Post-Cold War Nuclear Weapons and Safety Culture in South Asia: Its impact on Security of Non-Nuclear Weapon States

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Abstract—*Although one of the desired expectations of ending the Cold- War was the total elimination of nuclear weapons, the threat of nuclear weapon menace still persists. Additionally the ending of the Cold- War has earmarked a new set of problems to the global security sphere and simultaneously has set a new status quo to States who are involved in nuclear related activism. In such an environment, the security threat emanating from the nuclear weapon States could be seen as twofold. One is the threat emerging from the nuclear weapons developed for security purposes and the other is the risk related to the usage of nuclear material for civilian purposes. In both circumstances maintaining the 'Safety Culture' of a State is carried out by State organizations. In South Asian case, the respective nuclear doctrines of India and Pakistan describe their Nuclearizaton as a deterring result of the deep seated enmity between two countries. But the civil nuclear programmes are defined and justified as a solution for the energy demands originating from massive markets. However the security of the region depends, up to a large extent, on the mechanics of nuclear deterrence of India and Pakistan. In any case, the possibility of non-adherence to the common mechanics of deterrence by these two states may result in a large scale security destabilization of the region. Against this backdrop, there are safety impacts, on the security of Non-Nuclear Weapon States (NNWS), in South Asia who are hardly involved in any nuclear related activism as a part of their grand strategy. This paper intends to bring out the adverse third party effect of the nuclear usage of nuclear powers in South Asia*

Keywords: Non-Nuclear Weapon States, Safety Culture, Security

I. INTRODUCTION

The dropping of nuclear bombs in Hiroshima and Nagasaki ended the Second World War and marked the beginning of a new age called 'Nuclear Age'. This so-called new age opened a new door of self-destruction to mankind. Since then, nuclear non-proliferation and disarmament have been officially recognized by the international community as critical goals of a State. The very first resolution on this issue was adopted by the United Nations General Assembly on 24th January 1946 before the international community. This resolution established the goal of eliminating nuclear weapons and other weapons of mass destruction from the world. Contrary to this - non-proliferation and disarmament agenda - Nuclear Weapons emerged as a powerful force in international politics after the Second World War. There, security policy makers of some powerful states placed nuclear weapons as a crucial element in deciding the strategic bearings of national, regional, and global security.

American president Barrack Obama in his famous 'Prague speech' stated that the existence of thousands of nuclear weapons is the most dangerous legacy of the Cold-War. He further stated that no nuclear war was fought between the United States and the Soviet Union, but generations lived with the fear that their world could be erased in a single flash of light. Cities like Prague that had existed for centuries would have ceased to exist. (Obama: 2005) He indicated in his speech that the prospect of universal death still prevails and the irresponsibility of our leaders and their rhetoric without meaningful action on disarmament has worsened the problem. This speech of Obama reflects the gravity of the arms race which took place between USA and USSR during the cold-war. One of the expectations of ending the Cold -War was stopping the arms race and total elimination of nuclear weapons. Despite the ending of the cold war, we are alarmed see that the threat of nuclear weapons still persists.

However the end of Cold-War has earmarked on a new set of problems to the global security environment. They were created due to the new status quo acquired by Nuclear Weapons States in the international system. This paper is focused at

the impact of the strategic behaviour of nuclear weapon States on third party states i.e. Non Nuclear Weapon States (NNWS). This security threat could be seen as twofold. One is the threat related to the possession of 'Nuclear Weapons' by states and this issue is more discussed in geopolitics and proliferation studies. The other is the irresponsible usage of nuclear material by the states, which is more related to the Economic strategy of a state. The author intends to show the security nexus of the two strategic environments which have an impact on security of NNWS.

The dilemma between nuclear stability and instability of a NNWS is clearly visible in South Asia. The 'Safety Culture' of a nuclear weapon State plays an important role in establishing regional security. The term 'safety culture' emphasizes both ideological and managerial aspects of State organizations and individuals regarding nuclear material usage. (INSAG: 1999). Security of the States, that are not using nuclear substance to pursue their grand strategy, may also have to compromise their security according to strategic interests of nuclear weapon States. This may be due to the transnational impact of nuclear usage. On the other hand, NNWS may also get the advantage of strengthening their security due to the existence of nuclear weapon States. Therefore it is timely to study how the behaviour of Nuclear Weapons states and their Safety Culture affects the Security of Non-Nuclear Weapons States (NNWS) in South Asia.

