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JULY 2016

Compiled & Edited by:
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Strategic Vision Institute
Islamabad

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Strategic Vision Institute (SVI)

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Strategic Vision Institute (SVI)

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SVI Foresight

SVI Foresight is a monthly electronic journal. It has a multi-disciplinary perspective highlighting on the contemporary strategic and security studies. The Journal is envisioned to be a collection of policy-oriented articles written by its Research Associates, Visiting Faculty and professional experts. The objective is to provide the readership with a concise all-round and real-time policy oriented discourse on contemporary strategic regional and international developments, highlighting their relevance to Pakistan.

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Editor's Note

This electronic journal for the month of July particularly takes into account the current developments in the nuclear field. Readers can find interesting articles on one of the recent reports on the nuclear energy and how it is crucial for sustainable development. The nuclear non-proliferation and disarmament debates have received important considerations in the contemporary nuclear environment. This has resulted in a strategic paradigm shift in the global nuclear politics. However the states that are party to the nonproliferation efforts view such advancements in lieu of their threat perception. The efforts that took place to curb the spread of nuclear weapons have reinforced the impression that under the changing dynamics of global politics and regional/national security, challenges to nuclear non-proliferation are ineffectively addressed. At the same time the NPT review conferences, which take place every five years, have often failed to achieve consensus on a final document on different issues pertaining to non-proliferation. The world nuclear performance report 2016 by the World Nuclear Association has given an updated account on the nuclear energy for sustainable development while critically evaluating the recent industry highlights; the history of global nuclear industry has been recorded with missed outcomes. The analysis of the report included in this issue talks about certain discrepancies such as there are states which are violating norms and principles of non-proliferation (NPT and NSG's principles) that are not downgraded at all in the report and even their domestic laws were granted exceptional trade waiver in 2008. Ignoring such states, it criticizes China and Pakistan for their civil nuclear cooperation that is well under safeguards. Hence the report needs to take into account that this deal does not violate any international law, including that of the NSG. It is debated very convincingly in the article that the Sino-Pak deal was signed before China became a member of the NSG and as per international law; it is well within its legitimate right to honor the bilateral commitment predating participation in the NSG.

Another article looks at a very significant issue of Indo-US nuclear deal and highlights a rather less talked about "impractical" dimension of this pact. The debate also raises important question as to how could India, in the absence of full-scope safeguards, provide adequate assurance that U.S. nonviolent nuclear technology and uranium import from the other countries will not be sidetracked to nuclear weapons purpose, because apart from not being a signatory to the Nuclear Non-Proliferation Treaty (NPT), India's dual-function nuclear program (military and civilian) is greatly interwoven. At the same time India has opted to not fully disclose the suspected dual-use nature of some of its reactors.

Other topics touched upon in this issue deal with the internal security situation of Pakistan, The development on CPEC and how it is being viewed by the West. A very good and pertinent analysis on the Afghan President's allegation on Pakistan with regards to having inclination towards Taliban and its repercussions on the Afghan Peace process is also included in this volume. One can also find a unique commentary on the implications of the expansion of SCO and possible benefits for Pakistan.

It is hoped that the issue will help readers in staying updated with the current political environment and will find the analyses useful. The SVI Foresight team invites and highly encourages the contributions from the security and strategic community in form of opinion based short commentaries on contemporary political, security and strategic issues. Any suggestions for further improvement are welcome at our [contact address](#). Please see [here](#) the copy of SVI Foresight electronic journal. You can find us on [Face book](#) and can also access the SVI [website](#).

Syedah Sadia Kazmi
Senior Research Associate

Ghani's Obsession with the Blame Game and the Afghan Peace Process

S Sadia Kazmi

Afghan President Ashraf Ghani has once again resorted to using allegations against Pakistan regarding its commitment and honesty to the Afghan Peace Process. While accusing Pakistan for the apparent stalemate in the talks, President Ghani stressed that it was largely because Pakistan has adopted a discriminatory approach and is keeping a distinction of good and bad Taliban and showing leniency towards them. According to him, such a policy by Pakistani leadership is reflective of its half hearted pledge to making the peace process successful. While President Ghani may have his reasons, right or wrong, to doubt Pakistan, one can't help but wonder why Afghan leadership is so distrustful of Pakistan's effort. What can be done about it and why is it that whatever efforts Pakistan has been making, are not being acknowledged by the Afghan counterpart?

It's a fact that the Afghan Peace Process was set in motion and has recently gained momentum by the dedicated efforts of Pakistan. This has been duly appreciated by the US as well. There is no doubt that the peace in Afghanistan is closely linked to peace in Pakistan as whatever elements cause disruption to stability in Afghanistan have direct repercussions to the peace and stability in Pakistan. Doubting and distrusting Pakistan is not going to resolve the situation. No one can deny that Pakistan has its stakes in Afghanistan. The need to have a functional and progressing neighbor along its Western border is not only going to be of great benefit to Pakistan but will also add to the regional stability.

Despite all these factual arguments, Pakistan is directly blamed for any derelictions in the peace process. It is a general rule that in order for any negotiations or talks to evolve and culminate successfully, the beginning point is to have trust in the intentions of each other, to have faith that the stakeholders are truly committed to the objective. If this basic ingredient is missing, the succeeding efforts will not stand much chance. In the recent case scenario, the trust not only seems to be largely lacking but the situation has been made even worse by broadcasting the insecurities and suspicions at the international forum. Such political immaturity on part of Afghan leadership is not only alarming but also raises suspicions about the prospects of success for the future of peace process. There is no harm in voicing the grievances, but ideally they should be discussed and communicated bilaterally instead of trumpeting it out loud to the world. Here the intention of President Ghani clearly was to malign and tarnish Pakistan's image and to disregard all the previous efforts it so far has made for the peace process. This also shows that Afghan leadership does not want to give peace a chance, instead is more interested in delaying the process.

The Afghan leadership needs to keep in mind that while there already are enough sabotaging factors on a look out for the chance to derail the progress, such allegations and blame game will only serve as a force multiplier for the anti-peace elements. Hence it needs to end its obsession with blaming and suspecting Pakistan every now and then for its efforts. It's not just the RAW operating on the

Afghan soil, working against the interest of both Pakistan and Afghanistan but there are several local Afghan's who do not support any initiative taken by Pakistan. This is where Afghan government needs to first and foremost concentrate its efforts. Pakistan and its security forces cannot miraculously make the peace process successful or help Afghanistan unless the Afghan government itself tries to put its house in order first. Pakistan on its part has always been lauded by the US State Department for its support to the peace process. Pakistan continues to maintain its policy of "Afghan-led and Afghan-owned" peace process.

