No. – 1 – 2016

USI Occasional Paper

Nuclear Security Summit – The Challenge Continues

*Dr Roshan Khanijo**

"We must ensure that terrorists never acquire a nuclear weapon. This is the most immediate and extreme threat to global security… Today I am announcing a new international effort to secure all vulnerable nuclear material around the world within four years."

–US President Barack Obama, in his speech in Prague in 2009

Introduction

US President Barack Obama's speech in Prague, led to the formulation of a new Summit in 2010 - 'The Nuclear Security Summit', whose main concern was to strengthen the global nuclear security environment, through effective national and international mechanisms. The first three summits were held in Washington, Seoul, and The Hague. The last Summit, held in Washington, effectively brought the short journey of six years to an end. The overall success of the endeavor remains debatable to say the least. On one hand, the summit has been successful in generating nuclear security awareness, but on the other hand there remain several key issues which still need to be addressed.

Globally, the three main nuclear concerns have been 'Nuclear Disarmament, Nuclear Non-Proliferation and Nuclear Terrorism'. Historically, several treaties have been formulated in an attempt to deal with the twin challenge of 'Nuclear Disarmament and Nuclear Non-Proliferation', but a treaty exclusively highlighting nuclear security issues has always been missing. This Summit, therefore, was aimed at dealing with the more pressing challenge of security in a nuclear age as opposed to idealistic, theoretical doctrines of global disarmament. The Summit tried to ensure that nations, through their commitment, to strengthen nuclear security, via responsible national actions and sustained and effective international cooperation, reduce the threat of nuclear terrorism[1]. Over the course of the four summits, more than 50 nations came together, to combat nuclear terrorism. They tried to achieve this through international cooperation, as well as the establishment of domestic legal frameworks. However; the issue of 'Cyber Nuclear Security Threat' did not receive the attention it deserves.

Aim

The aim of this paper is to analyse the various nuclear security summits starting from its inception in 2010. The purpose of the Summit was to ensure that countries in their individual capacities were implementing security structures in congruence with the international norms. With the Summit ending, it is now time to analyse the work that has been completed,

*Dr. Roshan Khanijo is the Senior Research Fellow and Research Coordinator at the United Service Institution of India.

examine the achievements as well as the shortcomings and prescribe a viable course of action for the future. Current nuclear safety and security measures also need to be re-evaluated keeping in mind emergent threats to nuclear fissile material/power plants, from terrorists and from non-state actors.

Objectives

The 2010, 'Washington Communiqué' highlighted the objectives of this summit, and issued a 'Work Plan' aimed at providing guidance for national and international actions. The three key parameters which it tried to address were – firstly, it highlighted the significance of a nation's fundamental responsibility to maintain effective security of all nuclear materials (both civilian and military sources), to prevent non-state actors from obtaining the nuclear information or technology, and to build a robust national legislative and regulatory frameworks for nuclear security[2].

Secondly it encouraged nations to convert the fuel used in nuclear reactors from Highly Enriched Uranium (HEU) to Low Enriched Uranium (LEU), in order to minimize the industrial use of HEU, and to secure, account for, and consolidate Uranium and separated Plutonium. The Summit also tried to effectively prevent and respond to incidents of illicit nuclear trafficking, through nuclear detection, forensics, law enforcement, and the development of new technologies.

Thirdly, it compelled the nations to rectify and enforce international nuclear security treaties like the Convention on the Physical Protection of Nuclear Material (CPPNM), and its amendments, the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT), and the essential role of the International Atomic Energy Agency (IAEA) in the nuclear security framework.

The Work Plan recognised the need for nations to develop a nuclear security culture-where there is greater synergy between the different nuclear stakeholders, like the nuclear industry, private sector, government and the voluntary NGOs. The Summit also felt that there is a need for capacity building for nuclear security, hence greater bilateral and regional cooperation is required amongst nations, especially in order to develop technology and improve available human resources through education, training modules and enhanced research and development programmes.

Highpoints of Various Summits

As mentioned above the 2010 'Washington Communiqué' laid down the objectives of the Summit and issued the work plan which formed the core basis for future nuclear Summits. The concept of 'House Gifts' was also introduced, whereby nations voluntarily pledged, to certain political commitments, in countering security threats. 50 such gifts were offered by various nations.

