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Nuclear Doctrine: Ramifications for South Asia

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ABSTRACT

The strategic culture of South Asia is characterized by the hostility between India and Pakistan. Conventional arms' race, wars, growing insecurity and ultimately nuclearization of the region is the consequence of this continual enmity. To match this threatening environment both Pakistan and India has opted nuclear arms. After the nuclear explosions of 1998 the world started to talk about the nuclear doctrine for the region. This present study is an effort to understand doctrine, nuclear doctrine and it's ramifications for South Asia. It will be analyzed whether these doctrines fulfill the required qualities and what implication they do have on both countries in general and the region in particular. It is essential to analyze them as the changing global scenario demands for the clear picture of the nuclear posture of both paramount states of the South Asian region. This region casts its impact not only on the residing actors but the neighboring region as well. The research concludes that the re-establishment of constant dialogue and diplomatic efforts are more beneficial for the region to counter the threat and insecurity.

KEY WORDS: Nuclear Doctrine, Nuclear Deterrence, Command and Control, Nuclear Posture, Strategic Culture.

Introduction

The strategic culture of South Asia is characterized by the hostility between India and Pakistan. This enmity and hostility has further ramifications. Conventional arms race, wars, growing insecurity and ultimately nuclearization of the region is the consequence of this continual enmity. In order to understand the real standing of both states on issue of nuclearization, it is important to understand the nuclear doctrine of both sides and to analyze the implication of these doctrines on the total security of South Asian region.

What is a Doctrine?

Theoretically doctrine means a rule or principle that forms the basis of a theory or policy. In other words doctrine is the set of principles or rules governing the employment of a capability. There is a passive use of this concept in political, military and strategic aspects. Political and ideological doctrines encompass practice and promulgation of a political philosophy. When the word doctrine is implemented in military matters it stands for the environment within which armed forces operate. This word also extends to prescribe the methods and circumstances within which army should be employed (Viotti, 1999; 190).

What is a Nuclear Doctrine?

Nuclear doctrines of the contemporary world are different from the rest of the classical doctrines. The post world war II scenario has contributed in this regard. Post world war scenario has brought forward the configuration of strategic power shaped by ideological political and military dynamics of the cold war. The advancement in military technology has deeply influenced the formulation, substance and operational aspects of the strategic doctrines (Viotti, 1999; 191). It is advancement of conventional and nuclear technology which has brought forward the notion of mutually assured destruction (MAD). This addition has shifted the idea of cold war to the concept of détente. Nuclear weapons have changed the idea of war fighting with the concept of deterrence. Now the focus of armed forces is not winning the war but to pose a strong and effective deterrence. The central doctrinal issue of the nuclear weapon states is to pose threat and maintain deterrence (Buteux, 1983; 214-245).

When the nuclear doctrine is talked about, it stands for the strategy of deployment, employment of nuclear forces and posing threats in response of the crisis situation that a country's leadership faces at the hand of opponent. The basic purpose of a nuclear doctrine is the provision of conceptual, institutional and infra structural mechanism for the development of nuclear weapons. The nuclear doctrines are mainly of two basic types; aggressive or offensive nuclear doctrine, non aggressive or defensive nuclear doctrine. A doctrine significantly differs from strategy. A strategy is the secret planning of the military operations. Strategy remains within the spheres of planning body while doctrine is quite different. A doctrine defines the pros and corns of a thing. It defines principles and policies about the development, deployment and employment of nuclear forces. A doctrine is a guideline for the policy makers and decision makers. The definition of a nuclear doctrine actually elaborates the qualities of a perfect doctrine. A complete doctrine must be able to provide guideline for the policy makers and direction for the arms forces for the deployment and employment of the nuclear forces (Freedman, 2003; 45-69).

While discussing Pakistan and India's nuclear doctrine it will be analyzed whether these doctrines fulfill the required qualities and what implication they do have on both countries in general and the region in particular. It is essential to analyze them as the changing global scenario demands for the clear picture of the nuclear posture of both paramount states of the South Asian region. This region casts its impact not only on the residing actors but the neighboring region as well.

Evolution of Indian Nuclear Doctrine

First Phase 1947- 1974 (China Dimension)

Indian nuclear doctrine is not an abrupt and circumstantial product; it has been evolved with the nuclear program and Indian frame of regional politics. Right from the time of Nehru era there have been a well settled security policy for India. There are doctrinal basis of Indian conventional military policies and conventional deterrent policies right from the beginning. As far as nuclear doctrine is concern, the atomic program was there since inception but there is a doctrinal vacuum until 1974. Till 1974 India had gone through several ups and downs and it has faced many significant successes and failures on strategic front. These successes and failures had obvious implications on the doctrinal side of the nuclear program (Cohen, 2000; 13-35).

Nehru had vision of a greater Indian status on regional and global scenario. Regarding nuclear issue he was in favor of disarmament but he totally refused any such attempt unilaterally. He spoke against the nuclear weapons but as a pragmatic political leader he was not in favor of such things. Along with this posture he had given clear directions to Dr. Homi Bhabha to lay down the technical basis of the India's nuclear weapons capability. There is a clear indication that there was an obvious vision of the development of the construction of the nuclear weapon in the brain of Indian political think tank. At the point about the future of nuclear capability of Indian side the leadership was mute and almost unaware.

As a matter of fact Indian army was not given the task to design nuclear doctrine till 1980s. There are several reasons behind it. At first place Indian nuclear program was not much advanced in 80s that required a nuclear doctrine. Secondly, Indian threat perception was not at that stage that required some doctrine. Lastly, Indian army was not asked to formulate a doctrine not because a doctrine was not required but also this delay was due to Indian military and strategic culture. Till late 70s and early 80s Indian nuclear program was not well acknowledged as it was in 1998, that was another reason of non formulation of nuclear doctrine.

