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Nuclearization of South Asia: Impacts on Regional Peace and Security

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ABSTRACT

The India and Pakistan conflict has suffered for six decades, a series of wars and crises design its course. The rapidly growing Arms race among them poses a threat to regional stability in sense of Peace and security. Both states are entangled in a long-standing security competition, most commonly globally recognized as a dispute the Kashmir is the nuclear war flashpoint. There is a long timeline of armaments among both states since the partition. The security competition is an action-reaction spiral; this relationship is a classic example of a security dilemma, whereby one state's action causes insecurity to another. This security dilemma may lead to an Arms race among two rivals. New Delhi often justifies its military builds-up postures China-centric but this is creating a security dilemma among its neighboring countries especially in recent years Pakistan. This article intends to explain the phenomenon of the arms race between India and Pakistan and its regional implication as poses a threat to peace and security in South Asia.

Introduction

India and Pakistan are locked into rivalry since their independence from British rule in the sub-continent. India and Pakistan have fought several wars and still engaged in several conflicts. Both countries perceive threats from each other and have also pursued their security policy to attain the status of Asian Tiger or Regional power. These security perceptions start a new arms race in the region. Initially, a conventional arm race later turned into a nuclear arms race. Both countries are following each other and it is the action-reaction spiral. Here we look inside the conflicts since the partition. There is an unending history of conflicts between India and Pakistan. Both countries fought four wars due to these conflicts. The division bred a form of ethnocide politics that continues to find the fertile ground in socially

and politically shaken India-Pakistan today. In the cold-war era between USSR and United States, the relations between both states were not warm especially the eruption of the war on the Kashmir conflict in 1965 led to further soreness in relations. In 1971 war divided Pakistan and the newly established state was called Bangladesh, which also a threat alert for Pakistan to pursue its sovereignty by any means. By 1974, India declared itself Nuclear Power to exploded nuclear bombs under the umbrella of *"Atom for peace"*(Homi J. BhabhaRaja Ramanna, 2018).During the 1980'S a covert arms race begun between both states and caused the rise of further escalations. Twenty years back, concluded three weeks in May 1998, The India &Pakistan conducted a sequence of nuclear tests for weaponry system. These tests were conducted on 11 May and 13 May 1998 respectively by Indian side, one of them was declared to be a test of a two stage thermo-nuclear weapon. The Prime Minister India, Atal Bihari Vajpaye of the Hindu nationalist party Bhartiya Janata Party (BJP), which had arisen to influence solitary two months former, far ahead said "These tests were essential for ensuring a credible nuclear deterrent for India's national security in the foreseeable future" (Vajpayee, 1998).In Response, on 28th and 30thMayof 1998, Pakistan has conducted its first ever nuclear weapon tests explosions. Prime Minister Mian Muhammad Nawaz Sharif, who has assumed prime minister office in the year of 1997, said Pakistan "felt compelled to acquire a matching capability and that the tests were meant to establish nuclear deterrence and served the cause of peace and stability in our region"(Sharif, 1998). United States, European Union, and other states levied consents for resonant nuclear tests on India & Pakistan, plus limiting backing by international development financial institutions. These permissions were elevated rapidly. Early in 2000, the United States vary widely set sideways apprehensions near by the India's nuclear weapons to hold India as a new political and strategic partner, struggling to encompass the upsurge of the Chinese influence in the region. The United States retorted to the occurrences of 11thSeptember, 2001.By arranging its requirement for Pakistan's backing for the war in Afghanistan against Taliban faction over the anxieties regarding Pakistan's nuclear tests& the imposed martial law in October 1999, that ousted sitting prime minister Mian Muhammad Nawaz Sharif and took General Pervez Musharraf into the control. Consequently, the nuclear weapon tests originated nuclear-crises in the region. The both countries (India-Pakistan)were engaged to the war in the May and July 1999 subsequently Pakistan has deployed forces across the Line of Control (LoC) in the area of Kargilof India occupied Kashmir (IoK). The war finished with Pakistan sensed obligated to pulled-out his forces from the Kargil, while the international concerns about the probable increase the intensity of the fight towards a full-scale nuclear war. Before, the ensuing terrorist attack on Indian Parliament on 13th December 2001, there remained a foremost fourteen-month lengthy military-crisis during 2001-2002.Due to this a large-scale positioning of military resources along the both sides of the Indo-Pak border, which ran many to assume the nuclear war. Further, no military standoff as Spartan as these has arose subsequently formerly among the two neighboring countries regardless of proceedings that might in belief take commanded to boom in violence. Furthermost especially, India was self-possessed in its retort to the attacks in Mumbai during the 2008, which murdered nearly two hundred people by the

militants allegedly associated with the Lashkar-e-Taiba (LeT) group based in Pakistan.

