92</sup>

Pakistan's nuclear security arrangements have been widely acclaimed at the global level. The above arrangements and efforts by Pakistan discount the possibility of any theft of nuclear materials. The US Department of Defence has recently expressed its confidence in the security of nuclear weapons and related materials in Pakistan. In a message to Pakistani leading newspaper it said, "Pakistan has a professional and dedicated security force that understands the importance of nuclear security."<sup>93</sup>

Prime Minister Nawaz Sharif has recently stated, "[Pakistan's] nuclear assets are in safe hands and that Pakistan's command and control system is invincible."<sup>94</sup> Pakistan's present Chief of Army Staff, Gen. Raheel Sharif, during a recent visit to the Centre of Excellence, said "Pakistan has taken measures, including setting up of the PCENS, to strengthen its nuclear security." He also reiterated, "Nuclear security is a sacred responsibility" and lauded the progress the institution has made after its establishment.<sup>95</sup> Like other nuclear weapons states, Pakistan also recognizes the need to safeguard its strategic assets and related materials in its larger national interest. This is why Pakistan is managing its effective custodial control against theft, sabotage, mishaps, and accidents.<sup>96</sup>

## **Mainstreaming Pakistan in the Global Nuclear Order**

Now the question arises: what is normalization and mainstreaming? We believe that Pakistan is already a normal and responsible nuclear weapons state. Mainstreaming means: giving Pakistan its due recognition as a nuclear weapons state. Entry into the NSG alone, however, would not mainstream Pakistan, without an explicit or implicit recognition of Pakistan as a nuclear weapons state by the NPT member states. Pakistan has been actively pursuing norms and principles that are consistent with the non-proliferation regime and this should establish Pakistan as a responsible nuclear power. It fully understands the international nuclear order and is ready to cooperate and contribute towards it without compromising on its core national interest. It is high time that the international community recognize Pakistan as a responsible nuclear weapons state in the evolving global nuclear order based on mutual trust and respect, transparency and dignity. We make the following five proposals that may help mainstream Pakistan in the international system and assist the international community to understand Pakistan's acute security concerns, its strides towards normative frameworks and its strong qualifications as a responsible nuclear weapons state.

*Normalizing the global nuclear order by making it consistent with emerging realities*

First, we believe that there is an urgent need to envisage a new consensus on disarmament, arms control, and non-proliferation under the UN Charter, and in accordance with the



principle of “equal security for all.”<sup>97</sup> This may not be politically viable for some states, but we should not overlook that if the non-proliferation regime secures broader legal legitimacy and uniform criteria binds all states, then this will diminish the possibilities of violation of norms within the regime, too.

Second, it is necessary to normalize the non-proliferation regime to advance its goals based on the NPT’s three pillars<sup>98</sup> — non-proliferation, disarmament and peaceful uses of nuclear technology.<sup>99</sup> The NPT sets the central objective of universal and comprehensive disarmament instead of legitimizing the continued possession and multiplication of nuclear stockpiles by a few states. There is also a need for making progress on NSAs.<sup>100</sup> The Conference on Disarmament should vigorously pursue this issue, which is already on its agenda.

Third, efforts should continue to be made to ensure the safety and security of nuclear weapons and the related materials, technologies and facilities worldwide. The nuclear deal with Iran is a big breakthrough and it would have a far-reaching and salutary impact on the non-proliferation regime and regional stability. In a similar manner, the six-party talks can address the North Korean issue.

Fourth, a new broad formula needs to be defined for *export control policies* that can meet current and future demands. The non-NPT states have a distinct legal persona based on their own security paradigms and imperatives influenced by globalization, the rise in energy demand, information revolution and changing security environment. Efforts should, therefore, be made to create

an effective and enduring “criteria-based approach” for these states to join the NSG. An additional benefit would be that Pakistan, in its own interest, would continue to respect global non-proliferation norms. The right of peaceful uses of nuclear technology should not be subject to the question of non-proliferation after taking into consideration states’ serious non-proliferation commitments and justifiable energy demands. For Pakistan, it is a time-sensitive strategic imperative to reduce power deficiency that plagues its economic development and affects human security. Thus, inclusion of Pakistan in the NSG to preserve its right to peaceful uses of nuclear technology should strengthen, not weaken, the nuclear order.