Evolution of the Indian nuclear weapon program traces back to its inception. As it is discussed earlier India had mature nuclear thoughts in 50s. Sino- Indian conflict added a serious dimension in it. There were serious discussions on the

acquisition of nuclear capability on intellectual, official and professional level. In 1964 China had done its first atomic explosion. This incident induced a surge of tension throughout India. Dr. Bhabha openly expressed the possibility of the development of Indian nuclear weapon at the occasion of 12th Pugwash conference. He openly and vividly suggested 'recourse to nuclear weapons to redress the imbalance against the China's military dominance.' That was the stage when India was in need of a decade or more for the development of a nuclear weapon but Dr. Bhabha was of the view that it could be made possible in the span of one and a half year. Although it was a boasted and a lofty claim yet it showed the urgency on Indian side for the acquisition of nuclear weapon.

As compare to China India's nuclear program is predated. India had developed CIRUS and TRP, which offer the essential facilities of developing a nuclear weapon, before the Chinese atomic explosion in 1964. Incidents did not stop here. Next jolt was felt severely when Chine gave ultimatum to India during the Pak- India war of 1965. This incident actually refueled nuclear weapon debate in India. Indian Prime Minister Shastri sanctioned the work on SNEP (Subterranean Nuclear Explosion Project). This sanction was granted on the recommendation of Dr. Bhabha. Prime Minister Shastri and Dr. Bhabha were very much willing to develop nuclear weapon. They wanted to acquire same nuclear capability as a weapon test without openly going for bomb. The zeal and speed of this project was interrupted by the tragic deaths of Dr. Bhabha and Prime Minister Shastri. It was a big loss for the development of Indian nuclear program. Dr. Vikram Srarabhai was the next chairman of AEC. Dr. Sarabhai had different perspective on nuclear weapon issue with that of Dr. Bhabha. From 1966 till 1972 India maintained nuclear option. Till this time there was no expression of any nuclear doctrine on official and public level. There has been a policy regarding the nuclear program since inception but this policy was not combined with a nuclear doctrine. As a part of regional strategy Indian nuclear program kept on developing but without an obvious and well declared nuclear doctrine.

Second Phase 1974 to date (Pakistan Dimension)

Till first atomic explosion from the Indian side there was no such declared nuclear doctrine. After this nuclear test although India declared its policy of not developing further weapons but actually India was keen to develop nuclear capable air craft delivery system. Such a system was essentially required for its nuclear weapons. This policy stands for the formative phase of future Indian nuclear doctrine. In the same year Indra Gandhi had to face public unrest and she declared unpopular emergency. Because of this emergency she lost elections in 1977. Murarji Desai had taken charge as a new Prime Minister. His administration had shown no zest for nuclear option as compare to the administration of Indra Gandhi. In 1980 Indra Gandhi came back as the Prime Minister of India.

The regional scenario had considerably changed in 1980. Pakistan was well on the route to nuclearization and Russian invasion in Afghanistan had provided a golden chance to Pakistan to develop its nuclear weapon program successfully and speedily.

India was not unaware of all these developments. India, in response, had used all possible measures to contain Pakistan's nuclear weapon program. India could not use the norms and framework of nonproliferation and regional arms control measures because in this case India itself had to face the reciprocal limitations and rules on the nuclear issue. On the other hand Pakistan was frontline state in the Soviet Afghan war. USA and China were assisting Pakistan on both economic and military fronts to make it more capable against Soviet challenge. It was during this time that India had given serious thoughts to prosecute a preventive war doctrine. This shows the height of Indian frustration regarding Pakistan's nuclear program. Such were the circumstances and events that kept on giving shape to the future Indian nuclear doctrine.

India, consequently adopted a preventive war/ pre- emption doctrine. Prevention means to attack the nuclear capabilities of an opponent before it acquires WMD. Pre- emption on the other hand, strands for the idea of attacking an opponent before the actual use of WMD by an adversary is visible and certain. Preventive measures are taken before the acquisition of WMD by an adversary and pre-emption is done when WMD are acquired by an adversary and their actual use is pre- eminent. The third term in relation with the nuclear weapon is decapitation. This option is taken for the complete destruction of adversary's nuclear capability including its nuclear infrastructure, command and control. Indian adoption of such a dangerous thinking is the vivid example of its frustration about Pakistan's nuclear program and its failure to contain and halt this program.

Throughout the decade of 80s India kept on threatening Pakistan of conventional preventive strikes. It was because India was well aware of its conventional military edge over Pakistan. In 1982 US shared this information with Pakistan that India was well in this position to carry such preventive strike. It was a peak time of Soviet Afghan war and Pakistan was fighting as the frontline state from US side. In such a scenario US deemed it important to equip Pakistan army with latest F-16 aircrafts. In response to the Indian threat General Zia ul Haq gave an ambiguous signal that in case of any preventive strike Pakistan will use all available means. Pakistan will even use F-16 aircrafts to strike Bombay nuclear facilities and air base. Hence the concept of preventive strike against Pakistan's nuclear sites was refuted by Indra Gandhi administration. It was clearly judged by the Indian military experts that any such attack could induce retaliatory action in Pakistan and ultimately it could be turn out as a full fledge war. Apart from US support to Pakistan, India was well aware that Kahuta was a well defended target. India had less chances of success in such an adventure. In this way 'the beguiling myth that launching a pre-emptive attack to destroy or seriously degrade the adversary's nuclear assets had finally been laid to rest.' Indian nuclear doctrinal

thinking was deeply affected by this crisis. Such hostile Indian thinking enhanced the perception of threat in Pakistan and the regional strategic scenario also became more intense.