The Crises in Nuclear Shadows

The Indo-Pak Crisis 1990

Three major crises were erupted after becoming India and Pakistan's nuclear powers and escalated further tensions among them and relations becomes more militarized. These tensions were emerged due to the Kashmir conflict. The crisis was named *"Brass tack operation"*, which was an Indian military exercise with codename "Brass tack operation" in 1986-1987. These military exercises were conducted near the Redcliff that was considered in Pakistan as an act of aggression. Objectives of these exercises intend to check the capabilities of the Indian army and their immediate deployment, but it has a political agenda too, it was planned to keep out Pakistan to support the insurgency in Indian Punjab to the Sikh community which demanded their separate homeland as named "Khalistan"(Aziz, 2015). Brass tack implies very strong impacts on Pakistan, it helps Pakistan to speed up its nuclear program. In 1987, Diplomatic efforts by the United States and other friendly countries played their role in defused further escalations. Moreover, both countries now engaged to buildup armaments rapidly which was not observed previously (Hagerty, 1995). One study of the 1987 "*Operation BRASS TACKS* "accomplishes that the operation was a confrontational exercise aimed at making it known that "the predictable competence of the Indian military is not counterbalanced by the nuclear capability of Pakistan.

The Kargil Conflict 1999

Kargil is the district of Ladakh in Indian Occupied Kashmir where from May-July 199, a war fought between India and Pakistan on the Himalayan front almost 10,000 above sea level (Lyon, 2008). The war erupted only after the month of peace talks were held in Lahore between both countries. From both sides every one discussed using nuclear capabilities, fortunately, nuclear weapons didn't use in this conflict. However, the war was fought after one year of Nuclear test explosions from both sides of the border. Many agreements were signed between both countries' border-related like the cease-fire line 1948&the Simla accord as well as the Line of Control (LoC) in 1972.due to external pressure, Pakistan withdrew from Kargil on the other hand America did not happy with the nuclear explosion of Pakistan, while Indian diplomats exploited conflict on possible diplomatic forums. These hurdles realized the top leadership of Pakistan to build up its arsenals rapidly. By this time, the nuclear tests of both countries strengthened deterrence by the declaration of conventional war. The balance of power in the region has also emerged.

The Crisis 2001-2002 (Operation Parakram)

In the military standoff in 2001, the Indian forces execute this operation under the codename of "Parakram", in which India is very close to striking the Pakistani military positions alongside the border. It was another war of act by the Indian side to mobilized its ground deployments close to the border area. United Nations and international community's also asked India to restraint. India rejected their advice and keep mobilizing its military strengthened alongside the border. In the last of December both nuclear powers deployed their ballistic missiles in fire position, Air restrictions was also applied in various part of air space (Ahmed, 2016). This is the most tragic time for the whole region when both nuclear powers stand on the edge of full-scale nuclear war. Although the conventional war on a small scale erupted in a different part of the border. Russia intervened and mediates to handle this conflict with peaceful means (Yusuf, 2018). Later in 2002, India starts demobilizing its military to abide by the new cease-fire agreement which was signed in one year later in 2003(Rid, 2018).

Pakistan's Nuclear Doctrine

In the meantime, Pakistan confirmed his nuclear device explosion in May-1998.It has not officially acknowledged any official statement on nuclear weapon usage policy. The important objective of Pakistan's nuclear doctrine is to daunt the Indian predictable alongside its nuclear antagonism(Salik, 2009). Behindhand, the Pakistan's nuclear program, the most important and common motives are the same as most threshold states adopted. There are four motives or arguments for exercising nuclear drive: Political Prestige, Security, Economic boosts up &domestic compulsions. Here, Pakistan's nuclear program India-centric as the rivalry maintained its status since the partition(Abdullah, 2018). Pakistan maintains its nuclear capabilities only in the wake of its sense of insecurity and threat perception posed by India due to the longstanding unsolved conflicts such as the Kashmir conflict. India's intentions are explained to the public as anti-Muslim or un-friendly due to the long history of rivalry as discussed above. This thought prevailed since independence. It is natural for Pakistan to look out better than alliances for its security concerns. Lieutenant General (R) Khalid Kidwai stated, "Notwithstanding the growing conventional asymmetries, the development and possession of sufficient numbers and varieties of nuclear weapons by both India and Pakistan have made war as an instrument of policy near redundant. The tried-and-tested concept of MAD has ensured that". According to this mindset, it is overbearing to coherent ways to reinforce prevention. Tughral Yamin elucidates preemption: "Pakistan's nuclear doctrine is built around the concept of deterrence. The Pakistani concept of deterrence is very elastic and can be stretched to the nth limit before the use of nuclear weapons is even contemplated. Pakistani political, military, scientific, and diplomatic leadership has hands-on experience in escalation control during the crucial phases of nuclear signaling. These skills are being constantly honed and fine-tuned through war games. Senior leadership is well versed in the fine art of escalation dominance. Deterrent stability during various contingencies has been thoroughly war-gamed to keep deterrence intact"(Tasleem, 2015).Pakistan's nuclear