The need of the hour is to devise a trust building mechanism where such kind of statements should especially be avoided to be pronounced on the international platforms. Otherwise the recurring hurling of blames only emphasizes the fact that Afghanistan is itself more responsible for the hiccups in the peace process and for jeopardizing the future prospects of its success. Pakistani government should deal with such situations at two levels: First, it should come up with a good verbal response and emphatically refute these unfound allegations; secondly, it should take prudent diplomatic measures and highlight its constructive role and dedication to the peace process at the local and international level through all the mediums available. Pakistan needs to be more proactive without being defensive and reactionary to Afghan insecurities. Failing to do so will not only have adverse effect on the Afghan peace process but will also allow the country like Afghanistan to take disrespect Pakistan, which no country especially not a nuclear state deserves to be treated as.

If the anti-dialogue factors in Afghanistan are not dealt with properly, the sustainability and progress on the peace process cannot be guaranteed. The future of the peace in Afghanistan will remain bleak with adverse effect for Pakistan too. A strong political will is required on both sides of the border, more on Afghan side to let the trust be cultivated. Otherwise all the stakeholders could be in for a long haul without much hope for the efforts to materialize successfully.

<http://foreignpolicynews.org/2016/07/17/ghanis-obsession-blame-game-afghan-peace-process/>

SCO Expansion: Prospects for Pakistan

Saima Ali

Pakistan moved nearer last month to join a regional security and economic coalition led by China and Russia, a move seen to enhance the importance of the organization. Pakistan has become full member of Shanghai Cooperation Organization (SCO) after signing Memorandum of Obligations (MoOs) in SCO's Heads of State Summit at Tashkent.

Pakistan has been an observer at SCO since 2005. It has been a regular contributor in the meetings of SCO and was the first SCO observer to apply for full membership in 2010. The Shanghai Cooperation Organization (SCO) was created in June 2001, comprising China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan.

The recent approval of granting permanent membership has raised many hopes about the future of cooperation and tenacity of many persisting disputes and the critical issues which have been a bone of contention in the South Asian region.

Present era is the era of connectivity, so we can rightly interpret that SCO expansion is timely and Pakistan will be looking to play an important role in the region. Pakistan's insertion in the Shanghai Cooperation Organization (SCO) would be advantageous for the whole region. Pakistan's geostrategic location allows it to become a source for regional economic incorporation among the SCO member states.

The expansion would enable the organization to prevent extra-regional pressures. With Pakistan's eternal membership and enormous experience in the context, new measures and joint projects can also be taken for countering violent radicalism in the region.

Pakistan had attained excellent success in the internationally highly praised operation 'Zarb-e-Azb' and could share precious knowledge with the SCO member states. Pakistan's role and experience as a frontline state in combating terrorism and extremism, which can be an asset to the Regional Anti-Terrorist Structure (RATS) and the Regional Counter Terrorism Structure (RCTS).

With the addition of Pakistan, the collective efforts by member states to counter terrorism and violent extremism will attain an important ally, as we have been effectively countering this menace for over a decade now. The internationally lauded Operation Zarb-e-Azb, which has reclaimed our national space from terrorists, is a prime example of the successes achieved by Pakistan in this context.

Pakistan permanent membership will help SCO embrace the world and will act like a bridge. From last four decades, Pakistan has suffered the War on terrorism and SCO can play a significant role in erasing the misperceptions about our country surrounding whole the world. It has become obvious particularly in the outcome of the War on Terror, that this part of the globe once again finds itself left to

consider with the consequences of an imposed conflict, and to assemble the pieces of societies and structures that have been crushed by decades of conflict.

Economically, Pakistan will be the best medium between SCO countries and the South Asian region, providing the shortest possible trade routes between Central Asia and Iran on the one hand, and the Russian, Chinese and Indian markets on the other. And it will enhance trade itself by tying the region together with new energy corridors. No doubt that Pakistan's inclusion will inculcate new might into the organization.

The country's entry will open doors of opportunity for all SCO member states. It will boost the organization's appeal and influence within the international arena, and strengthen its future development, setting it on the path to become a leading regional cooperation organization.

Particularly after Pakistan and India's membership, if the SCO successfully managed its significant role in bridging relationship of the two nuclear rival neighbors then it would definitely be a sign of turning point to jot down a new history which will of course, encourage and attract many other states to come under the SCO umbrella.

Apart from the issue of SCO's role in the region's economic development and members' security issues, a particular emphasis is required for the result oriented efforts to resolve core issues like Kashmir, Siachen, Sir Creek etc on priority basis. Otherwise even after granting permanent membership to Pakistan and India, the outcome would be no more than a further divide in the Organization particularly by crafting the conception of organization within the organization where two sides would be supported by their respective supporting states.

For that matter, we all need to work for the betterment of the country and be proud of what we have achieved by being part of the SCO Forum. We must take the first collective step towards diminishing the distances and misunderstandings between us, and work towards the betterment and prosperity of entire region. It was a long wait but is worth it.

Thus the much-awaited expansion of SCO would provide great opportunities to Pakistan keeping in view its geo-political, geo-strategic and geo-economic features and engagements.

<http://www.voiceofjournalists.com/sco-expansion-prospects-for-pakistan/>

World Nuclear Performance Report

Beenish Altaf

The world nuclear performance report 2016 by the World Nuclear Association has given an updated account on the nuclear energy for sustainable development while critically evaluating the recent industry highlights; the history of global nuclear industry has been recorded with missed outcomes. This is a fact that the industry is mounting, albeit too gradual and leisurely, the number of reactors are increasing in Asia and especially in China. The number of reactors currently under construction is at one of the highest points of the past two decades but in the United States and Europe premature reactor retirements are outstripping the rate of capacity addition.

According to the report by the World Nuclear Association (WNA), there were 66 power reactors under construction across world last year, and another 158 planned. Of those being built, 24 were in mainland China. In what it promises will be an annual update of industry's progress, WNA presents a rosy picture of the future of industry, which it hopes will produce ever-increasing amounts of world's power. The number of reactors is increasing instead of reducing in number. The report recounts addition of reactor each year, particularly in 2016 report, an addition of 3 reactors is seen as compared to the 2015 report. It is acknowledged that in the start of 2015 there were 436 reactors around the world that were operable and by the end of year there were 439. Despite of the fact that seven units of reactor were given up from working, this increase in reactor numbers is seen even then. Since the last 25 years, a vast amount of increase is observed in the construction and implementation of nuclear power reactors industry. Additionally, the 10 new reactors that are in line, is a record breaker from the past 25 years. 2015 demonstrated improving new build performance all round. The existing global fleet generated roughly 10% of the world's electricity, making up around one-third of the world's low-carbon electricity supply. Currently, the industry provides 10% of the world's electricity, but its target is to supply 25% by 2050 – requiring a massive new build program. The plan is to open 10 new reactors a year until 2020, another 25 a year to 2030, and more than 30 a year until 2050. On the other hand, the situation facing the nuclear industry globally is challenging. The World Nuclear Association's vision for the future global electricity system consists of a diverse mix of low-carbon technologies – where renewable, nuclear and a greatly reduced level of fossil fuels (preferably with carbon capture and storage) work together in harmony to ensure a reliable, affordable and clean energy supply, by the report. Despite its optimism, the WNA admits that the situation globally for the industry is “challenging”, particularly in Europe and the US, where low electricity prices are making nuclear power uneconomic.