Once cooperation is strengthened through such inclusion, trust between Pakistan and the NSG members would grow and as a result uncertainty and fear would decrease. The implementation of this proposal may enable the world to establish and reinforce agreed norms against non-proliferation, promote peace, rule out the dreaded possibility of use of nuclear weapons and realize the right to peaceful uses of nuclear technology.

*Regulating India’s modernization by addressing the growing conventional force asymmetry*

India is qualitatively and quantitatively increasing its nuclear stockpiles and modernizing conventional capabilities, and this would certainly increase insecurity of all the states around India and beyond the region.

Considering South Asia's conflict-driven past, the widening gap in conventional forces and the arrival of nuclear weapons and development of thermonuclear weapons, the great powers can play a crucial role in discouraging states from taking sides and supporting one at the expense of the other. Discriminatory treatment of Pakistan has left it vulnerable to India. This has stepped up arms race in the region and weakened deterrence stability. India, with a greater conventional force capability, may threaten the territorial integrity of the weaker side. The conventionally weaker side, Pakistan, is left with two options for survival. One, it can follow a catalytic doctrinal posture — that is, to seek the intercession of a third party which could intervene just before a crisis seems to be spinning out of control. Two, it can adopt an asymmetric escalation posture — that is, to rely on the first use of nuclear weapons, to offset the mightier conventional side of the adversary.<sup>101</sup>

Arguably, there is a greater shift of major power from Europe to Asia-Pacific as Asia turns to become a strategic and economic hub in the 21<sup>st</sup> century, which offers new avenues to these two rival states — Pakistan and India. The US with its alliances in the Asia Pacific region may continue to nudge India towards resumption and maintenance of a sustainable dialogue process with Pakistan. Instead of creating imbalance by rewarding India with material support, armaments, naval platforms, and new delivery and surveillance means,<sup>102</sup> the US can help construct a security regime to address the two states' insecurities and political complexities, particularly in terms of reducing the growing conventional force asymmetry.

*Addressing the issues that hinder the arms control regime  
between India and Pakistan*

There is an urgent need for both India and Pakistan to realize that the nuclear weapons offer them nothing more than deterrence. At the same time, both states need to clearly establish an understanding that neither the use of total force is feasible nor total victory is possible in a nuclear war. Thus, it is imperative that these two states reengage to create a strategic restraint regime that comprises nuclear and missile restraint, conventional balance and conflict resolution. Pakistan made this proposal to India, shortly after the 1998 nuclear tests, to sustain deterrence stability, avoid the danger of nuclear use and avert a costly and mutually destructive war.

The creation of an arms control framework between India and Pakistan may not be possible for certain reasons. First, both India and Pakistan are at an early stage of their nuclear weapons development. Until they are out of initial stages of nuclear development, which may include assured second-strike capability, sophisticated delivery systems, and maturation of the security and safety infrastructure, efforts to develop such a framework would have little significance.

Second, there is a growing conventional disparity between India and Pakistan, which makes it imperative for Pakistan to sustain a higher level of deterrent capability. Both sides may require some level of deterrent force symmetry before they conclude an arms control discussion. The South Asian region must pass through critical learning stages, as the United States

and the Soviet Union did during the Cold War period, though the strategic environment and situation between the two South Asian rivals is different and the Cold War nuclear strategies may not necessarily be applicable in the South Asia.

Third, states' war-like doctrinal postures have strategic implications. Despite the understanding that too much openness could undermine the credibility of a state's deterrent, particularly when it is conventionally vulnerable and geographically smaller than its rival, there is still a need for some transparency in nuclear policies, which in turn could help build a stronger framework for arms control processes. Ironically, Pakistan has been drawn into the South Asian arms race because of Indian doctrinal and force posture. The dramatic shifts in both the strategic and conventional deterrent forces of one side would thus have implications for the other, which keeps the clock of a new arms race ticking. As a result, this puts greater pressure on South Asian deterrence stability.