policy suggested: 1st to prevent India from pledging violence against Pakistan and 2nd, to avoid India's win if the manifestation of war. Pakistan by its nuclear policy rationale, which remained deep-rooted in a naive considerate of an existing deterrence mainly reliant on an immense reprisal approach, has been progressively fluctuating towards a multipart deterrence doctrine with progressed retort options. This alteration, demonstrated by the continuing expansion and variations in weapons delivery systems, might necessitate a change from non-deployment to an advanced enthusiasm close and a conforming modification from federal to substitute command and control. These developments have vital inferences for permanency in the region. A keen expression at the crises that vented and were handled effectively among the nuclear powers, however, might bargain some understandings around the changing aspects of boom rheostat among India and Pakistan.

India's Nuclear Policy

In 1974, India conducted its first nuclear explosion (Ramanna, 2018). During the cold war era, china gained nuclear power in 1964, after these explosions India felt insecure and perceived threat from China. 20 years ago, India's Bhartiya Janata Party (BJP)led the administration of lawful nuclear weapons tests, coloring the explicit nuclearization of the subcontinent. Even as the government shortly chops from power, the *National Security Advisory Board* that had been selected as part of vitalizing the National Security Council structure sustained to agitate a nuclear doctrine. The subsequent paper to write up a nuclear policy printed in August 1999, noticeable a change in India's tactic to nuclear weapons from the dipped deterrence of the 1990s to *"credible minimum deterrence"*(National Security Advisory Board, 1999). This reliability was reproduced in its enunciation of guaranteed reprisal based on a troika competence. India's reason for the proprietorship of nuclear weapons is not vibrant. India is not so much visible to threat as that faced by Israel, which is alleged to obtaining nuclear competence and which also stays outside the NPT. Following nuclear doctrine draft:

1. No first use of nuclear arms.
2. Minimum Nuclear Deterrent.
3. Command and Control.
4. Survival.

The draft report of Indian nuclear doctrine has elucidated, that India shall chase a policy of reliable least nuclear deterrence as mentioned in para 2.3 of the draft. This policy of vengeance only stated in para 2.3 as well as the survival of India's nuclear cache is dangerous(National Security Advisory Board on Indian Nuclear Doctrine, 1999). Mr. Vajpayee guaranteed the public that the Indian nuclear competence would be self-protective in flora(Vajpayee, 1998). India has also stated that it will have not the possibility of the usage or danger of the use of nuclear arms in contradiction of countries, which do not own nuclear weapons or are not associated with nuclear power states. In addition, it decreases the operative battle

space of India's nuclear arsenals. The actualstra in in the draft is between least deterrence and extreme credibility. India may also need to postulate the size of its deterrence, a demand that the United States has often been raising.

Nuclear Nukes: India-Pakistan

Pakistan's Nuclear Arsenal

Pakistan is the 7th country in the world and 1st in Muslim countries with the competence to build and produce nuclear arms. Pakistan rapidly evolving missile arsenal forms an integral part of its defense strategy. To contain the threat from its rival India since independence. The Pakistani missile arsenal consists mainly of short-range & medium-range ballistic-missiles but Pakistan also doing its efforts to build up cruise missiles (ISPR, 2018). Pakistan also benefited from china to future development of sophisticated nuclear weapons (Thakur, 2019) & (Yaseen, et. al 2016). The risk of nuclear-war has been replaced as restraining from a large-scale war among the both countries particularly during the 2001 to 2002 border skirmish disaster

Figure: 1 Pakistan's Ballistic Missile Capabilities. Source (Center for strategic & international Studies, n.d.)

The Shaheen solid powered (MRBM) and Ghauri liquid powered (MRBM) sequences missiles are an integral part of Pakistani presently positioned missile arrangements. These missiles are proficient are striking most parts of India. Lately, Pakistan announced the successful launch of the cruise missile "*Babur*", with mobile fire abilities, &the cruise missile "*Ra'ad*", with air launch abilities. The anxious relations between Indo-Pak led to the superior propagation in the 90's &statistics recommend that Pakistan has up to one hundred nuclear warheads in its stock (Strategic Security Project, 2002). Pakistan taken steps towards and initiated to concrete plutonium missiles and enhanced their plutonium mining competences (Ahmed, 2018).Pakistan currently reported possessed 150-160 nuclear warheads.