The brightest prospect is China, where nuclear power is shielded from market forces. Eight new reactors were connected to the grid in 2015, with many more scheduled for construction as part of China's bid to phase out coal and improve air quality. This mix must find the optimal balance between the need for human development and the protection of the natural environment. To achieve this, the role of nuclear energy must be expanded.

The key metrics launched in the report on the nuclear power plant performance and reviewing recent developments in the global nuclear industry includes: 1) More nuclear reactors are under construction and more reactors came on line last year than at any time in the last 25 years, 2) Nuclear reactor performance has improved steadily over last 35 years. Importantly, reactor performance is not fundamentally affected by reactor age; older plants operate as well as younger plants, 3) Construction times for new reactors have improved over last 15 years, with reactors coming on line in 2015 having an average construction time of around six years.

The cotemporary years have been some of the most challenging for global nuclear power plant fleet, but major new build programs, new technology developments, reactor restarts in Japan and strengthening public support means that the prospects for years ahead are brighter. Even though new build levels are at a 25 year high, rate of new grid connections will have to increase significantly to support global economic growth, alleviate energy poverty and provide enough clean energy to meet agreed climate change targets. The WNA considers that there should be 1000 GWe of new nuclear build by 2050, with nuclear generation supplying 25% of global electricity demand.

<http://pakobserver.net/2016/07/23/world-nuclear-performance-report/>

Energy Security: Development on CPEC vis-à-vis Western Angst

Shahzadi Tooba

As per its master plan after the further development Gwadar Port has potential to become one of the largest ports in the world and may increase its cargo handling capacity upto 300 million tons annually. The new development in this regard is Gwadar-Kashgar oil pipeline that would carry one million barrel per day (1MMBD) Middle Eastern oil to China. It will start in 2017. Side by side one can easily see the growing anxiety in the West regarding CPEC Project.

Recently, European Parliament Vice-President Ryszard Czarnecki has said Pakistan is violently crushing dissent and indulging in human rights violations of the Balochistan people as the 'China-Pakistan Economic and Defence Cooperation (CPEC)' project is being constructed against their will' in the US Congress on Thursday (7 July 2016), reports the Nation. He also highlighted that the failure of the international community to intervene and check atrocities by the Pakistan army in the areas proposed for the CPEC, would result in the escalation of human rights violations of innocent civilians in Pakistan.

The main concern of Mr. Czarnecki is human rights issue. Pakistan is anxiously waiting for his views on the human rights violations in Indian Held Kashmir (IHK). Nobody is allowed to make a justification of human rights issues to intervene in another state's matter; it should be tackled on non-discriminative bases.

Another concern was of the presence of Pak army there. In his remarks about the CPEC, Czarnecki highlighted the manner in which this project was being constructed against the will of the local population in Balochistan, leading to the heavy presence of Pakistani military and police apparatus in the area. In its reply, the major focus of the presence of Pak army is just to provide the safety to the Chinese engineers. Keeping in mind and ignoring this fact he further said that while the security deployment was apparently for the safety of the Chinese personnel and infrastructure, it had resulting in a situation where the human rights of the local population were being frequently violated.

Echoing similar sentiments, Paulo Casaca, Executive Director of Arc humankind, referred to the aggressive Chinese actions in the South China Sea, and lamented that while the US, along with its allies, was trying to maintain freedom of navigation in the area, Pakistan, the foremost beneficiary of US largesse over the years, was now supporting the Chinese regime. The hidden concerns are very apt, to tackle the China and gaining "asheerwad" of West's "player" in South Asia, It doesn't want to see Pakistan on its own.

In response to concerns of the grievances of local residents, Lt. General Amer Riaz who heads security operations in the province, stated that locals would not be deprived of benefits, and that local Gwadar residents would have "the first right to everything. Pakistan's Minister of Planning, National Reforms, and Development, Ahsan Iqbal, further stated in May 2016 that Gwadar residents would be regarded as "main stakeholders" in the city's master plan, and that fishermen specifically would also be accommodated by the plan.

Though rich in mineral resources, so far Balochistan's contribution to the economy of Pakistan has not been high. This has consequently affected its development. One of the major reasons of this was the geographical ruggedness of the terrain and poor population. For example, Turbat has only a population of 180,000 people and has the most difficult terrain of the western route in Balochistan. Pangjur, a district in the west of Balochistan, comprises three tehsils with a population of around 350,000. Now, with the construction of the western route of CPEC, property value has skyrocketed in these areas where roads have been built. Other cities like Qalat, Quetta and Zhob will also become more vibrant with the completion of planned road network which will give a boost to economic activities and other development projects under CPEC.

The China-Pakistan Economic Corridor (CPEC) will open up new avenues of opportunities for the people of Balochistan. With estimated 7.1 billion initial investments through CPEC, Balochistan ranks second in its share from \$ 46 billion according to the statistics of the Ministry of Planning, Development and Reform. Balochistan, in general, and Gwadar, in particular, is the linchpin of CPEC. The project will subsequently contribute to the development of the whole province and address various economic and social problems of Balochistan. It is envisioned that Gwadar would soon be transformed into an economic hub.

<http://foreignpolicynews.org/2016/07/24/energy-security-development-cpec-vis-vis-western-angst/>

Indian Defence System and Options for Pakistan

Maimuna Ashraf

The former US President Ronald Reagan, while deliberating upon the goal of defensive technologies stated “What if free people could live secure in the knowledge that their security did not rest upon the threat of instant U.S. retaliation to deter a Soviet attack, that we could intercept and destroy strategic ballistic missiles before they reached our own soil or that of our allies?” The statement indicated the steadfastness of defense system in order to ensure shelter however the realities have changed after decades about the BMDs in the contemporary environment especially about the South Asian region. The strategic stability of South Asian landscape revolves around the corollary of nuclear deterrence. The stable or unstable deterrence influence the security dilemma, nuclear threshold, regional asymmetry, nuclear employment and peace accordingly. Pakistan and India experienced the effectiveness of nuclear factor and strategic equation in the region. However, few recent developments in the region has put the nuclear optimist assessment about the nuclear weapon’s impressive contribution and impression of deterrence equilibrium in constructing strategic stability, under stress.