The prospects for an arms control regime (ACR) in South Asia are bleak and it may not be possible to create such a regime in the immediate future because of the complex issues explained. But some potential exists for an arms control process, which would require a combination of unilateral, bilateral, and multilateral endeavours to pave the way for a peaceful strategic environment.

### *Reconsidering strategic dilemma*

The international community needs to reconsider the systemic strategic dilemma both India and Pakistan suffer from. We call

this a *syndrome of extra-regional link*, which becomes one of the important challenges affecting the deterrence stability in South Asia. In this case, whatever strategically happens between the US and Russia, and/or between the US and China, would affect the equation between China and India. Arguably, that would then affect Pakistan. China is not engaged with the US or India in regard to arms control process, but this still has a strategic impact on South Asia. Arms reduction and policy restraint at the top level i.e., the US and Russia including France and Britain reduce the pressure on the lower level i.e., China, India and Pakistan. Also, since major powers would like to take smaller powers on board for the arms control and disarmament processes fulfilling the pledges of the non-proliferation regime, they too would need to reduce their deterrent forces to lower levels.<sup>103</sup> This would not only promote deterrence stability amongst nuclear weapons states, but also provide them incentives to address the issues related to prevailing systemic strategic dilemmas they face viz-à-viz each other. However, if major powers continue to develop their deterrent forces, then this would signal to other nuclear weapons states to retain their deterrence forces. This is precisely what is happening in South Asia.<sup>104</sup>

### *Resolving the issue of Jammu and Kashmir between India and Pakistan*

The study argues that the Jammu and Kashmir dispute is a question related to international law, human rights, human security and regional stability. Therefore, it requires intercession of the international community and support of the leading states, such as the US, to help find a lasting solution based on

aspirations of the people of Jammu and Kashmir. Any peace process will remain fruitless unless the issue of Kashmir is addressed based on the right to self-determination. India and Pakistan have failed to resolve the issue on bilateral grounds up to now. China, in parallel, too, can help in resolving the Kashmir dispute to create peace and stability in this region, but it has its own limitations.

Sustained talks between the two nuclear adversaries are a must for maintaining a semblance of stability. In addition to periodic third party intercession, bilateral dialogue on all outstanding issues between India and Pakistan and restoration of communication are essential in the conflict-prone and nuclearized South Asian region. Track II diplomacy adds little value in the absence of official dialogue between the two states. Presence of nuclear weapons and democratic rule in both the countries can fashion a strategic and political environment conducive to consolidating and reinitiating the CBMs and building trust on shared interests and goals. In the interest of their own people and peace in the region, both sides should proactively collaborate to root out terrorism that is one of the ten-point agenda of the Comprehensive Dialogue agreed by both India and Pakistan.

## **Conclusion**

Pakistan developed its nuclear weapons programme for defensive purposes to address its acute security concerns viz-a-viz India. Pakistan's nuclear weapons programme is India-specific and it will continue to play a deterring role in the

national security of Pakistan thwarting the possibility of both major and limited wars in South Asia.

Pakistan had a number of deterrence policy options, but it deliberately opted for the credible minimum deterrence considering its domestic security compulsions. Although ambiguity plays a central role in its nuclear weapons programme and policy, Pakistan continues to pursue a policy of producing a smaller number of deterrent forces with no interest in weapon-to-weapon arms race strategy. It aims to sustain “balance” rather than “parity” and does not want to be part of an unending arms race.

In addition to the recent Carnegie-Stimson report that presumes that Pakistan could become the world’s third largest nuclear weapons state in 10 years, there still exists a fear in the international community that Pakistan’s nuclear weapons might fall in the wrong hands. These worries are based upon flawed assumptions and overlook the extensive investments Pakistan has made towards nuclear security and its immaculate trace record, despite being a frontline U.S. ally in the war on terror. Pakistan institutionalized its nuclear weapons programme immediately after its nuclear tests. It successfully created the NCA and built the SPD as its secretariat to ensure the safety and security of all its deterrent forces and related facilities under a centralized and robust command and control system. In fact, India has followed some of Pakistan’s unilateral actions aimed at enhancing nuclear responsibility, transparency and developing an effective NCA.