South Asia is one of the most focussed geographic areas with regard to contemporary global security. People and political entities of South Asia possess distinguishing characteristics that reflect their security perceptions. Political and economic instability inherited by long years of colonialism, along with the possession of nuclear weapons have threatened South Asia's regional security to a greater extent. South Asia is also regarded as one of the densely populated geographical areas, which is prone to violent conflicts. Some countries of South Asia are considered as fertile grounds for the most ruthless terrorist organizations, and most of these dangerous activities are capable of overshadowing the nuclear weapon programmes in the region.

Possession of nuclear weapons by India and Pakistan has always been a grave danger since it is obvious that conflict between India-Pakistan seems never ending. Indo - Pakistan rivalry has turned out to be a mini cold –war and developed in to a nuclear arms race in South Asia. On the other hand India or Pakistan doesn't find a conducive international legal environment that supports their security ambitions. Their prevailing treaties like Nuclear Non Proliferation Treaty (NPT) does not allow India or Pakistan to become fully fledged nuclear States. But it recognises a few powerful States as nuclear weapon States which India and Pakistan see as unequal. Therefore both countries chose their own way to nuclearize in order to establish national security. According to security experts of the two states, this situation paved the way to both countries to justify their own nuclear path . This situation developed into many problems of properly managing their programmes. At present stealing and illegal transporting of nuclear material and transferring of nuclear knowledge have hampered the security of the South Asian region.

The security of NNWS could possibly get affected by inefficient management of nuclear programmes in the region. The notable fact is that the policy makers of NNWS ignore the threat emanating from such situations. The majority of views about the nuclear security are originating from academia representing the Nuclear Weapon States. Even though the impact of a nuclear threat is transnational, there is a lacuna in research done by the academic community of the Non-Nuclear Weapon States (NNWS) on this critical aspect.

In spite of all necessary precautions, serious nuclear accidents have been witnessed in advanced countries like the US, UK, Russia, Japan and Canada. There is a danger of nuclear power plants getting exploded. A nuclear power plant may not explode like a nuclear weapon but even a small reactor contains a huge amount of deadly materials. (Daily Times: 2013) In this backdrop, we can categorise the major security challenges faced by the NNWS as follows.

i. Lack of security assurance form Nuclear weapon States
ii. Nuclear Terrorism, Theft and Border Security
iii. Institutional failure .

A. Lack of Security assurance form Nuclear Weapon States

Nuclear optimism and pessimism are two concepts presented by nuclear security experts in order to theorize the nuclearization of States. Two renowned Scholars, Sumit Ganguly and Paul Kapur, presenting the respective theories have attempted to examine the psychology behind the ongoing nuclearization in South Asia. According to them, South Asia is a hotbed for world's most ruthless terrorist organizations. We can see that despite the state ambitions of becoming nuclear powers to establish security in South Asia, their allowing the asymmetric actors to utilize such nuclear facilities will drag security of the region towards a grave danger. (Kapur:2008)

Pakistan and India claim to each other that their nuclear weapon facilities are highly vulnerable to unauthorized agents who have strong linkages with extremists. Lashkar-e-Taeba (LET) chief, Hafiz Mohammad Saeed has quoted saying that his followers control two Pakistani nuclear warheads and they are ready at any moment to bring them down on the heads of Islam's enemies. (Mishra, 2004). It has also been accused by the two States to each other that some scientists have transferred the know-how to both State and non-state actors covertly. Their level of accusing each other has made security community of NNWS nervous.

At the initial discussions on Nuclear Non Proliferation Treaty (NPT), States highlighted that the 'security assurance to Non-Nuclear Weapon States by the Nuclear Weapon States is a key point that should be included in the treaty. At the multilateral Geneva disarmament conference, held prior to the NPT, non-Nuclear weapon States including powerful States like Germany, India and Brazil, requested a security assurance form Nuclear Weapon States. Their argument was that the NPT should primarily consist of balance of responsibilities and the obligations of the nuclear and Non-Nuclear States.