Table 1
Ballistic Missile & Their Capabilities

Close-Range Ballistic Missiles (CRBMs)				
Model	**Propellant**	**Warhead Type**	**Deployment**	**Range (Km)**
Hatf-1	Solid	Unknown	RoadMobile	50
Hatf-9 "Nasr"	Solid	Conventional or Nuclear capable	RoadMobile	60
Hatf-2 "Abdali"	Solid	Conventional or High Explosive	RoadMobile	200
Short-Range Ballistic Missiles (SRBMs)				
Model	**Propellant**	**Warhead Type**	**Deployment**	**Range (Km)**
Ghaznavi	Solid	Conventional or Nuclear	Road Mobile	250
Shaheen I	Solid	Conventional or Nuclear	Road Mobile	750
Medium Range Ballistic Missiles (MRBMs)				
Model	**Propellant**	**Warhead Type**	**Deployment**	**Range (Km)**
Ghauri	Liquid	Conventional or Nuclear	Road Mobile	1,250
Shaheen II	Solid	Conventional or Nuclear	Road Mobile	2,000
Shaheen III	Solid	Conventional or Nuclear	Road Mobile	2,750
Ababeel	Solid	Conventional or Nuclear	Unknown	2,200
Land Attack Cruise Missile (LACMs)				

Model	**Launch Mode**	**Warhead Type**	**Range (Km)**
READ	Air	Conventional/Nuclear	350
Babur	Ground	Conventional/Nuclear	350

Source: (Missile Defense Advocacy Alliance, n.d.)

India's Nuclear Capabilities

India steadily in developing its nuclear arsenals and modernize them too. At least 5 new weaponry systems underdevelopments to enhance further nuclear capabilities as they maybe replace nuclear-launched airplane, land based delivery systems as well as sea-based systems. It is estimation that India possessed 130 to 140nuclear nukes. However, in the future, they might need further plutonium to yield warheads for missiles and India is allegedly constructing numerous new plutonium production sites.

Table2
Indian Nuclear Missile System & their range

Reference Names	**Type**	**Payload (kg)**	**Propulsion**	**Range category**	**Range (km)**	**Date of induction**
Project Devil	Surface to air missile	1st solid, 2nd liquid	Short-range	Research project terminated in 1980	DRDL	Based off the SA-2 Guideline (Soviet SAM), precursor for the Prithvi
Project Valiant	Surface to surface missile	Three-stage liquid	Intercontinental	Research project terminated in 1974	DRDL	Precursor for the Prithvi
Prithvi I (SS-150)	Surface to surface tactical missile	500 - 1000	1st solid, 2nd liquid	Short range	1994	DRDL, BDL
Prithvi II	Surface to surface	500 -	1st solid,	Short range	2003	DRDL, BDL

(SS-250)	tactical missile	1000	2nd liquid			
Prithvi III (SS-350), Dhanush	Sea-launched surface to surface tactical missile	250 - 1000	1st solid, 2nd liquid	Short range	2004	DRDL, BDL
Agni-TD	Surface to surface strategic missile	1000	1st solid, 2nd liquid	Medium range	1500	First test May 1989
Agni I	Surface to surface strategic missile	1000	Single-stage solid	Short range	700	2004
Agni II	Surface to surface strategic missile	1000	Two-stage solid	Medium range	2000 - 3000	1999
Agni III	Surface to surface strategic missile	1000	Two-stage solid	Intermediate range	3500 - 5000	2011
Agni IV, Agni II Prime	Surface to surface strategic missile	1000	Two-stage solid	Intermediate range	3000 - 4000	2014
Agni V	Surface to surface strategic missile	1000	Three-stage solid	Intercontinental	8000 - 1000	Undergoing pre induction user trials
Agni VI	Surface to surface strategic missile	1000	Three-stage/four-stage solid	Intercontinental	8000	Under development
K-15 Sagarika	Submarine-launched ballistic missile	500	Two-stage solid	Short range	750	Integrated with INS Arihant c. 2013
K-4	Submarine-launched ballistic missile	2500	Two-stage solid	Intermediate range	3500	Test fired March 2014
K-5	Submarine launched ballistic missile	Two-stage/three-stage	Intermediate range	Under development	ASL, RCI	
Shaurya, Shourya	Hypersonic surface to surface tactical missile	1000	Two-stage solid	Tactical	750 - 1900	Sep-11
Pralay	Surface to surface tactical missile	Unknown	Unknown	Under development	Unknown	Approved in March 2015
Prahaar	Surface to surface tactical missile	200	Single stage solid	Tactical	150 - 350	Test fired July 2011
Nirbhay	Subsonic cruise missile, land attack	1st solid, 2nd turbofan	Long range cruise	1000 - 1500	Latest trial (unsuccessful)December 2016	ADE, DRDL
BrahMos I Block I (PJ-10)	The supersonic cruise missile, anti ship	200	1st solid, 2nd ramjet	Short-range cruise	290	Dec-10
BrahMos I Block II	Supersonic cruise missile, land attack	200	1st solid, 2nd ramjet	Short range cruise	290	2010
BrahMos I Block III	Supersonic cruise missile, / mountain warfare	200	1st solid, 2nd ramjet	Short range cruise	290	Apr-16
BrahMos-S	The supersonic cruise missile, / submarine launch	200	1st solid, 2nd ramjet	Short-range cruise	290	First test fire March 2013
BrahMos-A	The supersonic cruise missile, air / Launch	300	1st solid, 2nd ramjet	Short-range cruise	290	Test fire March 2017
BrahMos-NG, / BrahMos-M	Supersonic cruise missile	200	1st solid, 2nd ramjet	Short range cruise	290	BAPL, DRDL
BrahMos-ER	Supersonic cruise missile	200	1st solid, 2nd ramjet	Medium range / Cruise	450 - 600	First test March 2017
BrahMos-II (K)	Hypersonic cruise missile	1st solid, 2nd scramjet	Unknown	Under development	BAPL, DRDL	