Domestically, Pakistan has commendably worked to improve its legal order, fight terrorism in its all forms and manifestations, create a rigorous export control regime and construct a nuclear security regime. Regionally, it is ready to work on these parametres with other countries. Internationally, Pakistan follows the United Nations Security Council Resolution 1540. It is a party to the Convention on Nuclear Safety, the Convention on the Physical Protection of Nuclear Materials and Global Initiative to Combat Nuclear Terrorism, the Container Security Initiative, and the IAEA's Incident and Trafficking Database. Moreover, Islamabad has established its independent regulatory authority — PNRA — that closely works with the IAEA. Other important institutions such as Pakistan's National Centre of Excellence, Pakistan's Engineering and Applied Sciences and the School for Nuclear and Radiation Safety provide world-class training and specialization in the field of nuclear security and radiation safety. Also, Pakistan has been an active participant in the Nuclear Security Summit that has been held every two years since 2010. The international community now acknowledges these institutionalized efforts that make Pakistan a responsible nuclear weapons state.

Pakistan's consistent diplomatic stance on the proposed FMCT does not mean that Pakistan would necessarily increase its deterrent forces. The world's largest chunk of nuclear weapons and their related materials are still with the US and Russia. Despite not being a part of the NPT and a non-signatory to the CTBT, Pakistan unilaterally and voluntarily maintains a moratorium on nuclear testing, has a modest number of deterrent forces, follows credible minimum deterrence, keeps nuclear

weapons for defensive purposes only and accepts the internationally verifiable, non-discriminatory and criteria-based non-proliferation endeavours. The international community largely misperceives Pakistan's declaratory statement of full spectrum deterrence by associating it with the bigger numbers. Full spectrum deterrence falls within the broader contours of Pakistan's credible minimum deterrence, that is, to deter all forms of aggression.

The international community should not overlook the gradually changing South Asian strategic environment such as India's Cold Start Doctrine, its development of non-strategic battlefield weapons, and its strides for an assured second-strike capability in the form of nuclear submarines, its known and unknown nuclear facilities/reactors outside the IAEA safeguards and establishment of secret-city project in Karnataka. The development of ICBMs, MIRVs and BMD system has further accentuated strategic instability in South Asia. The changed strategic environment in South Asia puts a greater pressure on Pakistan to upgrade and streamline its deterrent in order to sustain deterrence stability and avert a war.

The recommendations we have made would help the international community understand the vantage point of the nuclear strategy of Pakistan, mainstream Pakistan in the international nuclear order, and build peace in South Asia. These recommendations underline the importance of normalizing the international nuclear order on the basis of generally acceptable criteria; regulating India's emerging nuclear modernization by addressing the growing conventional force asymmetry;

addressing the issues that hinder arms control by India and Pakistan; re-considering the strategic dilemma facing South Asia; and resolving the disputes between India and Pakistan.

All the above-mentioned measures are interlinked with the role of major states mainly the US. Problems within the international nuclear order are not because of Pakistan. Major powers' double standards — application of more stringent rules towards one state and a lax approach towards other — have made it skewed. Trust and cooperation have been lacking due to non-fulfillment of the powerful states' commitments to Article VI of the NPT. The implementation of the proposals made in the paper may help strengthen non-proliferation norms, promote peace, and prevent the use of nuclear weapons in South Asia and support peaceful uses of nuclear technology. Also, it is important for India and Pakistan to rationalize their military plans under some budgetary regime and decide how much is adequate to secure peace, stability and development in South Asia.

## Endnotes

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- <sup>1</sup> The stability-instability paradox elucidates that two states in possession of nuclear weapons may not fight directly at the bigger level. However, the possibility of waging a war at the lower level exists. Glenn H. Snyder first coined this word. See Glenn H. Snyder, *Deterrence and Defense: Toward a Theory of National Security* (California: Greenwood press, 1961). Also, see Paul Seabury, ed., *Balance of Power* (US: Chandler Publishers, 1965).
- <sup>2</sup> Adrian Levy, "India is Building a Top-Secret Nuclear City to Produce Thermonuclear Weapons, Experts Say," *Foreign Policy*, December 16, 2015, <http://foreignpolicy.com/2015/12/16/>