The security of the South Asian region depends to a large extent, on the mechanics of nuclear deterrence. Given the social conditions of the region, one may ask the question whether nuclearisation is the best policy option that the South Asian States could present to their people. Unlike in the Cold War environment, the affordability of weapons and construction cost of civil nuclear facilities against the development issues of South Asia leaves a question mark before us.

The Nuclear Threat Initiative (NTI) or Nuclear Materials Security Index was developed with the intension of a unique public baseline assessment of the status of nuclear materials security conditions around the world. It is a first-of-its-kind analysis because of its approach and scope. In terms of the technical stability of South Asian nuclear forces, NTI index shows that they are substantially lower than their former Cold War counterparts. Due to these reasons, the present South Asian nuclear culture and strategic behaviour of nuclear States are posing grave security threats towards non-nuclear States in the region.

In addition to the above facts, there is a glaring absence of legal measures of protection in case of South Asia. We can observe that security of the region is loosely knitted by the popular international treaty mechanisms of nuclear disarmament. The great powers have shown a lethargic attitude in pushing the Nuclear Weapon States in South Asia towards regulating their respective nuclear programmers as per the international norms. Indo- Pakistan non ratification to Nuclear Non Proliferation treaty (NPT) and Comprehensive Test Ban Treaty (CTBT) has created a feeling of insecurity among the neighbouring States. Instead India and Pakistan have signed their own confidence building measures (CBMs). The Confidence Building Measures hardly cover any security aspect for NNWS.

A threat of use of force by means of nuclear weapons is contrary to article 2 paragraph 4 of the UN charter. NNWS in South Asia are afforded security under the UN charter that provides UN security assurance for all the NNWS. The International Court of Justice (ICJ) advisory opinion in 1996 has addressed the issue of security assurance of the legality of the nuclear threat and use of nuclear weapon by States in an armed conflict. According to that, there is neither customary nor conventional international law that authorises the use of nuclear weapons.

The above provisions are not sufficient to please the security mindset of NNWS. Nuclear weapon free zones are making a considerable relief impact on security of NNWS in the world. But South Asia or

Indian Ocean are no such secure zones. The ongoing conflicts and exchange of arguments taken place between India and Pakistan have indicated that nuclear option is never an impossibility between two countries. In such a scenario, neither India nor Pakistan could give a nuclear security guarantee to NNWS in the region in this regard.

The safety factor of the civil nuclear energy facilities is another security concern in the region. These civil nuclear reactors have the capability to facilitate covert nuclear weapon programmes. India's nuclear energy programme goes back to 1944 and initially it was assisted by Canada. In the 1950s, the United States assisted India to develop nuclear energy under the *'Atoms for Peace'* program. They supported it by building a nuclear reactor for India and giving nuclear fuel. USA further facilitated Indian scientists to study at U.S. nuclear laboratories. (IAEA: 2014)

In 1968, India refused to sign the NPT, claiming it was unequal in nature. The inequality was based on the NPTs logic of only recognising the permanent members of the UN as nuclear weapon States. In this backdrop, India found solid grounds to justify her nuclear weapon ambitions to the world as a regional super power. In 1974 India tested its first nuclear weapon. As a result, the United States stopped her nuclear co-operation with India for twenty five years.

However, the end of the cold- war changed the world political dynamics and paved the way for United States to build a "strategic partnership" with India. This increased the bilateral co-operation between India and USA in the fields of spaceflight, satellite technology, and missile defence. In 2005 July, there was a joint statement released by President Bush and Indian Prime Minister Manmohan Singh on the India-US nuclear deal. The deal lifted the U.S. freeze on trade of nuclear related substance with India and it also facilitated the assistance to India's civilian nuclear energy program. According to the non-proliferation enthusiasts, this bi-lateral deal reverses a half a century of non-proliferation efforts of the entire international community. It also undermined attempts to prevent States like Iran and North Korea from acquiring nuclear weapons.