With these realities India entered a new turn of its nuclear doctrinal thinking. Till this time it was an obvious fact the any kind of pre-emptive strike will earn no gain for India. In late 80s India went for Brasstack exercises, it was an open attempt to threaten and pressurize Pakistan. Ultimately there was direct dialogue between Prime Minister Rajive Gandhi and Muhammad Khan Junejo. This crisis averted the crisis situation. Brasstacks was the last incident when India faced only conventionally equipped Pakistan, afterwards it was nuclear armed Pakistan which entered in the Indian strategic calculation.

During 1990 crisis India employed heavy forces in Kashmir. There was a considerable armed deployment on the Rajisthan in the South. During this crisis it was nuclear factor on the side of Pakistan that put restraints on the Indian ambitions. This crisis also ended in fear of escalation of full-fledged war, nuclear deterrence and US mediation. All these incidents contributed in the development of future Indian nuclear doctrine. India activated NSC (National Security Council) and SGP (Strategic Policy Group) for the assessment and calculation of the volume of threat. This step was taken for the reshaping of the policy regarding the employment of nuclear weapon in case of threat situation. These steps show the significance stage of transformation of nuclear doctrine. In mid 80s Indian military doctrine was depending on conventional force but in 90s this doctrine shifted to a new dimension which was 'no first use of nuclear weapon.' There is no second thought regarding this fact that there has been a surge of intensity between India and Pakistan right from inception. This intense surge at every further stage made both sides to strengthen their deterrence. Till nuclear explosion from both sides it was termed by General Sunder Ji as 'non- weaponized' deterrence but after these explosions it became a purely weaponized deterrence.

Indian Nuclear Doctrine

The formulation of Indian nuclear doctrine initiated in April 1998. A task force was set and the report of that task force was followed by Cabinet Committee on Security, National Security Advisor and a National Security Advisory Board (NSAB). The preparation of Indian nuclear doctrine was now the task of NSAB. NSAB hurried its work on the draft after Kargil Crisis of 1999. On 17th August 1999 NSAB presented its report titled 'Draft Report of National Security Advisory Board.' This document was made public but it had yet to obtain the approval of government. It was made public in order to gather the public opinion regarding nuclear doctrine. Draft Nuclear Doctrine (DND) is a document that shed light on the nuclear thinking of India. It is worth explaining that such drafts are time bound declarations and there are chances of many changes in them with the passage of time.

India has made clear in the DND the rationale of keeping and developing nuclear weapons. The way this rationale is presented is quite self defeating. Besides explaining the 'gravest threat' to the sovereignty of India and danger to the humanity, India reserves the right of keeping nuclear weapons. There was absolutely no need of this wolf crying. The other important Indian stance is the rationale behind developing nuclear technology is the economic boost of the country. Again this claim is not absolutely true and the proof is Indian approach to acquire nuclear weapons and its failure to meet with the complete nuclear disarmament (Spector, 1992; 63-81). The DND also deals with the concept of 'Credible Minimum Deterrence'. There is no obvious estimation of Credible Minimum Deterrence. There are several ambiguities regarding this concept and DND describes;

> "India's peacetime posture aims at convincing any potential aggressor that: (a) any threat of use of nuclear weapon against shall invoke measures to counter the threat: and (b) any attack on India and its armed forces shall result in punitive retaliation with nuclear weapons to inflict damage unacceptable to the aggressor" (Cheema, 2010).

Measures are not described in DND. It gives a wide range of options including pre- emptive strikes and other conventional means. There is declaration of Indian intention of 'no first use of nuclear weapon.' Historically India itself did not accept such declaration from China. As a matter of fact, such declarations have no credibility unless or until they are translated into a bilateral declaration.

Operationalisation of Nuclear Doctrine of India

In the Operationalisation of Indian nuclear doctrine there is significant diversion from DND of August 1999. Indian Cabinet Committee on Security reviewed this document on 4 January 2003. The principles set in DND were changed in the Operationalisation. The principle of no first use has been modified in favor of Indian needs and necessity. Originally this principle states that India reserves the right of using nuclear weapon in retaliation of the opponent attack. In Operationalisation this principle was modified in the way that if Indian forces were attacked on or outside Indian Territory, India reserved the right of nuclear attack. The aspect of Operationalisation of this principle leaves NFU rather ineffective when it clarifies that in case of major attack against India, India reserves the right of using all options including biological, chemical and nuclear weapons against the opponent (Chaudhuri, 2004; 275-280).

The DND describes 'deterrence' the purpose of Indian nuclear weapons. In the Operationalisation aspect it is not explained that how and what kind of retaliation India would show in case of any nuclear threat. DND also explains the

concept of credible minimum deterrence but the Operationalisation aspect does not include the development of triad of strategic nuclear forces. There are long-term objectives of these developments. Although India has put moratorium on the next nuclear explosions but while signing Indo-US Nuclear Agreement India has retained its right of conducting future nuclear tests. All these aspects of Operationalisation belie the original DND statements.

Another important clause of DND is regarding the survivalabilty of the nuclear forces. These weapons must be deployed in such way that could survive the first use of nuclear weapons. Article 5.4 of DND describes the link between survivalability of nuclear arsenal and C^4I^1 (command, control, communications, computing and information). Survivalability depends upon the size of nuclear forces. DND provides broad spectrum of development, deployment and employment of nuclear forces. In Operationalisation aspect, this doctrine allows India to have multiple redundant systems. Overall scenario prescribes unlimited space for the nuclear development for India which again belies its other claims of peaceful use of nuclear technology.