The BMD system consists of sensors to detect and track the missile/warhead and a guided missile, called interceptor, to intercept and destroy the incoming enemy ballistic missiles by using the “hit-to-kill,” direct impact technologies—i.e., by “hitting a bullet with a bullet.” In nuclear factor, not the number of nuclear weapons but their credibility and survivability matter unless influenced by other features having direct relevance with deterrence like transition in military doctrines, Ballistic Missile Defense (BMD) system, Multiple Independently Targeted Reentry Vehicles (MIRVs) and assured second strike capability. Thus status quo remains stable if strategic equilibrium is in play; the concept of mutual destruction functions and the nuclear opponents has reciprocal annulment of options for war at any level. This piece aims to specifically analyze the recent Indian test of supersonic interceptor missile in pursuit of full-fledged and multi-layered BMD system in a strategic environment which is greatly complex, unstable and unpredictable.

McNamara said “assured deterrence is the very essence of the whole deterrence concept. We must possess an actual assured destruction capability and that capability must be credible”. Thus, the credibility and capability are keystones of nuclear strategy while it remains fact that rational deterrence rests on mutual vulnerability or mutual assured destruction (MAD). The ‘iron dome’ BMD reduces India’s vulnerability to Pakistani ballistic missiles strike thus challenges the credibility of Pakistan’s nuclear deterrent. It also undercuts Pakistan’s offensive posture yet strengthens India’s defensive capabilities. However to intact South Asian deterrence equilibrium and strategic stability, strong offense is better than a strong defense in region.

Two interceptor missiles, the Prithivi air defence missile and the Advanced Air Defence (Ashwin) missile are capable of intercepting missiles at altitudes of 50 – 80km and 30kms respectively. India lately

successfully test fired the supersonic interceptor missile capable of destroying any incoming ballistic missile. Pragmatically, successful test does not imply effective response in an area of operation because BMD can intercept few incoming missiles but might not defeat all of them. Moreover the BMD system has yet to prove militarily and operationally effective against ballistic missiles.

Missile defense is not completely foolproof and does not provide a complete protection cover. However, this new system added in the military arsenal has the potential to trigger a conflict due to the false sense of security. Arguably it can also facilitate Indian conventional adventurism like Cold Start. The false sense of security can trigger a nuclear conflict despite a functional balance of power or nuclearized environment because the perception to be protected by BMD can convince India to take greater risk that will transform rational actor-model into irrational-actor-model resulting in a major catastrophe.

The worrisome reaction of Pakistan's nuclear establishment over the introduced of Indian BMD is not naive. It is argued by Pakistani nuclear optimist that Pakistan should consider technical countermeasures to defy the instability and to ensure its capability to hit Indian strategic target. The likelihood of Pakistan to acquire technological or financial assistance for its own BMD system is not viable. Pakistan can acquire BMD from US, Russia and China, with US being the least available option; however the option to produce its own ballistic defense is limited due to economic constraints. Thus resultantly Pakistan would be investing in qualitative and quantitative advancement of missile technologies (i.e. ballistic and cruise). Consequently, Pakistan can develop large number of nuclear warheads, ballistic and cruise missiles. Another effective option would be to pursue Multiple Independently Targetable Re-entry Vehicles (MIRVs). Reportedly, Pakistan developed TNWs in response to BMD.

Pakistan will opt for qualitative and quantitative enhancement of nuclear force thus the introduction of BMD would again contribute to the unhealthy arms race in South Asia. Pakistan should also work on the sea based nuclear deterrent to ensure the survivability of its nuclear forces, and to have an assured second-strike capability. In the words of Stephen D. Weiner, "if the defense system does not have enough interceptors to shoot at all the incoming objects, it must be able to discriminate between decoys (nonthreatening object) and warheads. This discrimination process is not perfect and results in two types of errors: leakage (not shooting at warheads) and false alarms (shooting at decoys)."

There can be several policy options, first is to choose for a mix of qualitative and quantitative improvements to its nuclear force in order to overcome and defeat the Indian defences. An effective option could be to purposely fly the decoys to confuse the defense that in result will exhaust the supply of interceptors. Pakistan can work on penetration capabilities or counter-interceptor missiles to dodge or exploit the weaknesses of the missile defense interception system. For instance, Pakistan can employ ballistic and cruise missiles with stealth technologies to make the warheads undetectable. In addition, the development of supersonic missiles can outdo BMD with its speed and maneuverability.

<http://foreignpolicynews.org/2016/07/28/indian-defense-system-options-pakistan/>

Pakistan Air Force: Options and Challenges

Saima Ali

In today's world, air supremacy plays a vital role in achieving military objectives. Pakistan's military has always been mind full of its meagre resources and has always preferred quality over quantity. Pakistan air force is considered one of the best in the world due to its qualitative selection and professional excellence. The maintenance of this equilibrium depends on the continuous up gradation of its fleet. The Pakistan Air Force currently operates a fighter force comprising F-16s, Dassault Mirage IIIs and 5s, Chengdu F-7s, and JF-17s. F-16s, with their tactical nuclear delivery capabilities, play a particularly important role for Pakistan in bolstering its conventional abilities against India. The Indian lobby is trying to isolate Pakistan within Washington's power corridors which may jeopardize the sale of more F16 to Pakistan, if so, Pakistan should seek Sukhoi Su-35 fighter jets that are far more advanced than the F-16s. The Russian-made jets can be a great asset for Pakistan Air Force.

The general comparison between the Russia's Su-35 Fighter and America's F-16 Fighting Falcon shows that with properly trained pilots and support from ground controllers or an AWACS—the Su-35 is an extremely formidable threat to every Western Aircraft. Over the years, the F-16 has evolved from a lightweight visual range dogfighter into a potent multirole warplane that flies the gamut of missions ranging from the suppression of enemy air defences to air superiority. Though it has been operational since 1980, the "Falcon" continues to evolve and will remain in service with the U.S. Air Force and other militaries for decades to come. But while the F-16 remains a potent fighter, potential adversaries have caught up—the latest Russian aircraft like the Sukhoi Su-35 can match or exceed the Falcon in many respects. The F-16 doesn't have the latest upgraded massive active electronically scanned array (AESA) radar nor can the F-16 usually lob the AIM-120 missile from the speeds and altitudes. U.S. Air Force F-16s are not currently fitted with an AESA and are at a severe disadvantage versus the Su-35 or other advanced Flanker derivatives. With an AESA, the F-16 could probably hold its own against the Su-35 at longer ranges—but it would still be a challenge. At shorter ranges, it comes down to pilot skill and the performance of each jet's high off-boresight missiles. The advent of missiles like the R-73 and AIM-9X have turned visual range fights into mutually assured destruction scenarios. While the Su-35's thrust vectoring gives it an edge at very low speeds, it's not an insurmountable problem for an expert F-16 pilot—who knows how to exploit his or her aircraft to the fullest—to overcome. The bottom line is that the Su-35 is extremely capable aircraft. F-16 or Su-35, the matter of Pakistan adding additional fighters to its current fleet might come down to mundane matters of what is financially feasible.