In 2012 the 'Seoul Summit' highlighted the central role of the IAEA in strengthening and monitoring the international nuclear security framework. It reinforced the importance of following the IAEA Nuclear Security Plan from 2010-2013. The Summit also encouraged states to promote the use of LEU fuels and targeted the hitherto neglected commercial applications of nuclear energy such as isotope production. It recognized the importance of a national layered defense system against the loss or theft of nuclear and other radioactive materials while also highlighting the importance of 'Nuclear Forensics' as a major area in need of examination. Prior to the Security Summit, the Nuclear Industry Summit and the Nuclear Security Symposium were also organised, to enhance communication and facilitate cooperation between the various

stakeholders. Additionally the Summit also briefly touched upon emerging issues of 'Information Security'- (the importance of preventing non-state actors from obtaining information, technology or expertise for malicious purposes) and the potential associated risks.

Finally, the Hague Summit of 2014 encouraged nations' to use the Nuclear Security Support Plans (INSSPs) to ensure progress for nuclear security, and highlighted the benefits of adopting the IAEA review and advisory services namely the International Physical Protection Advisory Service (IPPAS). The summit encouraged nations to demonstrate initiative by engaging with a range of voluntary measures aimed at reinforcing domestic and international nuclear security. Some of the recommended measure included publishing information about national laws, inviting the IAEA review and advisory services etc. Furthermore, the crucial role of the private sector in effectively mitigating and combating cyber threats was also emphasized. New gift baskets were introduced in 2014 which included the security of the maritime supply chain, nuclear forensics, and supporting implementation of United Nations Security Council Resolution (UNSCR) 1540 (2004)[3]. Under these gift baskets the "states tried to maintain effective radiation detection systems and response procedures at their large container seaports, and exploring best practices in detecting and removing from the global maritime supply chain all nuclear and radiological materials out of regulatory control"[4]. Additionally, the 'trilateral initiative' and the '35 countries initiative' was another significant outcome of the summit, as these countries adopted the IAEA standards and implemented them in their respective domestic nuclear frameworks as well.

The 2016 Summit at Washington

The 2016 Nuclear Security Summit communique declared that more work remains to be done to prevent non-state actors from obtaining nuclear and other radioactive materials, and sustaining this security improvements requires constant vigilance at all levels[5]. The summit reaffirmed the essential responsibility and the central role of the International Atomic Energy Agency in strengthening the global nuclear security architecture and in developing international guidance[6]. The summit released an Action Plan which reaffirmed that measures will continue to strengthen nuclear security. The few highlights of the Action Plan were; the states through step up efforts will continue to implement in full UNSC Resolution (UNSCR) 1540 nuclear security obligations by 2021 as referenced in UNSC Presidential Statement of 2014. Implement in full the nuclear security-related commitments and obligations of all relevant UN General Assembly and Security Council resolutions. Submit voluntary reports on national implementation of UNSCR 1540 to the 1540 Committee[7]. Also the National Progress Report highlighted that over 40 Summit countries have engaged in capacity building, over 30 countries have updated national laws, regulations, or structures relating to nuclear security, over 20 countries have held or invited peer review missions, and three more countries – China, India, and Jordan – have pledged to strengthen nuclear security implementation through subscribing to the 2014 Joint Statement on Strengthening Nuclear Security Implementation (INFCIRC 869), bringing the total number to 38[8].

Achievements of the Various Summit

First and foremost, the summit has helped raise awareness regarding the need for nuclear security in today's day and age. It has also been instrumental in creating a global nuclear security culture and has furthermore, enhanced nuclear capacity building in many states. Since the major participants were the Heads of States, the requisite measures for ensuring global nuclear security were discussed at the highest political level, and numerous nations came together in order to accept their collective responsibility in combating nuclear terrorism. The political commitments made by various Heads of States in the form of mutually beneficial 'gift baskets,' enhanced the drive for raising security awareness and also led to the establishment of various training and support centers. Several nations have also amended their national nuclear safety and security laws to conform to the international standards as prescribed by the IAEA.

As far as fissile material is concerned, the summit has been successful in eradicating HEU from 14 countries including Taiwan and since the beginning of the Summit process 24 countries have developed or are in the process of developing nuclear security-related Centers of Excellence, and nuclear detection equipment has been installed in over 300 international border crossings, airports, and seaports[9]. The number of countries that possess weapons-usable nuclear materials has decreased from 32 in 2010 to 24 by the end of 2015 and the NSS process has resulted in the recovery or elimination of more than 1,500 kilograms of HEU and separated Plutonium[10]. Ukraine, Switzerland and Vietnam are a few of the summit nations that claim to have eliminated their HEU stockpiles. Another major area of success has been the broadening of the scope of this summit to include not only nuclear fissile material but also radiological sources, which if used malevolently, can be a potent source for 'Dirty Bombs'.