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- <sup>3</sup> Lawrence Freedman, *The Evolution of Nuclear Strategy* (London: Palgrave, 2003), 331-334.
- <sup>4</sup> Alastair Iain Johnston, "China's New Old Thinking: the Concept of Limited Deterrence," *International Security*, 20 (Winter 1995/96):5-42.
- <sup>5</sup> *Ibid.*, 1.
- <sup>6</sup> Rajesh Basrur, *Minimum Deterrence and India's Nuclear Security* (California: Stanford University Press, 2006), 26-27.
- <sup>7</sup> Johnston, "China's New Old Thinking: the Concept of Limited Deterrence," 20.
- <sup>8</sup> See Bradely A. Thayer, "The Causes of Nuclear Proliferation and the Utility of the Nuclear Non-Proliferation Regime," *Security Studies* (1995), 4(3): 463-519; Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998).
- <sup>9</sup> Terence Roehrig, "North Korea's Nuclear Weapons Program: Motivations, Strategy and Doctrine," Toshi Yoshihara and James R. Holmes, eds., *Strategy in the Second Nuclear Age: Power, Ambition, and the Ultimate Weapon* (Washington: Georgetown University Press, 2012), 81-98.
- <sup>10</sup> P.M. S. Blackett, "A Critique of Defence Thinking," *Survival* (April) 3(3) (1961):126-134; Blackett, *Studies of War: Nuclear and Conventional* (London: Oliver & Boyd Publications, 1962); Anthony Buzzard, "Massive Retaliation and Graduated Deterrence," *World Politics*, vol. 8, no. 2 (1956): 228-237; Buzzard, "Defence, Disarmament and Christian Decision,"

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- <sup>11</sup> George Perkovich, "A Nuclear Third Way in South Asia," *Foreign Policy*, issue 91 (Summer 1993):88-89.
- <sup>12</sup> Zafar Khan, "The Conceptual Essentials of Minimum: Explaining Pakistan's Rationale of Minimum Deterrence," *Cambridge Review of International Affairs* (2014): 1-17.
- <sup>13</sup> Zafar Khan, *Pakistan's Nuclear Policy: a Minimum Credible Deterrence* (London and New York: Routledge, 2015), 1-15. Also, see Zafar Iqbal Cheema, "Pakistan's Posture of Minimum Credible Deterrence: Current Challenges and Future Efficacy," in ed., Zulfqar Khan, *Nuclear Pakistan: Strategic Dynamics* (London: Oxford University Press, 2011), 43-84.
- <sup>14</sup> Abdul Sattar, Zulfqar Ali Khan and Agha Shahi, "Securing the Nuclear Peace," *News*, October 5, 1999.
- <sup>15</sup> Ibid.
- <sup>16</sup> Author's (Zafar Khan) interview with Abdul Sattar (the Foreign Minister of Pakistan during General Musharaf's regime), September 2012.
- <sup>17</sup> Toby Dalton and Michael Krepon, "A Normal Nuclear Pakistan," Carnegie Endowment for International Peace and Stimson Center, August 2015, <http://carnegieendowment.org/files/NormalNuclearPakistan.pdf> (accessed January 01, 2016).
- <sup>18</sup> Ibid.,21.
- <sup>19</sup> Hans M. Kristensen and Robert S. Norris, "Pakistan's Nuclear Forces, 2015," *Bulletin of Atomic Scientists*, (October 2015), 2, <http://thebulletin.org/2015/november/pakistani-nuclear-forces-20158845> (accessed January 01, 2016).
- <sup>20</sup> Ibid.,2.
- <sup>21</sup> Ibid.,2.