Currently Indian Air force (IAF) is far larger with about 740 combat aircraft versus the Pakistan Air force (PAF) approximate 400 aircraft, but everything is not as it seems. What at first glance seems overwhelming odds against the PAF on closer examination do not seem as overwhelming. For instance, the IAF has far lower serviceability of its aircraft. Their pilot training as evidenced by Red Flag exercises with the US is also not yet up to par with the PAF and their maintenance crews are not as diligent. Their present Russian/Soviet technology is generally less reliable and less effective and a large part of their

fleet of MiG-21s and MiG-27s are outdated. PAF aircraft are either of Western stock or Chinese and are far more maintenance friendly. Pakistan has also been upgrading their aircraft massively and have incorporated a complex combination of technology from across the globe – from China to Brazil, from South Africa to the US. PAF pilot training is on par with the best in the world and its maintenance crews are trained on the level of Western maintenance crews.

The large number of IAF crashes because of low level of maintenance crew is indicative of this acute problem with one of the highest crash rates amongst air forces of the world. What compounds this problem is the age of large sections of the Indian fleet which has large numbers of MiG-21s and MiG-27s that are, besides the Bisons, highly outdated and are sometimes referred to as “Flying Coffins” by their pilots.

Pakistan on the other hand has a better pilot to aircraft ratio than the IAF meaning it could sustain a greater sortie rate over a protracted conflict. PAF aircraft are also “pimped” in that they have been extensively modified. Thus, while on paper PAF is flying ancient Mirages that were bought second hand from the Australians, when one actually examines any such model, one is surprised at how extensively they have been rebuilt – almost from scratch and the hardware is extremely lethal. Other than the secretive BVR AAMs, the PAF has extensively incorporated the strike element into its Mirages, at a level only matched by the IAF’s Mirage-2000s and Su-30 FLANKERS and even then some of the equipment has no IAF equivalent.

Pakistan should continue its policy of quality over quantity as it is the only way to keep equilibrium in its hostile environments and to keep its existence safe. Additionally, Pakistan should keep all options open as sovereignty and independence comes first rather than getting affiliated to a particular group or alliance.

<http://foreignpolicynews.org/2016/07/29/pakistani-air-force-options-and-challenges/>

Arms Control Association 2016 Report Card: Assessing Non-Proliferation and Disarmament Concerns

Beenish Altaf

The recently released report card in the series of the Arms Control Association (ACA) analyzes states' nuclear capabilities and evaluates the recent records of all the world's nuclear-armed states. The Arms Control Association (ACA) is an independent organization and contributes in the global findings upon nuclear, arms, disarmament and strategic issues, time in and time out.

In this report titled *Assessing Progress on Nuclear Nonproliferation and Disarmament, 2013-2016*, it has measured the performance of 11 key states in 10 universally-recognized nonproliferation, disarmament and nuclear security categories over the past three years. Like the previous similar reports it has evaluated the records of China, France, Russia, the United Kingdom, the United States, India, Israel, Pakistan, and North Korea — all nuclear countries in one or the other way. It has also incorporated Iran and Syria owing to the concerns of proliferation within them.

One of the two authors of the report, Kelsey Davenport, director for nonproliferation policy at the Arms Control Association said that Obama should use his remaining months in office to reduce the role of nuclear weapons in U.S. strategies and mitigate the risks of inadvertent use. Obama could consider declaring that Washington will not be the first to use nuclear weapons in a conflict.

The ratification and signing of international treaties is also acknowledged by the report that is taken into account while grading the states in those terms. Several states did take significant steps over the past three years to strengthen nuclear security, including action by the United States and Pakistan to ratify key nuclear security treaties. For instance Pakistan's improved grading in terms of nuclear security commitments is because of accession to the Convention on the Physical Protection of Nuclear Material (CPPNAM) amendment this year. Resultantly, it got a B+ in this report whereas in 2013 report it was B.

In the report card the grading is given on the under study state's commitments in 10 broad categories, e.g., banning nuclear-weapon test explosions; ending the production of fissile material for weapons; reducing nuclear weapons alert levels; verifiably reducing nuclear force size; assuring non-nuclear weapons states they will not be subject to nuclear attack; establishing nuclear-weapon-free zones; complying with international safeguards against the diversion of peaceful nuclear activities for weapons purposes; controlling nuclear weapons-related exports; implementing measures to improve the security of nuclear material and facilities; and criminalizing and preventing illicit nuclear trafficking and nuclear terrorism.

Analyzing some highlights or some general outcomes of the report, states possessing nuclear weapons demonstrated little to no progress on force reductions. The United States and the United Kingdom slightly reduced numbers of deployed warheads whereas according to the report China, India, and Pakistan are demonstrating otherwise in terms of the size of their nuclear arsenals. North Korea

remains a serious proliferation concern, due to its continued nuclear tests, development of ballistic missiles, and illicit trafficking. No positive progress has been made on ending fissile material production in the timeframe assessed by this report, or the two prior. The grades for all 11 states assessed have not changed since the first report was published in 2010. Several states are taking actions to increase alert levels and store warheads mated with delivery systems for the first time. Positive progress was made on nuclear-weapon-free zones, particularly in Central Asia due to four of the five recognized nuclear states taking action to ratify the treaty's protocol. A key nuclear security treaty entered into force, in part thanks to ratifications from the United States and Pakistan. Nuclear security grades generally improved across the board for all states except Russia and North Korea.

Despite extensive workout, still a few discrepancies could be laid down from the report. For instance there are states that are violating norms and principles of non-proliferation (NPT and NSG's principles) that are not downgraded at all in the report and even their domestic laws were granted exceptional trade waiver in 2008. Ignoring such states, it criticized China and Pakistan for their civil nuclear cooperation that is well under safeguards. The deal does not violate any international law, including that of the NSG. The Sino-Pak deal was signed before China became a member of the NSG and as per international law, it is well within its legitimate right to honor the bilateral commitment predating participation in the NSG.