An important outcome of the 2014 Hague Summit was that, the initiative on the 'Strengthening Nuclear Security Implementation' (SNSI), was converted as an Information Circular (INFCIRC/869) by the IAEA, which ensured that even if the summit ended, global cooperation in instituting a secure nuclear framework could carry on by the means of this caveat, and it has since proved successful as 35 countries have already joined this initiative.

In terms of international treaty ratification, 26 summit nations have ratified the Convention on the Protection of Nuclear Materials treaty. Similarly, several nations now actively support IAEA activities such as the IAEA's Nuclear Security Series and sanctioned Code of Conduct. Many countries use the IAEA's peer review system as well in order to ensure the safe and secure deployment of nuclear energy. The most significant achievement so far is the progress report issued by various nations in these summits, which depicts a nation's contribution in strengthening nuclear security. The 'Gift Basket' diplomacy mechanism has played an important part in encouraging nations to voluntarily pledge to nuclear security issues. The summit has also been successful in garnering one pointed support on the subject of 'Nuclear Security'. This in turn has generated awareness regarding nuclear terrorism and the various methods that can be adopted for the safeguarding of fissile material.

Limited availability of conventional energy resources has led to an increasing number of countries turning to nuclear energy for power generation. This can lead to a precarious imbalance as there is an increased chance of nuclear fissile material being misused or falling in the wrong hands. These considerations need

to be kept in mind and a security framework that encourages the use of LEU as fuel needs to be implemented in order to deal with the global shift towards nuclear power. Nevertheless, there is certainly an improvement in the global nuclear security framework. It should be mentioned that the summit participants have made over 260 national commitments over the course of the three Nuclear Security Summits, and of those commitments, nearly three-quarters have already been implemented, including important areas like removing HEU fissile material from countries; converting reactors; strengthening regulations; developing centers of excellence on nuclear security; upgrading technologies; and enhancing national and multilateral capabilities[11]. Therefore it can be stated that the summit has at the very least been successful in highlighting the role of nuclear security and making nations more aware of the dangers of nuclear terrorism.

India's Role

India's approach to nuclear security and safety had hitherto been focused on the decrees provided by the IAEA but we have also supported the various measures recommended by the security summit. The 2016 summit delegation was led by the Prime Minister of India, Mr Narendra Modi, who highlighted the fundamental initiatives taken by his government in the area of nuclear security and non-proliferation. This included physical and cyber barriers, technological approaches, setting up a facility for medical grade 'Moly-99' using low enriched Uranium and using vitrified forms of vulnerable radioisotopes such as Ceasium-137, a further contribution of USD1 million to the nuclear security fund and a workshop with IAEA experts on International Physical Protection Assessment Service (IPPAS) will also be held in India[12]. Also, India will host a meeting of Global Initiative to Combat Nuclear Terrorism in 2017[13]. An international conference on countering nuclear smuggling is also being planned with Interpol.

Similarly, the summit's goal of ratifying important treaties such as the CPPNM and its amendment; the International Convention for the Suppression of Acts of Nuclear Terrorism; and the UN Security Council Resolution 1540; have already been ratified by India. Furthermore, India has also participated in the IAEA's Illicit Trafficking Database (ITDB). It continues to cooperate with the Interpol's Radiological and Nuclear Terrorism Prevention Unit, and the World Customs Organization-on nuclear trafficking issues.

In the past, India has hosted a meeting of NSS Sherpas in 2012 and has also contributed to the Nuclear Security Fund. The most significant contribution however, has been the opening up of India's 'Center of Excellence' in nuclear security or 'The Global Centre for Nuclear Energy Partnership' (GCNEP). India has also signed Memoranda of Understanding (MOUs) with United States, France, Russia, UK and the IAEA in support of this initiative. India's GCNEP programme, which has five schools namely; Advanced Nuclear Energy Systems, Nuclear Security Studies, School of Radiological Safety Studies, Nuclear Material Characterisation Studies and Application of Radioisotopes and Radiation Technologies, encompasses wide aspects of nuclear security. Additionally, various off campus training programs such as the Training Course on Physical Protection of Nuclear Material and Nuclear Facilities, Workshops on "Nuclear Forensics: Fundamentals and Applications", etc are also being conducted. Since the Summit has also highlighted the importance of nuclear forensics, India is now trying to enhance and develop domestic nuclear forensics capabilities. Lastly in the 2016 summit, India has offered three gift