Nuclear Command and Control System in India

Command and control (C^2) is highly technical, intricate and complex phenomena. Bringing about coherence in the command and control of the nuclear arsenals is a big challenge for the national leadership. Command and control (C^2) present two basic objectives; they are assertive C^2 and delegative C^2. Keeping both objectives together presents a tough challenge to the national leaders. In order to keep up both objectives highly centralized systems are designed where the final decision regarding the use of nuclear weapons rest with the political authority. Assertive C^2 ensures the eradication of unauthorized use of nuclear weapons but technically it is difficult in the crisis situation when trained personnel is finally required to use these arsenals. From the point of view of delegative C^2, command and control is placed under the military commander. This system ensures a ready response capability but the danger of unauthorized use of nuclear arsenals looms large. As a matter of fact both objectives are required for an impressive command and control. National representation is significant for a rational decision regarding the use of these arsenals and technical personnel is required for actual Operationalisation of the nuclear arsenals.

Command and control of the nuclear arsenals is an important part of DND. There are several references in DND regarding this issue. Article 5.1 states;

> "Nuclear weapons shall be tightly controlled and released for the use at the highest political level. Te authority to release nuclear weapons for use resides in the person of Prime Minister of India, or the designated successor(s)" (Cheema, 2010; 353).

The final decision regarding the use of nuclear weapon rests with the Prime Minister of India. As far as the term successors are concerned, there is a debate on it but it is thought best to give this authority to the Prime Minister. It is a tradition in India that army is kept aside while formulating defence strategy and taking strategic and political decision. In the earliest phase of the formulation of command and control, it was thought appropriate that the nuclear arsenal will be kept under the command of Defence Research and Development Organization (DRDO). Nuclear arsenals were to be released only after the national representation was well convinced on all aspects (Sabherwal, 2004; 140-165).

As far as coherence of command and control of the nuclear arsenals is concerned, it is important to understand the role of NCA. India has spent a lot on C3I and it is intended to go for a long term planning regarding C4I2. NCA is the mouth piece of all these arrangements as it designated with the task to operationalize the Indian nuclear doctrine. NCA is consists of a political council, an executive council and a strategic force command. NCA is responsible for making decision regarding deployment of nuclear weapons. It is headed by Cabinet Committee on Security (CCS). Prime Minister of India is the head if CCS. This phenomenon fills up the requirement of national political leadership's presence in the release of nuclear arsenals. CCS further includes COSC, (Chief of Staff Committee), three service chiefs, heads of intelligence agencies and scientific committee on nuclear weapons (Sabherwal, 2004; 140-165).

The procedure is that National Security Council (NSC) is assisted by Strategic Policy Group (SPG) and National Security Advisory Board (NSAB). With assistance of these groups NSC describes national aim and objectives of nuclear security policy. Provision of integrated war plan (IWP) is also responsibility of NSC. There are other strategic groups that work under NCA. A Strategic Force Command (SFC) works under NCA, it is a tri service group which exercise military command and control on the nuclear forces. SFC works under direct control of Chief of Defence Staff (CDS). All these arrangement provide an organizational, intelligence and operationalsing coherence of command and control of nuclear arsenals (Sabherwal, 2004; 140-165).

Pakistan's Nuclear Doctrine

Pakistan acquired nuclear power in order to establish a strong deterrence against India. Initially Pakistan intended to stick with the concept of the Atom for Peace. With passage of time and occurrence of hostile acts from Indian side Pakistan had to change its vision. It was conventional victory of India over Pakistan when it lost its Eastern wing at the hands of India in 1971. When India conducted its first nuclear test in 1974, threat perception in Pakistan was on peak. Keeping in view Indian nefarious designs against Pakistan, the leadership of Pakistan resolved to

get nuclear weapon in order to get reliable deterrence against India. Infect the same vision is the basis of Pakistan's nuclear doctrine (Khalid, 2011; 128-136).

It is an established reality that nuclear weapon provides the nuclear state with an 'impregnable guarantee of its independence and physical integrity' (Smart, 1975). It is equally necessary that nuclear capability must be kept under a well devised doctrinal concept. India announced her nuclear doctrine in August, 1999 as 'offensive, and threatening regional and global stability.' (The News Rawalpindi, 1999 August 26) Defense Committee of Cabinet, held its session under former Prime Minister Nawaz Sharif in order to devise a policy regarding Pakistan's nuclear doctrine and strategic culture. Usually Pakistan's policies had remained India centric mostly because of hostile posture of the later. Pakistan's nuclear policy has also been India centric since 1974.Bhutto described Indian nuclear tests as 'fateful development, a threat to Pakistan's security' (The Pakistan Times, 1974 June 8). Pakistan has actually developed nuclear weapons program in order to acquire credible deterrence against India after East Pakistan debacle.

While devising nuclear deterrence Pakistan had two choices; one war denying deterrence and the other nuclear war fighting deterrence. Both choices had a different pattern of implications. War denying deterrence required minimum number of weapons while war fighting deterrence needed large number of nuclear arsenals, variety of delivery means and missile program. Pakistan's economy and strategic interests allow the presence of war denying deterrence (Fuller, 1977, p.1, Sayer, 1988, p.82, Hoyt, 2001, Matinuddin, 2002, p. 229).

For devising nuclear doctrine decisions were required to be taken about command and control of nuclear weapons, nuclear force structure, targeting, state of readiness, conditions on the use of nuclear technology, nuclear safety against nuclear attacks. Most of all, Pakistan has to devise its nuclear doctrine keeping in view the Indian nuclear doctrine. Pakistan developed nuclear power capability in order to deter India. Pakistan nuclear doctrine limits nuclear deterrent capability to the Indian aggression only (Lavoy, 2005. p. 230-55, Kapila, 1999, p. 123-30). Pakistan principally decided to adopt the option of 'Credible Minimum Deterrence' (The News, 1999 August 26).

This concept had remained central to all nuclear policy and planning of Pakistan.

Posture of Credible Minimum Deterrence

Posture of Credible Minimum Deterrence has remained a principle option of Pakistan's nuclear policy. Many Pakistani decision makers have referred to this policy at many occasions. This principle underlines an understood notion that Pakistan's nuclear policy is mainly India centric. Nuclear capability is required only to the extent that could ensure nuclear deterrence against Indian unscrupulous posture as the country had experienced in 1971 (The News, 1999 August 26).