LRCM	Supersonic cruise missile	1st solid, 2nd turbofan, 3rd Ramjet	Long range cruise	1000	Under development	ADE, DRDL
Akash MRSAM	Surface to air missile	60	Ramjet	Medium range SAM	25	Indian Army: May 2015
Barak-8 LRSAM	Surface to air missile	60	Two-stage pulse rocket	Long range SAM	70 - 90	Jul-16
Barak-8ER	Surface to air missile	60	Two-stage pulse rocket	Beyond visual range SAm	180	Under development
Maitri SRSAM/QRSAM	Surface to air missile	Unknown	Short range SAM	15 - 30	Under development	DRDL, MBDA (European)
SFDR, Akash-II	Hypersonic surface to air missile	Ramjet	Unknown	Under development	Unknown	Solid Fuel Ducted Ramjet[1]
Prithvi Air Defence (PAD), Praduyumma	Exo-atmospheric interceptor	1st solid, 2nd liquid	Exo-atmospheric	50 - 80	First test November 2008	ASL, RCI, HEMRL
Prithvi Defence Vehicle (PDV)	Exo-atmospheric interceptor	Two-stage solid	Exo-atmospheric	First test April 2014	ASL, RCI, HEMRL	
Advanced Air Defence (AAD), Ashwin	Endo-atmospheric interceptor	Single-stage solid	Endo-atmospheric	150 - 200	First test December 2007	ASL, RCI, HEMR

Source: (Project Alpha at the Centre for Science and Security Studies (CSSS), 2017)

India consistently expanding its nuclear arsenal as well as more infrastructures for becoming a more sophisticated nuclear power. India also preparing a draft to build six more reactors for enhancing its weapon-grade plutonium. Currently, India is also exploring for uranium and seeking future uranium enrichment capabilities and these facilities which contain unsafe gas centrifuge(kristensen, 2017).India has 4 kinds of land-based launching ballistic missiles, which status showing functioning. The short range Prithvi-II and Agni-I, while intermediate range Agni-III. The minimum two other long-range missiles are in developing phase. Prithvi-II ballistic weapon was very1st missile to be established through the Indian Unified Directed Missile Expansion Program for Indian's nuclear deterrence policy according to the government(Press Information Bureau., 2013). This missile can carry a nuclear as well as conventional warhead to a range of 250 km. the Indian nuclear authorities conducted three user trials in 2016 of this ballistic missile and further trials maybe conducted in series (Balasore, 2018).It is very likely, to be China's recently decided to modify of its ICBMs with MIRVs, and Pakistan declared same in the January 2017 test-fire of its Ababeel ICBM with MIRVs. India speciously has started the development of another ICBM, acknowledged as Agni VI. Endorsed data is not published yet in this regard, but an article was published on the government backed website in the December 2016,according to which demanded that the Agni-VI will be striking range of 8,000 to 10,000 km" and having capabilities including launching from Sea and Land(Ghosh, 2016).However, these prerogatives are precise still remains to be judged. India is also working on the development

ground launching cruise missile known as "Nirbhay" this missile having look like American Tomhawk or the Babur made by Pakistan as well and strength be envisioned for air or sea-based launched. Afterward the failed series of failed test fired, still it is not cleared that the status of its functionality publicly (Pandit, 2017). India also functions a ship based launching ballistic missile and trying to develop submarine launch ballistic missile as well. The ballistic missile which is ship-based is known as "Dhanush", having range of 400kmi.e.249miles with properties of liquidfuel with shortrange. This ballistic-missile specifically builds to fire from the posterior of two particularly constructed "Sukanya" class watch vessels" Subhadra & Suvarna" each of them can transmit two missiles. The ballistic missile "Dhanush" is a ship based modified of the Prithvi II SRBMs.