baskets and has pledged to provide help in combatting transnational nuclear smuggling networks. India had expressed its willingness to join a 'contact group' (a smaller subset of the 53 participating countries) that will be instrumental in monitoring the implementation of the various outcomes from the summit, also the group, (which will meet in Vienna at official level), will also decide if there was any requirement for another summit of the political leadership[14].

Unfinished Work

With the Summit coming to an end, and without an agreed upon mechanism for maintaining political attention after 2016, nuclear security will be in danger of backsliding to a largely technical issue for states, and as no single institution will inherit the summit process[15], the process will now be carried forward by the five organisations namely the International Atomic Energy Agency; the Global Initiative to Combat Nuclear Terrorism; the United Nations; the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction; and Interpol. While the increased initiative of multiple organisations is encouraging, too many interceding authorities creating a multitude of work plans with overlapping agendas can lead to a chaotic dilution of the cause. In such a scenario the focused space for the examination of the security framework provided by the summit will be missed in the future and the resultant nuclear security dialogue may be greatly constrained after 2016.

The process to build a robust security culture had been progressing rapidly through the focused framework of the summit and its untimely dissolution may lead to instability in the future implementation of security protocol. Within the structured framework of the summit, through its gift basket schemes and the political commitments provided by the various Heads of State, the primary global focus remained centred on nuclear security. However; with the Summit's demise the momentum that had been built up over the years may be lost. Security will once again become one of the many responsibilities of the IAEA and its affiliate organisations. These regulatory bodies are unfortunately already overburdened by the shifting nuclear paradigms, and are furthermore undergoing straitened circumstances in terms of a financial as well as resource crunch. Until the IAEA is adequately funded both financially as well as through an enhanced human and technological pool, the objectives envisioned by the security summit may remain unfulfilled. Furthermore, explicit security standards contained in the IAEA guidelines are voluntary and consequently are not always universally implemented. The same unfortunately also applies to IAEA review missions. Above all, there is no obligatory and comprehensive system that would hold states accountable for their nuclear security commitments and require them to share necessary information[16].

While the threat of terrorists acquiring nuclear fissile material/radiological material/ weaponry has been reduced, it has not completely gone away and so it still remains a potent threat. Since radioactive sources are used in every country in the world, whether in industry, medicine, agriculture or research, hence these high-activity radioactive sources can be used for malicious acts[17]. Therefore; it is important that the nations work towards securing all radioactive sources, consistent with international guidelines. Recent attacks in Paris and Brussels have shown that terrorists could in future aspire to steal radioactive materials for the construction of a 'Dirty Bomb' or Radiological Dispersal Device (RDD). The RDD is a combination of radioactive material fused with conventional

explosives in an attempt to create a more dangerous and volatile conventional weapon. While not as dangerous as whole scale nuclear attacks, dirty bombs are the more plausible and imminent threat, as radioactive devices are the easiest to make due to easy accessibility of radiological materials which are widely used in the civilian sector (for example X-RAY, food processing etc). Additionally, there has also been a substantial dispersal of nuclear fissile material due to rapidly burgeoning civilian nuclear sector worldwide. Currently, global fissile material (namely Uranium) is about 13450 Tons, of which 99 percent is with NWS, while the Plutonium stockpile is estimated at 500 tons and half of this is in the civilian sector[18]. In most of the states the public is not made aware/sufficiently educated, to deal with this threat. Also even the governments are not well versed with the emergency procedures and often the 'First Respondents' are ill equipped and insufficient in number to deal with this disaster.

Hence, training and constant monitoring mechanism, needs to be put into place wherein through international co-operation and the ratification of major treaties by maximum nations, the threat of nuclear terrorism can be contained and eventually eradicated.

The security summit had started the process of conducting Nuclear Industry Summits and the Nuclear Security Symposiums, as well, which were very significant for implementing and applicable framework for nuclear security. In order to ensure cooperative progress it is essential to involve all the stakeholders in the nuclear enterprise, especially the various industries involved. Since new technologies are constantly evolving, it becomes essential to provide a platform where the various stakeholders can come together in order to meet and discuss new technologies.