Pakistan has maintained only that much nuclear force that would be enough to inflict unacceptable damage to India in case if the later intend to jeopardize the security of the former. During the crisis situation after overt nuclearization, Pakistan had clearly signaled India of nuclear deterrence and certainly this fact had contained India in Kargil crisis and military confrontation of 2002 (Chakma, 2009, p.127). Pakistan had refrained from the term of nuclear weapons in these confrontations instead the term of 'unconventional weapons' or 'unconventional war' is used by the authorities (The News, 2002 May 30).

CMD confirms Pakistan's disinterest in any kind of nuclear arms race in the region. In November, 1999 Pakistan's Foreign Minister Abdul Sattar stated while addressing in a conference, 'more is unnecessary while little is enough' (The Muslim, 1999 November 28). At the same time he made it clear that it is required to upgrade and update nuclear technology in order to maintain meaningful deterrence (The Dawn 1999 November 25). In 2003 General Pervaiz Musharraf also stated that number did not matter 'beyond a point.' He further stated that Pakistan has acquired sufficient deterrence to take care of her security (The Hindu 2003 Mach 7).

One thing is worth mentioning regarding description of CMD that Pakistan has never given up her right of first use of nuclear weapons. This was very important verification as Pakistan has no trust on Indian declaration regarding no first use of nuclear weapons. (The Dawn 1999 November 25) Pakistan has faced ordeal at the hands of India at several occasions respectively in 1987, 1990, and 1999 and in 2002-2003 military crisis. In the backdrop of this scenario Pakistan has found CMD a useful option due to her limited resources and financial restraints (Chakma, 2009, p.128). President Musharraf had elaborately stated that, 'Pakistan believe in maintaining a credible minimum deterrence and does not want to direct its available resources towards the race of weapons of mass destruction' (Dawn 1999 November 25).

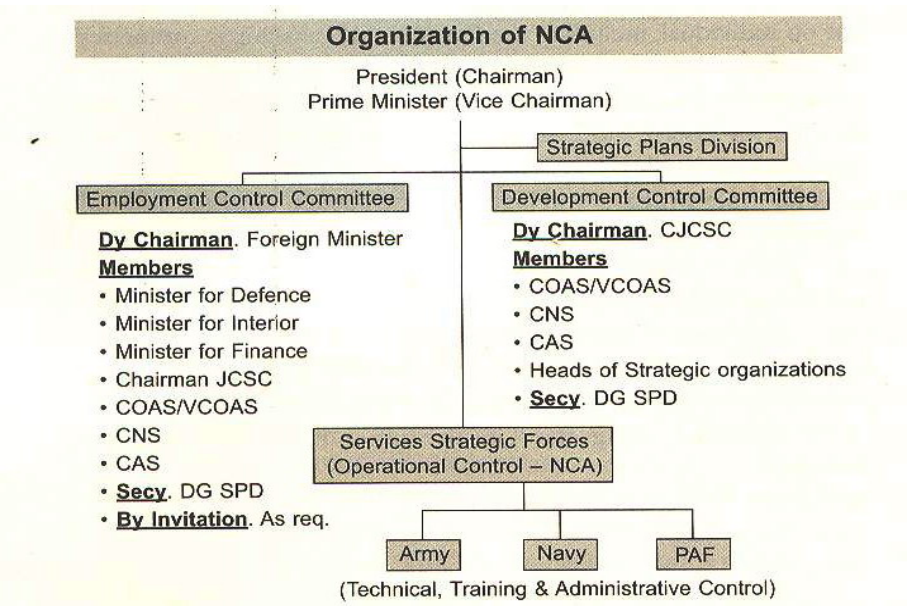
Command and Control of Nuclear Weapons

Command and control system of Pakistan's nuclear weapons is comprised of NCA (National Command Authority) and SPD (Strategic Plans Division) which work under the command of NCA. Hence, a compact and coherent system was developed for the command and control of the strategic assets. All components of the command and control system have well defined roles and responsibilities to perform.

NCA (National Command Authority)

After nuclear explosion Pakistan had devised a well conceived and elaborated system of C^3I. C^3I means Command Control Communication and Intelligence. This system remained informal till 1999. In February, 2000 a formal system of command and control was established by the Government. The purpose of NCA is development and deployment of the nuclear weapons. This organization is comprised of highest decision makers from politics and military leadership. This organization centrally controls all aspects of development and deployment matters of Pakistan's nuclear weapons (Ramdas, 2001).

Diagram 5.2: National Command Authority



Source: Pakistan's Ministry of Foreign Affairs, 13 November 2002, at: http://www.forisb.org/NCA.org).

NCA has two committees; ECC (Employment Control Committee) and DCC (Development Control Committee). Both the committees have their specific functions to perform. They separately work to formulate employment and development aspects of nuclear weapons. SPD (Strategic Plan Division) works under NCA. This organization deals with the planning work. It deals with C^4I^2 (Command, Control, Communication, Computerization, Intelligence, and Information) of nuclear weapons. It works as a secretariat of NCA. NCA is a coherent body with sound components that ensure due safety of nuclear assets of Pakistan (Khan, 2005, The Business Recorder 2007 December 14).