Figure: 2 India's Ballistic Missile Capabilities. Source (Center for strategic & international Studies, n.d.)

The Implications of Nuclear Arms Race in South Asia

Regional instability and Insecurity

The south Asian security environment is predicted by India-Pakistan relations. The growing military up gradation create a serious security dilemma in this regard. The conflicts among both states especially Kashmir dispute is a nuclear flash point among them. The *"defacto"* south Asian nuclear capable states are facing a lot of political problems. the conflict vulnerable south Asian region is much worsening after its nuclearization between India and Pakistan. This competition may escalate the tensions among both countries and may implicates on the regional other states. The fear of Nuclear competition triggerednon-nuclear states in south Asia and south east Asia feels insecurity which may lead to another era of nuclear development or nuclear proliferation in the region. The sense of insecurity also touches the shores of already instable states and they would also legitimately be concerned about their security and their economic development in consequently. The imbalance in security proportion may pose a serious threat to the regional stability and security as well(Dr. Farhat Konain Shujahi, 2018).

Economy

The introduction of nuclear arms by India Pakistan in south Asian region that bring further insecurity than continually before. However, what the missiles are fictional to do, and they can't discourse the security concerns of a normal south Asian nor they can benefit the cause of regional permanency, cooperation and development as well. Nuclear arms race enhances the military expenditures by the mean of diversion of resources, which would weaken the economy of both countries and hurdle to pursue economic development. There is much need of finance to meet the maintenance and safety of their nuclear arsenals, unfortunately south Asian region comprises low economy. During 2018, Indian government allocated $58 billion or 2.1 % of its total GDP to support its defense expenditures conferring to the institute for strategic studies(Al-Jazeera, 2019). While the above-mentioned budget is officially allocated and maybe further budget also allocated in special circumstances. These expenditures directly incurred from the means of public interest. In 2018, Pakistan $11 billion about 3.6% of its total GDP allocated for defense expenses(SIPRI , 2019). Therefore, both sides need to divert their resources for the better and improved lifestyle of their general public instead further expending for their nuclear arms race in the region. The 37% poorest who lived below the poverty line are residing there with non-favorable living conditions (World Bank, 2019). The infrastructure not much good for sustainable society.

Nuclear Proliferation

In recent, professionals analyze thoroughly two foremost characteristics of south Asian nuclear problem. First, the nuclear modernizations in South Asia endures with progress of more sophisticated warheads and dependable transport systems with qualitative and quantitative fissile material. The US-India nuclear deal is renewed the threat of nuclear proliferation in south Asia. The Nuclear proliferation treaty (NPT) was signed in Cold war era in order to manage the growing threat of nuclearization or nuclear weapons as military doctrine. The notable point here is that, Pakistan and India despite possessing the nuclear weapons did not engaged the NPT & Comprehensive test ban treaty (CTBT), however both states are de facto nuclear powers. The south Asian region is most complex in nature of conflict as the political unrest in Afghanistan adjacent with Pakistan and Indian involvement in Afghanistan may pose a serious threat to the military build-ups inside or outside the country from non-state actors. In these circumstances the risk of nuclear proliferation is also notable while Iran is in try to build its nuclear arms allegedly. Pakistan's stance was quite straightforward offering to sign the NPT if the India did the same, however, India looked upon the NPT regime as discriminatory and it is considered as nuclear "apartheid" (Huque, 2018). The international Atomic Energy Agency (IAEA) was established in 1957 to regularize the nuclearization or build safeguards the international norms in order to minimized the risk of proliferation, but unfortunately it has not legal grounds to adopt its policy. In this regards India did not allow IAEA to inspect their nuclear build ups, which is serious concerns for the regional stability and for balance of

power in south Asia. The Fissile Material Cut-off Treaty (FMCT) was also in negotiated regarding Nuclear disarmament. In 2008, Pakistan has written the letter to the president of Conference of Disarmament (CD) detailed its position on FMCT. In Pakistan's view India possess a large cache of Fissile material and it wants a brief and verifiable treaty that should address past, present and future. These reservations blocked the negotiations for several years (FOLEY, 2013).

Regional Integration

South Asian region comprises developing countries among them Pakistan & India are nuclear armed and growing faster as never seen before. The growing arms race in south Asia will leads to poorer nations towards block system in south Asia as well. The South Asian Association for regional organization (SAARC) was established to promote regional cooperation or integration (SAARC, 2016). The antagonism makes SAARC seemingly not much efficient in adherence to its due obligations mentioned in its charter. The organization is the only factor of cooperation among member states to promote better sense of understanding and well-organized inter-state relations but the nuclear confrontation put it to behind. Afghanistan is a warn torn and political destabilize bordering with Pakistan is also impact factor towards covert activities launches inside Pakistan by non-state actors as proxies. These three nations stuck with soreness each other. The interstate trade also jeopardizes by existing conflicts such intra Kashmir trade between India and Pakistan. The scholars believe that, the more trade minimizes the risk of war among two or more than two rivals.