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- <sup>22</sup> Levy, "India is Building a Top-Secret Nuclear City to Produce Thermonuclear Weapons,"
- <sup>23</sup> Freedman, *The Evolution of Nuclear Strategy*, 395.
- <sup>24</sup> Dalton and Krepon, "A Normal Nuclear Pakistan", 15.
- <sup>25</sup> Syed Baqir Sajjad, "NCA Stresses Full-Spectrum Deterrence," *Dawn*, September 6, 2015, <http://www.dawn.com/news/1040865>
- <sup>26</sup> The ISPR Press Release on Pakistan's full-spectrum deterrence, September 09, 2015, [https://www.ispr.gov.pk/front/main.asp?o=t-press\\_release&id=3026](https://www.ispr.gov.pk/front/main.asp?o=t-press_release&id=3026) (accessed January 01, 2016).
- <sup>27</sup> Generally, pre-delegation is a part of the command and control system in which a field commander may get some form of authority to use the deterrent forces under his order, but even the field commander may stay in a consistent communication with the centralized command and control mechanism.
- <sup>28</sup> Zafar Khan, "The Arrival of Tactical Nuclear Weapons in South Asia: Deterrence Stability or Instability," *Comparative Strategy*, 32(5) (2013):402-417.
- <sup>29</sup> Dalton and Krepon define strategic deterrence as "possessing the capabilities necessary to deter the worst case (nuclear exchanges and major conventional warfare), but not the lesser threats." See Dalton and Krepon, 15.
- <sup>30</sup> Dalton and Krepon associate the term "assured destruction" with the contours of "strategic deterrence" unlike their report elaborates. We have defined "deterrence via assured destruction" in different conceptual connotation from what Dalton and Krepon in their report conceptualize.
- <sup>31</sup> Walter C. Ladwig III, "A Cold Start for Hot Wars? The Indian Army's New Limited War Doctrine," *International Security*, 32(3) (winter 2007/08):158-190; Zafar Khan, "Cold Start Doctrine: The Conventional Challenge to South Asian Stability," *Contemporary Security Policy*, 33(3) (2012): 577-594; and Shashank Joshi, "India's Military Instrument: A Doctrine Stillborn," *Journal of*

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- Strategic Studies*, (36(4) 2013):512-540. Also, see Zulfqar Khan and Rizwana Abbasi, "Regional-centric Deterrence: Reassessing its Efficacy for South Asia," *Korean Journal of Defence Analysis* (December 2013).
- <sup>32</sup> This has been recently revealed by Pakistan's former Foreign Minister Khurshid Mahmud Kasuri. See Khurshid Mahmud Kasuri, *Neither a Hawk Nor a Dove* (Karachi: Oxford University Press, 2015).
- <sup>33</sup> Lawrence Freedman, "I Exist; Therefore I Deter," *International Security*, 13(1) (summer 1988): 177-195.
- <sup>34</sup> Author's (Zafar Khan) interview with Zafar Ali then a working officer in Strategic Plans Division (SPD), Pakistan, September 2012. Zafar Ali stated to the first author of this report that, "India has also developed short range missiles such as *Prahaar*, which is a tactical nuclear weapon. Pakistan believes that India had already commenced its programme producing tactical nuclear weapons before Pakistan tested *Nasr*." For more detail see Zafar Khan, "Emerging Shifts in India's Nuclear Policy: Implications for Minimum Deterrence in South Asia," *Strategic Studies*, 34(1) (spring, 2014): pp. 94-112.
- <sup>35</sup> Dalton and Krepon, "A Normal Nuclear Pakistan," 15.
- <sup>36</sup> Jasjit Singh, "A Nuclear Strategy for India," in ed., Jasjit Singh, *Nuclear India* (New Delhi: Knowledge World, 1998).
- <sup>37</sup> Ashley J. Tellis, *India's Emerging Nuclear Posture: Between Recessed Deterrent and Ready Arsenal* (California: RAND, 2001).
- <sup>38</sup> Perkovich, "A Nuclear Third Way in South Asia," 85-104. Also, see Perkovich, *India's Nuclear Bomb: the Impact on Global Nuclear Proliferation* (New Delhi: Oxford University Press, 2000).
- <sup>39</sup> Arvind Kumar, "Theories of Deterrence and Nuclear Deterrence in the Subcontinent," (2007):239-265.