Employment Control Committee (ECC)

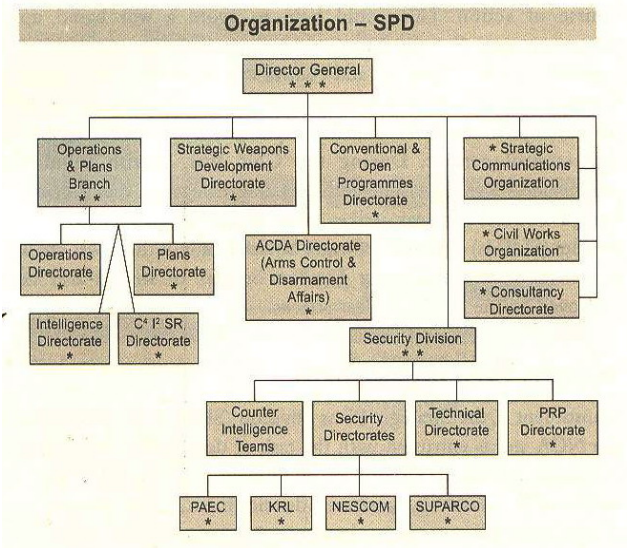
This committee is given the task of gathering latest information on threats to the national authority, strategic weapons program and deployment of weapons programs. It retains its authority in both peace and war time. In the time of peace this committee makes appropriate approvals for the development and in the time of war it has full authority to control and deploy the tri-services strategic forces. This committee contains both military and military leadership. This committee has eleven members. In case of requirement, professional experts may be invited. The President of Pakistan is the chairman of this committee while prime minister is the vice chairman and deputy chairman is the foreign minister of Pakistan. Its members include federal ministers of defense, finance and interior, the CJCSC, three service chiefs. DG SPD is as member secretary (Albright, 2001).

This set-up is devised in order to make sure the involvement of both political and military leadership in the process of vital decision making. In the process of identification of threats and formulation of contingencies, SPD assist the committee. SPD do preparatory work for ECC and it makes recommendations for the approval of NCA. As a matter of fact all professional expertise are provided by the SPD for NCA (National Command authority Established, 2007).

Development Control Committee (DCC)

It is a military-scientific committee. Main function of this committee is the preparation and up-gradation of nuclear capabilities in order to keep deterrent capability in a ready and robust form. This function is being performed since 1998. President of Pakistan is the chairman of this committee and prime minister is the vice chairman while the CJCSC is the deputy chairman of DCC. This committee has the same members as ECC. The only difference in this committee is the affiliation of atomic bureaucracy. Head of KRL, chairman PAEC and chairman of National Engineering and Scientific Commission (NESCOM) are the members of this committee (Bowen & Wolven, 1999). Main tasks of this committee include the formation of administrative policy about the development of nuclear weapons, missile system, related infra structure and technologies. Another important function of this committee is to determine the size of Pakistani deterrence. It is also responsible for the credibility and readiness of the nuclear arsenals (Ramusino & Martellinni, 2001, p.20, The Dawn 2003 January 7). The working of this committee has great significance as far as nuclear program of Pakistan is concerned.

Strategic Plan Division (SPD)



Source: Ministry of Foreign Affairs, 13 November 2002, at http://www.forsib.org.NCA.org

This is a very important organization which performs multiple tasks of great significance. It serves as secretariat of NCA. Its tasks include planning, development of weapons, arms control, disarmament affairs, command and control, storage, safety budget etc. It covers all dimensions of development and management of Pakistan's nuclear capability. It performs all tasks of great importance on the behalf of NCA. SPD is directly under the President, prime minister and CJCSC, while DG SPD is the head of this organization. Almost seventy officers from three services are included in SPD (Bowen & Wolven, 1999). They had wide range of structural and institutional functions to perform.

Specific Functions of SPD

SPD performs multiple tasks regarding nuclear capability. The specific tasks that it performs on the behalf of NCA are following;

i) Formulation of nuclear policy, strategy and doctrines.

ii) Formulation of long and short term force development strategy. This strategy is devised for all tri-services strategic forces. Power potential of the state and current arms control regime is taken under consideration while formulating these policies. Check on the proper implementation is also the responsibility of SPD.

iii) Formulation of plans for the movement, deployment and employment of strategic forces.

iv) Devising measures for the long and short term safety and security of the strategic assets.
v) To assist the president, prime minister and CJCSC in the exercise of control over strategic organizations. It also takes-up the duty of coordinating the financial, technical, developmental and administrative aspect of the strategic assets.
vi) Coordinating and ensuring C^4I^2SR (Command, Control, Communication, Computerization and Surveillance and Reconnaissance) system for NCA (The Business Recorder 2007 December 14).

Personnel and Transportation Security Measu.res

Pakistan has devised an elaborate personnel and transportation security mechanism. This is called PRP/HRP (The Personnel and Human Reliability Programs). These arrangements are made to counter the threat to nuclear arsenals in meaningful ways. The scrutiny of all personal involved in the safety, security and deployment of nuclear material is included in it. All the personnel involved in the nuclear security arrangements have to undergo rigorous screening program (Luongo & Salik, 2007, p.15-17, Khan, 2003). Their backgrounds are checked, their contacts and traveling and communication is kept under strict surveillance. Beside this there is an extensive procedure of psychological screening as well.

NCA with its two components and SPD ensure a durable and reliable nuclear security. Although the authority to allow the use of nuclear weapons is vested in the president and prime minister but the arms forces of Pakistan have a significance role in over all formation of Pakistan's nuclear strategy. This is a well coordinated and centralized command and control system which ensures the safety of Pakistan's nuclear assets. Along with nuclear assets, the life of each person involved in the nuclear security mechanism is completely monitored. This monitoring involves not only their selves but the families and relatives. This screening procedure is done after every two years. Lower level military staff involved in nuclear security is selected by the ISB (Inter-service Selection Bureau) and screened by professional psychiatrists (Khan, 2003).