When we consider the view point of Pakistan, the US –India strategic nuclear deal looks a biased deal. The US pushing Pakistan to curtail the nuclear programme whilst supporting the Indians is a cruel logic looming before Pakistani security community. The Indo – US nuclear deal further fuelled nuclear arms race in South Asia. Some elites have looked at the US-India deal in optimism. The IAEA director-general Mohammed El-Baradei has strongly endorsed the deal, calling it as a pragmatic way to bring India into the non-proliferation community(Elbaradei:2006).

However this deal has raised the following issues for the security policymakers in the region.

i. Indo- US nuclear deal does not contain India to stop using nuclear material for weapon purposes

ii. The deal does not require India to limit its fissile material production. This is a bad example to other nuclear states.

iii. This kind of effort would involve dangerous usage of technology.

Pakistani nuclear safety culture is also undergoing a tough time at present. It also shows a serious lack of judgment by building nuclear reactors close to big cities. The newspaper "Daily Times" says that the government seems totally ignorant of the fact that situating reactors close to the centre of population sites is potentially hazardous because of radiation dangers. While the safety of nuclear power is under question in many countries, it should be of particular concern in Pakistan where nuclear safety culture is almost absent. (Daily Times: 2013) In this environment, if the safeties of the reactors are not guaranteed for the Pakistani populace, how could the Pakistanis offer a guarantee for the region.

In many instances India and Pakistan have accused each other on supporting and harbouring terrorists with international links. The threat of terrorists attacking to destroy a nuclear power plant is a possibility. Spent fuel storage facilities at nuclear power plants remain particularly vulnerable to attack or theft by insiders. Sabotage, terrorist attack or equipment failure could result in large scale radioactive release. Furthermore, natural disasters like floods and earthquakes have been occurring very frequently in Pakistan over the past few years. The country has very limited capacity to deal with any such disaster. (Daily Times: 2013) Pakistan's weapons deployment components are singularly under the control of Army and are stored quite

close to military bases. Under such circumstance, the possibility of any strike on nuclear facilities for both advertent and accidental reasons remains very high. (Mishra: 2004).

B. Threat of nuclear terrorism, Border Security, and Nuclear Theft

Managing their borders against the proliferation of nuclear material is a considerable security threat that is faced by the governments of NNWS. Security Council Resolution 1540 was adopted in April 2004 sponsored by the United States, was a non-proliferation initiative outlined by President George W. Bush. Bush proposed a Security Council resolution to criminalize the proliferation of weapons of mass destruction. (Datan: 2004) This was also aimed at, to enact strict export controls in consistent with international standards, and to secure any and all sensitive materials within their own borders. Along these lines, the resolution establishes an obligation on all states to implement and enforce national legislation that prevents WMD, related materials, and their means of delivery from falling into the hands of non-state actors. The gravest danger here is the possibility that the terrorist can obtain HEU (Highly Enriched Uranium) or plutonium for use in improvised nuclear device.

In a number of cases, the conventional arms brokers are also involved in the proliferation of WMD related technology. The alarming factor is that nuclear trading will no longer remain as a state monopoly. Therefore in the present day context, terrorist threats to NNWS are prominent in every domain of border management. Effective border management is a challenging task that NNWS including Sri Lankan government is facing today. There are many collaborative efforts that have taken place in border management. Immigration and customs, transportation, intelligence, police and security agencies are expected to effectively address the changing environment. Even transportation of nuclear usable material like heavy water to South Asian countries, falls in to the category of non -proliferation.

The U.S. mega port initiative in Sri Lanka could be identified as a healthy security development in this regard. The aim of the US backed Mega-port programme is to deploy radiation-detecting systems at the world's most important sea ports as a part of global effort to interdict illicit movements of nuclear materials without reducing the competitiveness of global trade. (Ports: 2014) The Port of Colombo was the first port in the Indian sub-continent region to take part in the Mega Port initiative of the National Nuclear Security Administration of the United States government. Even though Colombo and a few other ports in South Asia have this facility, the majority of Sub continental ports and other ports owned by NNWS, largely operate outside the hub ports for the transhipment of their cargo. Therefore we cannot ensure that these ports can address the issue of efficiently detecting the radioactive material. However this mega port initiative is not directly targeted at the Sri Lankan domestic security. But it is to manage the nuclear threat to the US before it reaches their own shores. Sri Lanka is getting its security shelter under this programme as a third party player.