Here one needs to mention another threat which is of great concern to the security environment and that is of 'Cyber Nuclear Security Threat'. The thought of hacker shutting down the security system at a highly sensitive nuclear materials storage facility, thereby giving access to terrorists seeking highly enriched uranium, or cyber-terrorists seizing control of operations at a nuclear power plant and enabling a Fukushima-scale meltdown, or if hackers spoofed a nuclear missile attack, forcing a miscalculated retaliatory strike[19], are just a few scenarios where the consequences could be dreadful. Most of the nations are ill-equipped to deal with this threat especially the newly emerging nuclear power users, due to lack of resources. They lack the technical knowledge required to understand and mitigate the cyber threats. Expertise in the field of nuclear cybersecurity is even in short-supply, in the International Atomic Energy Agency (IAEA), which provides countries with assistance and training in this area, and they do not have the resources necessary to address the growing threat[20].With many countries having private sector involved in the construction and management of civilian nuclear power plants, it becomes essential to raise the level of awareness and make it mandatory to have exclusive cyber experts to deal and monitor this threat. Nuclear Industry Summits and the Nuclear Security Symposiums can help in raising the bar by highlighting this aspect in detail, because it is essential that in every civilian nuclear power plant, there is synergy between the plant administrators and the cyber experts. Since this is a newly developing domain, significant measures need to be taken both in terms of awareness of this threat and building technical strengths in all the nations. Hence.

global cyber-nuclear security and response capabilities needs to be highlighted and more focused approach needs to be developed.

Another issue is the question of ratification of major treaties, which is still a cause of concern. Despite this need for ratification being highlighted in each and every summit, the response to this call to arms has been lukewarm at best since many countries; especially those that harbour terrorist groups have delayed the ratification process. Therefore, the lack of transparency, and inadequate sharing of information, has led to inability to prosecute and extradite alleged terrorists.

The figures for HEU conversion and the elimination of the separated plutonium, along with some medical isotopes though have been good, but when it comes to pulse reactors, naval propulsion reactors and many others, these have not been touched at all within the Nuclear Security Summit[21], also there are still many countries which have not adhered to the norms and still have a substantial amount of fissile material present with them. Furthermore, this summit could only monitor the stockpiles that were present in the civilian sector. The military stockpiles though included in the Communique, were not considered for re-evaluation or discussion due to the individualized national security interests of each of the Nuclear Weapon States. Taking into consideration, the fact that the global HEU stockpile in 2014 was 1345 tons, and out of which 99 percent remains with the nuclear weapon states[22] is proof of the fact that a lot remains to be done if HEU and the volatility it poses is to be eradicated.

The Summit laid stress on voluntary mechanisms to fulfill its objectives but it would be prudent to have legally binding obligations, because the risk of dilution of these voluntary mechanisms, once the summit ends are high which will quite negate the achievements.

Post Summit - A Bumpy Road Ahead

"We'll continue strengthening the international treaties and institutions that underpin nuclear security.... Our progress notwithstanding, I'm the first to acknowledge that we still have unfinished business"

President Barack Obama, 30 March 2016, Nuclear Security Summit 2016[23]

This statement aptly concludes the summit, highlighting the fact that nuclear security remains an extremely important ongoing process. While one chapter of the requisite dialogue to establish a secure framework may have concluded, there is much that still remains to be done. The momentum gained by the Summit needs to be maintained and the shortcomings that the summit was unable to resolve need to be addressed as soon as possible. The 2016 Communiqué pointed out several areas where work remains to be done in order to prevent non-state actors from obtaining nuclear and other radioactive materials, which could be used for malicious purposes. It was stated that "Sustaining security improvements requires constant vigilance at all levels, and we pledge that our countries will continue to make nuclear security an enduring priority[24]."

As mentioned above, the nuclear security issues post the Summit, will now be the responsibility of the five major regulatory organizations namely the International Atomic Energy Agency; the Global Initiative to Combat Nuclear Terrorism; the United Nations; the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction; and Interpol. The action plans have been designed to support the

institutions in their bid to create a global environment of co-operation, to combat nuclear terrorism and enhance efforts towards global partnership against the Spread of Weapons and Materials of Mass Destruction. Therefore these action plans will represent the future steps that the summit participants will need to take as members of these organizations in order to support their enhanced role in nuclear security going forward[25].