Ironically there are many cases in which these standards are not high enough and additional measures are needed to reduce and eventually eliminate the nuclear threat. The report card, however, assesses whether key states are meeting internationally recognized nuclear nonproliferation, disarmament, and nuclear security commitments. It does not take into account recommendations for strengthening the standards assessed that the Arms Control Association supports.

<http://nation.com.pk/blogs/29-Jul-2016/arms-control-association-2016-report-card-assessing-nonproliferation-and-disarmament-concerns>

Impracticability of Indo-US Nuclear Deal

Shahzadi Tooba

A clean waiver to the trade embargo was agreed in September 2008, when India and the United States finalized an agreement/deal, to restart cooperation on civilian nuclear technology. The new agenda of cooperation intended at preparing India as a new powerful state in the globe and it has also numerous aspects containing economic, strategic and energy components. On the other hand, the civilian nuclear deal which is component of the particular dialogue gained more consideration because of its adverse implications for the international Non-Proliferation regime efforts and on the security of South Asia. Because of the agreement, the India would gain the status of de facto nuclear weapon state and it would assist India to acquire civil nuclear technology from the US and other members of the NSG. The NSG is a 48-country network of uranium and nuclear technology-exporting and civil Nuclear power producing countries aimed at strengthening civilian nuclear markets while propagating a strict non-military purpose. After giving India an exemption it seems this group is following a non-criteria approach by giving exemptions to some (India) and objecting some of the others (Pakistan) on the same grounds.

The legislation allows for the transfer of civilian nuclear material to India. Under the deal India has committed to classify 14 of its 22 nuclear power plants as being for civilian use and to place them under IAEA safeguards. "Safeguards are the activities by which the IAEA can verify that a state is living up to its international commitments not to use nuclear programs for nuclear- weapon purposes". While pledging that any U.S. assistance to its civilian nuclear energy program will not benefit its nuclear weapons program, India committed to, among other things, separating its civilian nuclear facilities from its military nuclear facilities, declaring civilian facilities to the International Atomic Energy Agency (IAEA) and placing them under IAEA safeguards.

A significant proportion of India's nuclear complex, including 8 PHWRs: Tarapur III & IV, Madras I & II, and Kaiga I—IV will remain outside IAEA safeguards, their joint capacity have 2350 MW of electricity generation capacity and could produce about 1250 kilograms of reactors-grade plutonium every year. Several essentially civil nuclear power reactors, the new 500 MWe fast breeder reactor at Kalpakkam, and the small enrichment plants for naval fuel remain outside IAEA safeguards. For almost 30 years, the U.S. legal standard has been that only nuclear safeguards on all nuclear activities in a state provide adequate assurance suddenly changed.

A significant question is how India, in the absence of full-scope safeguards, can provide adequate assurance that U.S. nonviolent nuclear technology and uranium import from the other countries will not be sidetracked to nuclear weapons purpose, because apart from not being a signatory to the Nuclear Non-Proliferation Treaty (NPT), India's dual-function nuclear program (military and civilian) is greatly interwoven. India has opted to not fully disclose the suspected dual-use nature of some of its reactors.

Indian civilian and military nuclear program is very much inter-woven that it is nearly impossible to be separated. The key elements of India's separation plan are eight indigenous Indian power reactors (RAPS 3, 4, 5, 6; KAPS 1, 2; NAPS 1, 2) in addition to 6 already under safeguards; future power reactors may also be placed under safeguards, if India declares them as civilian. Some facilities in the Nuclear Fuel Complex (e.g., fuel fabrication) will be specified as civilian in 2008 and nine research facilities and three heavy water plants would be declared as civilian, but are "safeguards-irrelevant." Eight indigenous Indian power reactors (Kaiga 1, 2, 3, 4; MAPS 1, 2; TAPS 3, 4), Fast Breeder Test Reactor (FTBR) and Prototype Fast Breeder Reactors (PFBR) under construction, enrichment facilities, spent fuel reprocessing facilities (except for the existing safeguards on the Power Reactor Fuel Reprocessing (PREFRE) plant), research reactors: CIRUS, Dhruva, Advanced Heavy Water Reactor, three heavy water plants and various military-related plants (e.g., a prototype naval reactor) were not on the separation list.

Comparing it with Pakistan, the first nuclear power reactor of Pakistan is a small 137 MWe, Canadian pressurized heavy water reactor (PHWR) which started up in 1971 and which is under international safeguards – KANUPP. The second unit is Chashma 1 in Punjab province in the north, a 325 MWe (300 MWe net) two-loop pressurized water reactor (PWR) supplied by China's CNNC under safeguards. It started up in May 2000 and is also known as CHASNUPP 1. Designed life span is 40 years. Construction of its twin, Chashma 2, started in December 2005. A safeguards agreement with IAEA was signed in 2006 and grid connection was in March 2011, with commercial operation in May. Upgrades have added 5 MWe since (to 330 MWe gross). These are built using international design codes and standards.

Pakistan is not party to the Nuclear Non-Proliferation Treaty but does have its civil power reactors and two research reactors (PARR 1&2) under item-specific IAEA safeguards. An agreement for two further 340 MWe reactors came into force in April 2011.

Experts say India could use the imported nuclear fuel to feed its civilian energy program while diverting its own nuclear fuel to weapons production. India has done similar things in the past; India claimed it was using nuclear technology for civilian purposes right up until its first nuclear weapons test in 1974. So, if IAEA get its way in India than all nuclear facilities should be under IAEA despite of selected cases by Indian nuclear authorities. Ever since the U.S. pressurized NSG in 2005 to create an exception for India, a non-NPT state, allowing U.S. to sign nuclear agreement with India, it has lost its credibility (both the NSG and the U.S.). India is unable to fulfill the conditions put by the US regarding this deal and in this way it has shown the impracticability.

<http://foreignpolicynews.org/2016/07/30/impracticability-us-india-nuclear-deal/>

Kashmir: A Nuclear Flash Point

S Sadia Kazmi

There is no denying the fact that the longest lingering and the major issue between Pakistan and India is the Kashmir issue “the unfinished agenda of the partition”. It has often been dubbed as the nuclear flashpoint owing to the fact that it is a constant bone of contention between the two nuclear states of South Asia; India and Pakistan. A wider belief maintains that if there is one problem that has the tendency and potential to make the two nuclear power states come to an exploding threshold that would be the Kashmir problem.