Conclusion

The growing nuclearization of south Asia may led to a full-scale nuclear war on existing conflicts between India and Pakistan. The perception of insecurity may pose a serious threat to the regional peace, now this time is the era of advanced nuclear weapons and the both states are in conflict with another. The Kashmir dispute is a longstanding issue is remained in the air which may be provide a trigger to the nuclear war. By the reducing arms race and build some parameters based on mutual trust may be helpful to avoid further escalations. Furthermore, by signing NPT and CTBT, Pakistan and India will definitely reduce their military expenditure and spent it to the welfare of their nations for future development of their upcoming generations as well as reduced the risk of Nuclear proliferation and the risk of full-scale war.

Recommendations

The bilateral diplomatic dealings and negotiations having the greater potential to reduce the future escalations. There are some steps or recommendations each country take them with full responsibility which could mitigate arms race. The recommendations as under.

- *Strategic force posture:* Both states can formally announce that if security conditions being compromised, its nuclear nukes will remain de-alerted. Their nuclear warheads should not place on their delivery vehicles. The strategic weapons shall remain operationally non deployed in stat. both countries shall provide a pre-test notification to the neighboring countries especially to Afghanistan, Iran & china.

- *Conventional Forces:* Both countries should formally announce that they will not engage in a conventional arms race and they will only acceptable ratio with compatible to their threat perceptions. They shall not pursuit hot start doctrine or cold start doctrine or limited war on their borders.

- *Low-Intensity Conflict:* India and Pakistan formally announce that the asymmetric strategies of using of non-combatants in any design or as a part of their security strategy. They should announce no proxy war will be conducted against each other and also pledge that they will not exercise such activities which cause destabilization in the region as well as inside their territories.

- *Pull back of their deployed forces:* India and Pakistan should pull back their deployed forces in conflict areas but maintain their control on border to control the border monitoring. They should create low-force zone to develop mutual trust for border patrolling.

References

Abdullah, S. (2018, December 13). *PAKISTAN'S FULL-SPECTRUM DETERRENCE: TRENDS AND TRAJECTORIES*. Retrieved July 9, 2019, from South Asian Voices: https://southasianvoices.org/pakistan-full-spectrum-deterrence-trends-trajectories/

Ahmed, M. (2016, June 30). *Pakistan's Tactical Nuclear Weapons and Their Impact on Stability*. Retrieved July 9, 2019, from Carnegie Endowment: https://carnegieendowment.org/2016/06/30/pakistan-s-tactical-nuclear-weapons-and-their-impact-on-stability-pub-63911

Ahmed, M. (2018, June 7). *Revisiting Pakistan's Nuclear Restraint*. Retrieved July 11, 2019, from Pakistan Politico: http://pakistanpolitico.com/revisiting-pakistans-nuclear-restraint/

Al-Jazeera. (2019, February 26). *India vs Pakistan: Military strength and arsenal*. Retrieved from Al-Jazeera: https://www.aljazeera.com/news/2019/02/india-pakistan-military-strength-arsenal-190226064227556.html

Aziz, S. (2015, July 12). *A leaf from history: The rise and fall of the Khalistan movement*. Retrieved July 8, 2019, from Dawn: https://www.dawn.com/news/1193181

Balasore. (2018, February 7). *India Successfully Test-fires Nuclear Capable Prithvi-II*. Retrieved from The Hindu: https://www.thehindu.com/news/national/india-successfully-test-fires-nuclear-capable-prithvi-ii/article22680087.ece

Center for strategic & international Studies. (n.d.). *Pakistan's Ballistic Missile*. Retrieved from Center for startegic & international Studies: https://www.csis.org/regions/asia/pakistan

CSIS Missile Defense Project. (2018, June 14). *Missiles of Pakistan*. Retrieved from Missile Threat, Center for Strategic and International Studies: https://missilethreat.csis.org/country/pakistan/

Dr. Farhat Konain Shujahi, A. S. (2018). Evaluating Challenges to Strategic Stability in South Asia. *Juornal of Political Studies*, issue 1. Retrieved from Pakistan Research Database.