Establishment of Pakistan Nuclear Regulatory Authority

PNRA was established in December, 2001. PNRA is basically responsible for the safety and security of the peaceful aspect of Pakistan's nuclear program. PNRA developed criteria and checklists for the maintenance of the highest standards of security measures for nuclear weapons. PNRA had taken great advantage and benefits from IAEA sponsored workshops and seminars on the issues like Designed Based Threat (DBT). PNRA invited IAEA experts to review its

activities. It has also shared its reports with IAEA in order to enhance the level of expertise in this field.

Responsibilities of PNRA are following;

- It oversees and ensures the safety and security of civilian nuclear facilities. This also includes nuclear power plants. NPRA shut down Chashma Nuclear Power Plant until the completion of required safety checks were carried out.
- NPRA issues licenses, registration, disposal and accounting of all radioactive resources that may have been imported for whatever purposes. This was the responsibility of DNSRP (Directorate of Nuclear Safety and Radiation Protection) before the establishment of NPRA.
- NPRA is responsible to issue regulations on the radiation protection.
- NPRA is an autonomous body. DG SPD is the member of NPRA. This linkage is maintained in order to ensure safety of nuclear material from all aspects.

A five year plan on National Nuclear Safety is also developed by NPRA which had undergone the necessary funding by the government. This program included the training of personnel involved in emergency rescues in case of the release of radiation. All these measures are taken in order to ensure a reliable security of nuclear and radioactive material in order to avoid unauthentic use (Luongo & Salik, 2007, Cheema, 2010, p.189).

Export Control Act 2004

Pakistan established export control law since 1950. Many additions have been made in these laws from time to time by the Ministry of Commerce. These additions were made through SROs (Statutory Regulatory Orders). Laws of export control had been augmented after 1998 nuclear explosions. After the establishment of National Command Authority, SPD issued guidelines for the internal export control for all strategic organizations. Still there was need of comprehensive and elaborated export control rules. An inter ministerial group was formed including representatives from the ministry of Commerce, Defense and Foreign Affairs along with the representatives of PAEC, SPD, and NPRA for the formation of comprehensive laws for the export control. It had taken four year in devising these laws of export control. In September, 2004 export control law was formally implemented. Following measures were kept in view in the implementation of this act;

1. Notification of National Control List. This list incorporated provisions of NSG, MTCR and Australia Group.
2. Establishment of SECDIV (Strategic Export Control Division). Creation of an Oversight Board at Foreign Office for the regulation of export licenses.
3. The main things it deals with are; goods, technologies, material and equipment related to the nuclear and biological weapons and their related delivery system, covers re-export, trans- shipments and transit of goods,

technologies, material and equipment; has a wide jurisdiction and includes Pakistanis visiting and working abroad (Haider, 2003, p.35, Khan, 2005).

In case of non compliance or violation of rules, severe penalties are stipulated which include imprisonment of up to fourteen years, confiscation of property and hefty fine. All these efforts are made in order to avoid any type proliferation activity. The entire set up of nuclear security is highly reliable. From technological point of view to the scrutiny of personnel there is a well established system to ensure the safety and security of the strategic assets of Pakistan. All these arrangements were in order to fulfill the responsibility of securing nuclear arsenals from the approach of irresponsible elements that can cause a big harm for their own myopic agendas.

Pakistan - India Nuclear Postures and its Implication on South Asia

South Asian region consists of SAARC members. Pakistan and India are the paramount states of the region. The entire politics of region revolves around these two states. After nuclearization the responsibility of both states has enhanced in the region. Both states have devised their nuclear doctrines. These doctrines established a reliable deterrence in the region. There are many significant steps that are emanated out of these doctrines.

Nuclear Doctrines and their Impact on Pakistan India Relations (1998- 2008)

In the first decade of nuclearization both states had experienced two major military confrontations; Kargil crisis, 1999 and Indian Military Stand off -2002. Both the crises had their own implications which had drifted both side to the negotiating table. In the same period of time India had even nurtured the plan of limited war titled as Cold Start Strategy. Although there was a considerable support available for this project but India could not materialize it due to several complexities.

Pakistan has always insisted on composite talks and Confidence Building Measures in order to resolve bilateral issues. It also includes the nuclear risk reduction measures. In the course of one decade efforts have been made to counter nuclear risk in South Asia. Pakistan and India had reached many agreements with regard to the confidence building measures (CBMs). These CBMs are mostly regarding nuclear weapons. First important development was agreement on the risk reduction measures (The News 2002January 1). It also included exchange of information regarding nuclear doctrine of both India and Pakistan. Second important CBM was regarding the development of understandings. And the third CBM was regarding strengthening already established hotline.

Strategic Restraint Regime

The resumed talks were held between India and Pakistan on 15th October, 1998. These talks included nuclear risk reduction measures along with other issues. Pakistan had proposed a comprehensive 'Strategic Restraint Regime' in South Asia. This restraint regime included measures not only for nuclear and missile restraint but also proposed measures for conventional balance in the region. The entire spectrum from development, testing and deployment was covered in the proposal (Jaspal, 2004, p. 24, Chaudhry, 2005, p. 45).

India, however, expressed her inability to discuss the suggestion until the proposal was fully analyzed and evaluated by the experts. India minutely discussed and analyzed the proposal and its reflection was seen in Lahore MOU. It was a significant step toward normalization after overt nuclearization. Nuclearization confirmed the presence of strong and credible deterrence in the region.

The Lahore Memorandum of Understanding (MOU)

In Lahore Memorandum of Understanding 8 points were discussed regarding a stable and sustained peace and security environment between two states in the region. These eight points included;

1. The procedure of bilateral talks on nuclear doctrine and security concepts. It was proposed to build CBMs in nuclear field in order to avoid conflicts.
2. It was proposed that both sides will provide each other with advance notification in respect of ballistic missile flight tests. A bilateral treaty was also proposed in this regard.
3. Both sides had put forward their commitment for the reduction of risks of the accidental and unauthorized use of nuclear weapons in their control. An appropriate mechanism of communication was also proposed in this regard.
4. MOUs also included that both sides shall continue to abide by their unilateral moratorium on conducting further nuclear test explosions, except in the situation when both sides regard it inevitable for the safeguard of their supreme national interests.
5. Both sides will continue bilateral consultations on security, disarmament and non-proliferation issues (Dixit, 2002, p.354, Lodhi, 2011, p. 321).