No wonder the first bloody war between India and Pakistan was fought over Kashmir in 1948, which set the precedent for future hostilities, distrust, proxies and battles. The Kargil conflict in 1999, again in the backdrop of Kashmir crisis, brought the most critical circumstances for the two states, where the world saw them positioning their troops along the border and readying their naval forces against each other. It was highly feared that the situation had brought them to the brink of another war, which could have irrevocably disastrous repercussions since the two had overtly gone nuclear by then. However the crisis was stopped short of spiraling into a full blown war by the international mediation, and by the very presence of the nuclear weapons which served as a deterrent.

However, the details mentioned in the book titled “This Unquiet Land: Stories from India’s Fault line” by Barkha Dutt, proclaims that India had not ruled out the possibility of using nuclear weapons against Pakistan during the Kargil crisis. The formal Indian National Security Advisor Brajesh Misra during an interview to the NDTV revealed that a letter given to President Clinton by PM Vajpayee had hinted that India was contemplating crossing the LoC as well as using the nuclear weapons if Pakistan did not pull out the fighters from Kargil.

This revelation while was shocking but highlights a couple of facts: a) The international community only scrambled to its feet when came to know of India’s vile intentions of using nukes, b) going by the confession made in the book, it probably wasn’t the presence of nuclear weapons and their expected deterrent role, but the possibility of their use which made international community put pressure to keep the crisis from going out of control, c) India will not shy from using them despite time and again reiterating its “no first use” policy, d) the Kashmir issue needs a third party facilitation because so far the bilateral efforts have all led to stalemate, e) since the Kashmir issue remains unresolved till today, it may again trigger India to consider exploiting a nuclear option anytime.

The situation in Kashmir is once again calling for world attention amidst the equally critical yet slightly different circumstances. The extrajudicial killing of Burhan Wani reflects India’s disregard to the legal system. Further making the situation worse, India has resorted to the most terrible form of violence and state terrorism against the locals to curb down protests, blinding them with pellets and

causing most miserable injuries and deaths. These Indian atrocities merit an immediate intervention especially by the international human right watchdogs.

The responsibility for the present unrest in Kashmir falls solely on India for committing violence against the unarmed civilian population. Even today, India is adamant at using force apparently against its “own people”, as it claims LoK to be its own territory. Seeking a diplomatic solution of this problem doesn’t seem to be on India’s agenda. The ongoing crisis also points to the fact that locals do not accept Indian occupation and the recent havoc that Indian security and police forces have unleashed on the innocent unarmed Kashmiri people, has been their embarrassing failure in keeping the situation under control.

Not just that, but recently when Pakistan showed solidarity with the Kashmiris by observing Black Day on July 20th, India implicated Pakistan for inciting and instigating the present crisis in Kashmir, demanding that it should stop supporting and abetting the insurgents and protesters. A couple of days ago, in her strongest statement against Pakistan till date, External Affairs Minister Sushma Swaraj accused Prime Minister Nawaz Sharif of advancing the “despicable design” of destabilizing South Asia by exporting “dirty money and dangerous terrorists”.

These allegations hurled at Pakistan however do not find endorsement of the international community; but the strong and caustic rhetoric by Indian leadership once again raises alarms regarding its aggressive mindset. The amendments in its nuclear doctrine since 1998, especially the Indian Cold Start doctrine does provide a space for that by aiming for rapid but limited retaliatory incursions into Pakistan by the Indian army in order to seize and hold narrow slices of territory in response to any act of terrorism in India by Pakistan.

Since in the ongoing violence in Kashmir, it strongly incriminates Pakistan for abetting violence on alleged “Indian territory”, no matter how hypothetical it may sound but looking at the past event one cannot rule out the possibility that India might once again be mulling over the nuclear option. Hence, the tactical nuclear weapons become ever more relevant for Pakistan for effective deterrence, so is the active involvement of the international community not just to keep a close watch over the three stake holders but to also work efficiently for the immediate crisis management and later on for its resolution too.

The international community should not wait until India’s jingoism in Kashmir makes it send another letter to the US. The deplorable human atrocities in Kashmir at the hand of Indian state should immediately be put to end and those responsible for it should be held accountable. Kashmir needs attention not just as a political issue or for its tendency to become a nuclear flash point, which it still is and is going to remain for the times to come, but more importantly on the human grounds.

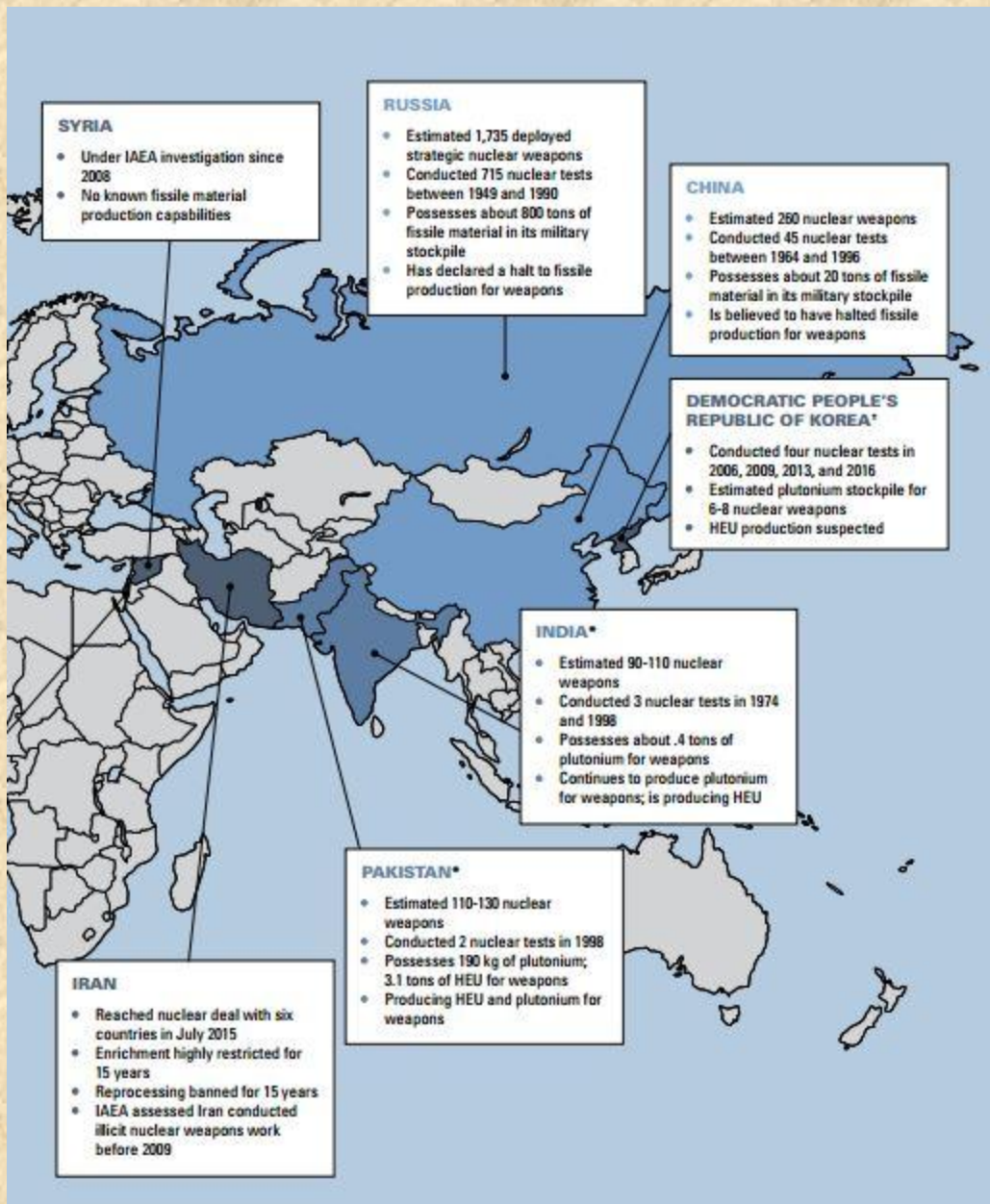
<http://www.pakistantoday.com.pk/2016/08/01/comment/kashmir-a-nuclear-flashpoint/>