Limited access to fissile material and international safeguards on nuclear facilities are two main barriers to nuclear proliferation and nuclear terrorism in the world today. However nuclear theft has also become a common threat in South Asia. It is evident that there are ample cases in our region of stolen weapon-usable fissile material which terrorists may interested in having access in future. In most of these incidents it is noted that material was stolen from a civil nuclear facility like a research reactor. It is also noted that the relevant authorities are sometimes trying to down play the gravity of the issues. This is may be due to the international pressure that could be mounted on the inefficiency of their respective safety culture. The final result of this issue is that the authorities are being not transparent to the public. (Mazari: 2005) Under these circumstances the threat of international terrorism has become ever more lethal.

Overall nuclear security of South Asian States is fundamentally compromised by political instability and government corruption. Even strong physical security systems can be undermined by corrupt or radicalized insiders with access to nuclear materials. (NTI index: 2012) According to the Nuclear Threat Initiative (NTI) index nearly a quarter of the countries with weapons-usable nuclear materials have scored poorly on the Societal factors category because of very high levels of corruption. (NTI index: 2012) Of those countries, several also fared poorly on political stability. The combination of these two factors significantly raises the risk of nuclear theft.

c. *Institutional Failures*

Nuclear disasters are transnational phenomena. The institutional failures in nuclear States could bring disaster to the entire region. These failures are the main cause of all past nuclear accidents, including the accident at Three Mile Island in the US and the disaster at Chernobyl.

The safe and ethical nuclear usage and best practices of the States are the most important security tools to face the natural disasters. Fukushima nuclear disaster shows that even the world's most secured nuclear facilities cannot be safeguarded against the natural disasters. Even though the Fukushima earthquake and the following tsunami triggered the nuclear leak, the key causes of the nuclear accident lie in the institutional failures of political influence and industry-led regulation of the country. According to reports it was a failure of human institutions to acknowledge real reactor risks, a failure to establish and enforce appropriate nuclear safety standards (Greenpeace: 2012).

NTI index is produced as a tool to measure the nuclear safety of countries. As it mission elaborates, the NTI Index is not a facility-by-facility review of "guns, guards, and gates" or an on-the- ground review of materials control and accounting practices. Since information about the security measures in place at specific nuclear facilities is understandably sensitive and should remain so the NTI Index assesses and scores only publicly available indicators of a state's nuclear materials security practices and conditions. (NTI Index: 2009) In case of south Asia the transparency and the public availability about the nuclear facilities and their details are very rare. Therefore a tool like NTI index when use obscure data, may be less accurate in South Asian case.

II. CONCLUSION

The nuclearization of the region had already commenced, with India conducting a nuclear test (at Pokhran in 1974) and Pakistan proceeding apace in acquiring a nuclear capability. (Khan: 2003) The balance of power in the South Asian region is depending on India and Pakistan relations who have chosen opposite paths in their politics. The confrontational path that they are to cross will possibly push to develop more nuclear forces in order to face the rivalry in future.

Strategic communities of India and Pakistan strongly believe that their countries are destined to become great States. In this backdrop minimising the nuclear threat by a co-operative security framework is a distant dream. Prevailing geopolitical conditions makes relations of NNWS with nuclear weapon States more distant. India's '*Look West*' policy has ignored the importance of the neighbouring States with regard to their regional stability. The biggest hurdle for NNWS is that to balance the relationship with their nuclear counterparts in the region. Even a slightest issue in politics could be exaggerated and overreacted since India and Pakistan show a kind of an over ambitiousness about their respective nuclear weapon programmes. Due to this reason, an unwanted pressure could be mounted on NNWS by the Nuclear Weapon States.

In a situation that the political communities of the weapon States support retaliation and mutually assured destruction, the security of NNWS in the neighbourhood is compromised. The nuclear danger of the region could be reduced only by the co-operative risk reduction measures including the participation of NNWS in the region. Even within a State to State level nuclear debate, the issues of minimizing the chances of a nuclear catastrophe and the chances of survival remain unsolved. In such a competitive security environment Nuclear Weapon states are hardly in a position to offer a security assurance to NNWS.

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