Additionally, a nuclear security contact group will also be formed in order to ensure a sustained synchronization of actions at the expert working-level -- senior expert working-level, aimed at implementing all of the various commitments that have been made across all four summits[26].

One can say that the first aim of the security matrix – that is to bring nuclear security awareness, build enough political awareness, and 'mainstream' this nuclear security threat' – has been a success. However, the next step of the process which involves the execution of and monitoring of implemented frameworks and action plans is a much more colossal task at the moment. For this process, the three most important issues are reporting stockpiles, enforcement of norms, and monitoring the developments. Taking into consideration the fact that nuclear security is to a large extent a national subject of concern, it is essential that the countries are constantly goaded towards transparency and encouraged to redouble their efforts that can strengthen their national structures while also aiding the global security movement. The absence of a stratified summit like the NSS may distort the focus of the movement; nevertheless the work must carry on, through action plans, contact groups and the other organisations. However, sustaining the initiatives of the summit in its absence will require tremendous efforts from all the countries. (Because this summit had successfully mainstreamed the issue through Heads of States, but now with the contact groups comprising of only senior officials the same commitment, continuity and focus might be hard to achieve). There is a pressing need for countries to counter challenging issues like limited mandate, veto power, non-binding, non-ratification and compliance issues of major treaties. The movement can only be successful if there is greater transparency between countries and improved synergy between national and International laws. Developing a 'Uniform Standard Security Procedures' as far as nuclear security in the civilian sector is concerned under the aegis of the various International Institutions would not be amiss either and would strongly reinforce the efforts being made in the march towards global nuclear security.

While the road ahead is bumpy, success can only be achieved if countries come together to cooperate and strengthen prevalent mechanisms, especially by ratifying the major treaties which deal with nuclear security such as the amended CPPNM and ICSANT. What remains to be seen is how the various countries come together in an attempt to either aid or hinder the five main organisations mentioned in the previous paragraphs. The actions of support or dissent will be indicators regarding the relative success or failure of current mechanisms that are in place. It remains to be seen whether they are sufficiently equipped to address the challenges faced by the security environment or whether there is an undeniable need to create a new, broad legal instrument that can set the current nuclear security architecture in place and complement existing mechanisms by filling the gaps in terms of standards, transparency, and accountability[27]. Future speculation aside, the need of the hour is to

maintain the Summit's momentum and to retain its coherent focused approach, in order to build progressive timelines, legally binding obligations, and most importantly increase participation from maximum countries, because inclusivity is a key element to the success of global nuclear security.

Conclusion

The 2016 Washington Communique states that the threat of nuclear and radiological terrorism remains one of the greatest challenges to international security, the threat is constantly evolving and countering this terrorist threat requires synchronized international cooperation, including but not limited to sharing of information in accordance with various States' national laws and procedures[28]. The Nuclear Security Summit has been successful in raising awareness regarding the need for a Global Security framework, and developing a focused approach to tackling the challenge at the highest level, but these endeavours are still just the tip of the iceberg. The major chunk that is enforcement and implementation of action plans remains to be executed. It is essential to strike while the iron is hot, and seize the momentum provided by the summit. With threats like nuclear terrorism and nuclear cyber threats becoming more pronounced, it is essential that a focused approach needs to be developed to counter them. Here major organisations – especially the IAEA – can play the role of catalysts in this process for global nuclear security. With the increasing number of civilian nuclear power plants and the lack of universal norms for nuclear security, the fledgling initiatives and infrastructures may become vulnerable to malicious nuclear attacks. The three pronged threat of nuclear sabotage, nuclear theft of fissile material/weapons and 'Dirty Bombs continues to loom over us like Damocles' sword and cannot be countered successfully unless nations consciously come together in a determined bid to oppose these threats through cooperative mechanisms. The emerging 'Cyber Nuclear Security Threat' is another area which requires greater attention. Ratifying existing treaties, implementing strong 'Verification' policies and ensuring adherence to IAEA guidelines, while just the start, will go a long way in combating this menace and creating an environment of peace and security.