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- <sup>40</sup> These connotations are borrowed from Vipin Narang, “Five Myths about India’s Nuclear Posture,” *The Washington Quarterly*, 36(3) (Summer 2013):143-157.
- <sup>41</sup> *Ibid.*, 148.
- <sup>42</sup> Quoted in, Narang, “Five Myths about India’s Nuclear Posture,” 148.
- <sup>43</sup> *Ibid.*, 149.
- <sup>44</sup> See Sumit Ganguly, *Conflict Unending: India-Pakistan Tension Since 1947* (New York: Columbia University Press, 2002). Also, see Bhumitra Chakma, “Nuclear Arms Control Challenges in South Asia,” *India Review*, 9(3) (2010):364-384.
- <sup>45</sup> Khan, “Emerging Shifts in India’s Nuclear Policy: Implications for Minimum Deterrence in South Asia,” 98-99.
- <sup>46</sup> Hans M. Kristensen and Robert S. Norris, “Indian Nuclear Forces 2015,” *Bulletin of Atomic Scientists*, 51(5): 1, <http://thebulletin.org/2015/september/indian-nuclear-forces-20158728> (accessed January 01, 2016).
- <sup>47</sup> Adrian Levy, “India is Building a Top-Secret Nuclear City to Produce Thermonuclear Weapons.”
- <sup>48</sup> *Ibid.*
- <sup>49</sup> *Ibid.*
- <sup>50</sup> *Ibid.*
- <sup>51</sup> *Ibid.*
- <sup>52</sup> Ashley J. Tellis, “Atoms for War? US-Indian Civilian Nuclear Cooperation and India’s Nuclear Arsenal,” *Carnegie Endowment for International Peace* (2006), 36.
- <sup>53</sup> *Ibid.*, 10.
- <sup>54</sup> *Ibid.*
- <sup>55</sup> Rizwana Abbasi, “A Strategic Shift in Indo-Pak Nuclear Strategy: Implications for Regional Stability,” *IPRI Journal*, vol. XV, no. 2 (Summer 2015): 19-22, <http://www.ipripak.org/wp-content/uploads/2015/10/1-art-s-151.pdf>



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- <sup>56</sup> See Narang, “Five Myths about India’s Nuclear Posture,” 145.
- <sup>57</sup> Subramanian, “The Emerging Sea-Based Nuclear Deterrence Capabilities,” *Asian Defence Review* (2013): 220-227.
- <sup>58</sup> Levy, “India is Building a Top-Secret Nuclear City to Produce Thermonuclear Weapons,” 9.
- <sup>59</sup> Subramanian, “The Emerging Sea-Based Nuclear Deterrence Capabilities,” 220-227.
- <sup>60</sup> Frank O’Donnell and Yogesh Joshi, “India’s Missile Defence: Is the Game worth the Candle?” *The Diplomat* (August 02, 2013); Debak Das, “India: How Credible is its Ballistic Missile Defense?” Institute of Peace and Conflict Studies (India) (November 29, 2012); For more recent studies on this see Sumit Ganguly, “India’s Pursuit of Ballistic Missile Defence,” *The Non-proliferation Review*, 21(3-4) (2014) (2014):373-382.
- <sup>61</sup> Manoj K. Das, “India to use geo-stationery satellites for missile defense,” *Times of India*, May 19, 2013, <http://timesofindia.indiatimes.com/india/India-to-use-geo-stationery-satellites-for-missile-defence/articleshow/20130007.cms>
- <sup>62</sup> Ganguly, “India’s Pursuit of Ballistic Missile Defense,” 374.
- <sup>63</sup> Rizwana Abbasi, “Evolving Maritime Strategies and Force Postures,” *Hilal Magazine* (May 2015), <http://hilal.gov.pk/index.php/layouts/item/1333-evolving-maritime-strategies-force-postures> (accessed January 01, 2016).
- <sup>64</sup> Abbasi, “A Strategic Shift in Indo-Pak Nuclear Strategy,” 19-22.
- <sup>65</sup> Levy, “India is Building a Top-Secret Nuclear City to Produce Thermonuclear Weapons,” 8.
- <sup>66</sup> Ibid.
- <sup>67</sup> Ibid. Also, Levy’s report has confirmed Ambassador Zamir Akram’s recent statement. Ambassador Zamir Akram stated, “India has achieved much of the fissile material that would not only suffice to its development of two nuclear powered submarines, but also enhance the possibility of testing hydrogen bomb.”Zamir

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- Akram's statement at the one-day National Conference: National Defence University Islamabad (December 10, 2015).
- <sup>68</sup> Ibid.
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