Both sides had continued to notify in advance regarding their ballistic missile test flights. In April, 1999 India had notified in to Pakistan in advance regarding the test of an advance version of its medium range ballistic missile 'Agni'. Same was done by Pakistan while testing the flight of its medium range ballistic missiles 'Ghauri' and 'Shaheen-I'. Pakistan notified India before all of her test flight of ballistic missiles in advance. India discontinued notifying Pakistan in advance after Kargil crisis (Davis, 2011, p.139). In early 2002, during ever largest Indian military stand off against Pakistan, India had notified Pakistan in advance before

test of its short range version of Agni missile. Since then both sides have continued to notify each other before their missile tests.

In March 2004 Pakistan tested Shaheen-II missile. It was Pakistan's first ever 'over the sea' missile test. Pakistan had not only given prior notification to India, it has also asked India to issue a NOTAM to the international maritime and civil aviation traffic since the intended impact point of the missile fell in the jurisdiction of Mumbai air traffic control. India complied with the request. It has become, since then a well established norm between two states (Naqvi, 2005). In August, 2005 pre-notification agreement was finalized during the expert level talks while formal agreement was signed by the two foreign ministers in October, 2005 (Akhlaq, 2005).

The other important agreement done in Lahore MOU was unilateral moratoria on nuclear testing. Both sides have since not conducted nuclear tests. Pakistan has proposed many a times to convert this unilateral moratorium into a bilateral moratorium as this would enhance credibility criteria of the commitments of both countries but India had never been willing to do this (The Dawn 2004 June 20, The News 2004 June 20, Salik, 1998).

On the matter of the reduction of risks of accidental and unauthorized use of nuclear weapons both sides have moved to establish elaborate and well coherent command and control structures. Pakistan has established a three tier command and control authority (NCA) in February, 2000 while India has announced the establishment of nuclear command authority in January, 2003. Indian command and control authority includes political committee, an executive committee and tri-service strategic force command (Jaspal, 2004, p. 67).

It is noticeable that if both counties are convinced about the utility of a particular risk reduction measure and confidence building measure, they come forward and abide by that thing with or without formal agreement.

DGMOs Hotline

DGMO hotline (Director General of Military Operation) is a communication link. It is an overland telephone line maintained by India and Pakistan. It has served as the most reliable link. This hotline suffered many technical faults. As it was an overland telephone link, there were frequent breakdowns and voice quality was also not sound. There were many political hurdles involved in the up gradation of this hotline (Cheema, 1993). This matter was discussed during the first round of expert level talks.

This hotline has served both sides positively. It was felt that availability of secure optic fibre or satellite links can make the voice quality and mode of communication even better. This hotline could also be supplemented with the Fax and computer based tele- type communication. All these requirements were discussed during the expert level talks and an agreement of shifting DGMOs

hotline to a fibre optic link in August, 2005. This hotline has been serving as an effective mod of communication between two states since then (Davis, 2011, p. 226, Khan, 2008, p.134).

Kashmir Talks

Kashmir has always been a major cause of contention between India and Pakistan. Since 1998 nuclear tests it has been globally recognized as the world's most serious nuclear flashpoint. The present magnitude of the conflict is a serious threat to the regional stability and security. Both India and Pakistan had two limited wars on the issue in 1948 and in 1999 (Kargil crisis). In 1965, there was an all out war between two states on this issue and a very serious military confrontation in 2002. After nuclearization both sides have given serious thoughts of 'deploying nuclear weapons' to deal with the conflict **(**Changappa, 2000, p. 243).

Since 1998, there have been many rounds of talks on the all standing issues including Kashmir. On 15th October, 1998 both states had resumed talks. India had laid stress on the Confidence Building Measures while Pakistan's point of discussion had remained the issue of Kashmir. Pakistan had laid stress on the reduction of army in IHK, UN involvement in the resolving the conflict and improvement of human rights conditions in Kashmir.

In February, 1999 Lahore Declaration was signed between two sides. This declaration included Kashmir among other issues of great importance. Lahore declaration included the clause of meaningful dialogue over Kashmir, respecting human rights and prevention of terrorism which India had taken up on the context of Pakistan's involvement in the IHK (Matinuddin, 2002, p. 219).

In September, 1999 BJP government had lost the vote of confidence in the Indian parliament and the Kargil crisis had derailed the peace process and Lahore Declaration was dead. In this period of time dialogue process was totally halted. Kargil episode had effectively convinced both sides to join the negotiation table in order to resolve all issues including Kashmir. Pakistan and India had re opened the stalled dialogue but the first round of talks had not been very successful (Matinuddin, 2002, p. 219, Singh, 2002).

Military confrontation of 2002 had again raised the concerns of regional and global community regarding Kashmir. India had planed limited war strategy as in the presence of nuclear weapons it was not possible for India to have some decisive victory against Pakistan without considerable damage. Cold Start strategy of India also aimed to dissuade Pakistan from supporting Pakistan, the Kashmiri freedom struggle. All these strategies had proven insufficient in the attainment of desired Indian goals (Pattanaik, 2008, p.392). Both sides had started the procedure of 'composite dialogue' in 2004 for the stabilization of relations between both states. Among other issues, settlement of Kashmir issue is given prominence. It is established that a viable resolution of Kashmir dispute can only eliminate the

traces of historical antagonism between two states. There is a dire need to resolve this issue. For a viable solution, bilateral talks are the only possible way.

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