Pakistan and Nuclear Report Card 2016: Assessment, Interests and Collisions

Maimuna Ashraf

Nuclear non-proliferation and disarmament debates have received important considerations in the contemporary nuclear environment. This has resulted in a strategic shift of paradigm in the global nuclear politics. However the states party to the nonproliferation efforts; see such advancements in lieu of their threat perception. The efforts that took place to curb the spread of nuclear weapons have reinforced the impression that under the changing dynamics of global politics and regional/national security, challenges to nuclear non-proliferation are ineffectively addressed. The NPT review conferences, which took place every five years, have often failed to achieve consensus on a final document on different issues pertaining to non-proliferation. Disagreement between Nuclear weapon States (NWS) and Non-Nuclear weapon States (NNWS) on nuclear disarmament/horizontal nuclear proliferation under Article VI of the treaty which calls upon P-5 NWS to ‘pursue negotiations’ for ‘effective measures’ within the framework of the NPT lingers on with no consensus in sight. Similarly differences continue to persist in the interpretation and application of article IV of the NPT on peaceful uses of nuclear technology.

Recently, the independent Arms Control Association (ACA) released a new study that measures the performance of 11 key states in 10 universally-recognized nonproliferation, disarmament and nuclear security categories over the past 18 months. The study, “Assessing Progress on Nuclear Nonproliferation and Disarmament, 2013-2016”, is the third in a series that gives grades to China, France, Russia, the United Kingdom, the United States, India, Israel, Pakistan—each of which possess nuclear weapons—and North Korea—which maintains a nuclear weapons capability—as well as Iran and Syria, which are under investigation for possible nuclear weapons-related activity. The indicators used for the assessment are: banning nuclear-weapon test explosions; ending the production of fissile material for weapons; reducing nuclear weapons alert levels; verifiably reducing nuclear force size; assuring non-nuclear weapons states that they will not be subject to nuclear attack; establishing nuclear weapon-free zones; complying with international safeguards against the diversion of peaceful nuclear activities for weapons purposes; controlling nuclear weapons-related exports; implementing measures to improve the security of nuclear material and facilities; and criminalizing and preventing illicit nuclear trafficking and nuclear terrorism.



The Report Card assigned Grade C to Pakistan. `Pakistan`s grade improved slightly since the 2013 report, due to progress on strengthening export controls and ratifying a key nuclear security treaty. The country updated its national control lists last year to make them compatible with those of the nuclear export cartels like the Nuclear Suppliers Group, Missile Technology Control Regime and Australia Group. In Pakistan`s neighborhood, both China and India were given C+ grade, while Iran got a C. On nuclear security commitments, Pakistan got a B+ as compared to a B in 2013. The improved grade was because of accession to the Convention on the Physical Protection of Nuclear Material amendment this year. `Physical security has improved in the recent years, due in significant part to US assistance across a spectrum of activities. This assistance includes the development of nuclear material accountability and tracking programmes, advanced training by US national laboratories, and the

development of personnel reliability and accounting measures. On the International Atomic Energy Agency's safeguard, Pakistan got a Grade B, although all of its civil nuclear facilities are under IAEA safeguards. Report says that Pakistan's grade has been lowered because in October 2015, Aizaz Chaudhry publicly stated that Pakistan has developed low-yield, tactical nuclear weapons. Pakistan is believed to have deployed these weapons on the battlefield. Although the other nuclear nation in South Asia, India, developed and enhanced nuclear arsenal; aided by civilian nuclear cooperation agreements; triad of nuclear delivery systems; short, medium and long range missiles; SLBMs and nuclear powered sub-marine; developing BMD system and there are also reports about Hydrogen bomb. As encouraged and supported by US and allies like Israel – India is engaged in massive conventional and strategic military buildup.

Pakistan has played an active role in international nuclear mechanisms. It is noteworthy that four security summits have taken place so far and Islamabad has accepted US proposals for securing all vulnerable materials within four years. Several safety and security measures have been put in place as part of this commitment. Pakistan acceded to the Convention on the Physical Protection of Nuclear Material. Pakistan has undertaken some measures to protect its non-nuclear radiological materials. As part of that it has upgraded physical security at its nuclear medical centers. This measure is intended primarily to prevent the spread of material for making RDD ('dirty bombs'). Pakistan has also participated in the IAEA nuclear safety action plan. Additionally it has extended its cooperation in other areas with the IAEA to improve nuclear security.

The low ranking implies weak regulations despite Pakistan's efforts which indicate a biased assessment. This grading of positions is the result of ignoring the efforts taken by Pakistan for compliance to global norms; their security and control measures; capacity to keep them safe; and their risk environments. Interestingly, it is difficult to empirically measure how effective material control is unless theft, pilferage or sabotage is reported. Pakistan's domestic commitments and capacity to prevent the theft of nuclear materials are fairly good in the region. Unlike India, Pakistan has an independent regulatory agency and robust domestic nuclear materials security legislation in place. Arguably, it seems that the global nuclear security is as strong as the weakest link in the chain which deserves a more realistic assessment as it is nothing more than a patchwork of agreements, guidelines and multilateral engagement mechanisms. It seems that facts about few states have been deliberately ignored to justify the allocated rankings.

<http://www.sguardian.org/2016/07/pakistan-and-nuclear-report-card-2016-assessment-interests-and-collisions/>