FOLEY, K. R. (2013, February 11). *Fact Sheet on the Fissile Material Cutoff Treaty (FMCT)* . Retrieved from Arms Control Centre: https://armscontrolcenter.org/fact-sheet-on-the-fissile-material-cutoff-treaty-fmct/

Ghosh, D. (2016, December 27). *Successful Test launch of AGNI V*. Retrieved from Press Information Bureau, Government of India: http://pib.nic.in/newsite/printrelease.aspx?relid=155897

Hagerty, D. (1995). The 1990 Indo-Pakistani Crisis. In D. Hagerty, *Nuclear Deterrence in South Asia* (pp. 79-114).

Homi J. BhabhaRaja Ramanna. (2018, August 23). *Indian Nuclear Program*. Atomic Heritage Foundation: https://www.atomicheritage.org/history/indian-nuclear-program

Huque, M. (2018, February 11). The Danger of nuclear proliferation: perspectives on South Asia. *South Asia Journal*.

ISPR. (2018, March 29). *No PR-125/2018-ISPR*. https://www.ispr.gov.pk/press-release-detail.php?id=4660

kristensen, s. n. (2017). *Trends In World Nuclear Forces.* Sweden: SIPRI. https://www.sipri.org/sites/default/files/2017-06/fs_1707_wnf.pdf

Lyon, P. (2008). *Conflict between India and Pakistan.* California: ABC-CLIO, Inc. Retrieved July 5, 2019

Missile Defense Advocacy Alliance. (n.d.). *Pakistan Ballistic Missile Overview*. missile defense advocacy: https://missiledefenseadvocacy.org/missile-threat-and-proliferation/missile-proliferation/pakistan/

National Security Advisory Board. (1999). *Indian Nuclear Doctrine.* Delhi: National Security Advisory Board. https://fas.org/nuke/guide/india/doctrine/990817-indnucld.htm

National Security Advisory Board on Indian Nuclear Doctrine. (1999, August 17). *India's Draft Nuclear Doctrine*. Arms Control: https://www.armscontrol.org/act/1999_07-08/ffja99

Pandit, R. (2017, May 4). *Trial of Agni-II Ballistic Missile Fails*. Times of India: http://timesofindia.indiatimes.com/india/trial-of-agni-ii-ballistic-missile-fails-sources/articleshow/58519987.cms

Press Information Bureau. (2013, 10 8). *Prithvi Does it Again.* Press Information Bureau.: http://pib.nic.in/newsite/erelease.aspx?relid=99911

Project Alpha at the Centre for Science and Security Studies (CSSS). (2017). *India's Strategic Nuclear and Missiles.* London: King's College London. https://projectalpha.eu/wp-content/uploads/sites/21/2017/06/India-Alpha-in-Depth-Public-Release-final-1.pdf

Ramanna, H. J. (2018, August 23). *Indian Nuclear Program*. Atomic Heritage Foundation: https://www.atomicheritage.org/history/indian-nuclear-program

Rid, S. A. (2018, Feburary 8). *India and Pakistan: Formalizing the 2003 Ceasefire Agreement*. E-international Relations: https://www.e-ir.info/2018/02/08/india-and-pakistan-formalizing-the-2003-ceasefire-agreement/

SAARC. (2016). *Compilation of SAARC Charter/Conventions/Agreements (1985-2016)* . Khatmandu: SAARC Secretariat.

Salik, N. (2009). *The Genesis of South Asian Nuclear Deterrence: Pakistan's Perspective.* Karachi: Oxford University Press

Sharif, N. (1998, September 23). Statement by Pakistan in United Nation. New York, United States of America.

SIPRI . (2019). *Military Expenditure Database.* Solna: SIPRI .

Strategic Security Project. (2002, December 11). *Pakistan Nuclear Weapons*. Fedration of American Scientists: https://fas.org/nuke/guide/pakistan/nuke/

Tasleem, S. (2015, April 6). *Pakistan Pakistan's Nuclear Use Doctrine*, https://carnegieendowment.org/2016/06/30/pakistan-s-nuclear-use-doctrine-pub-63913

Thakur, M. (2019, May 7). *The Strategist*. aspistrategist: https://www.aspistrategist.org.au/chinas-role-in-the-india-pakistan-nuclear-equation/

Vajpayee, A. B. (1998, May 25). (P. Chawla., Interviewer)

Vajpayee, A. B. (1998, September 24). South Asia Nuclear Crisis - Special Feature. New York, New York, United States of America.

World Bank. (2019). *South Asia* . Washington, USA.: World Bank.

Yaseen, Z. Jathol, I. Muzaffar, M . (2016). Pakistan and India Relations: A Political Analysis of Conflicts and Regional Security in South Asia. *Global Political Review* ,I(I),1-9, doi:10.31703/gpr.2016(I-I).01

Yusuf, M. (2018, December 10). *How the India-Pakistan Conflict Leaves Great Powers Powerless*. Foreignpolicy: https://foreignpolicy.com/2018/12/10/954587-india-pakistan-mumbai-terror/