End Notes

1 Communiqué of the Washington Nuclear Security Summit, Nuclear Security Summit 2010,

2 Ibid

3 Michelle Cann, Kelsey Davenport and Jenna Parker, 'Nuclear Security Summit: Accomplishments of the Process', An Arms Control Association and Partnership for Global Security Report, March 2016,

4 FACT SHEET: Enhancing the Security of the Maritime Supply Chain Gift Basket, March 25, 2014, at http://www.state.gov/documents/organization/224159.pdf

5 Nuclear security summit communique 2016 at https://www.whitehouse.gov/the-press-office/2016/04/01/nuclear-security-summit-2016-communiqu%C3%A9

6 Ibid

7 Nuclear Security Summit 2016 Action Plan in Support of the United Nations,April01,2016 at https://www.whitehouse.gov/the-press-office/2016/04/01/nuclear-security-summit-2016-action-plan-support-united-nations

8 Nuclear Security Summit 2016 - Highlights from National Progress Reports,The White House at https://www.whitehouse.gov/the-press-office/2016/04/04/nuclear-security-summit-2016-highlights-national-progress-reports

9 Ambassador Bonnie Jenkins, The 2016 Nuclear Security Summit : A point of Transition, March 10, 2016, at http://www.nss2016.org/news/2016/3/9/wv0i4rg0cuc0x6yrmlh7dknni31zwz

10 Michelle Cann, Kelsey Davenport and Jenna Parker, 'Nuclear Security Summit: Accomplishments of the Process', An Arms Control Association and Partnership for Global Security Report, March 2016,

11 White Hall Press call: Previewing the Nuclear Security Summit, March 30,2016 at http://www.nss2016.org/news/2016/3/30/wh-press-call

12 Modi Announces key Nuclear Security Measures,April 02,2016, The Hindu at http://www.thehindu.com/news/national/prime-minister-narendra-modi-at-nuclear-security-summit-in-washington/article8425909.ece

13 Ibid

14 India to Join Three 'Gift Baskets' at Final Nuclear Security Summit

By Devirupa Mitra, The Wire, Energy at http://thewire.in/2016/03/29/india-to-join-three-gift-baskets-at-final-nuclear-security-summit-26497/?mkt_tok=3RkMMJWWfF9wsRonu6zAe%2B%2FhmjTEU5z16O8uWK%2BxlMI%2F0ER3fOvrPUfGjI4IRcRiI%2BSLDwEYGJlv6SgFSrnAMbBwzLgFWhI%3D

15 Ibid

16 "The 2016 Washington Summit: Time to open the Next Chapter in Nuclear security", Artur Kacprzyk, Analyst, Polish Institute of International Affairs, Feb 24, 2016 at http://www.cfr.org/councilofcouncils/global_memos/p37574?cid=nlc-public-the_world_this_week--link16-20160401&sp_mid=51056809&sp_rid=ZGlyZWN0b3JAdXNpb2ZpbmRpYS5vcmcS1

17 The Hague Nuclear Security Summit Communiqué,2014

18 Global Fissile Material Report 2015,IPFM, at http://fissilematerials.org/library/ipfm15.pdf

19 Addressing Cyber-Nuclear Security Threat, NTI at http://www.nti.org/about/projects/addressing-cyber-nuclear-security-threats/

20 Ibid

21 Prospects for 2016 Nuclear Security Summit and Beyond, EU Non-Proliferation Disarmament Conference 2015, IISS, Special Session ,11 November 2015

22 Zia Mian and Alexander Glaser,Global Fissile Material Report 2015,IPFM

23 How we can make our vision of a world without nuclear weapon a reality?, By Barack Obama,March 30,2016,at http://www.nss2016.org/news/obama-op-ed

24 Nuclear Security Summit Communiqué 2016 , at https://www.whitehouse.gov/the-press-office/2016/04/01/nuclear-security-summit-2016-communiqu%C3%A9

25 White Hall Press call: Previewing the Nuclear Security Summit, March 30,2016 at http://www.nss2016.org/news/2016/3/30/wh-press-call

26 Ibid

27 "The 2016 Washington Summit: Time to open the Next Chapter in Nuclear security", Artur Kacprzyk, Analyst, Polish Institute of International Affairs, Feb 24, 2016 at http://www.cfr.org/councilofcouncils/global_memos/p37574?cid=nlc-public-the_world_this_week--link16-20160401&sp_mid=51056809&sp_rid=ZGlyZWN0b3JAdXNpb2ZpbmRpYS5vcmcS1

28 Nuclear Security Summit Communiqué 2016 , at https://www.whitehouse.gov/the-press-office/2016/04/01/nuclear-security-summit-2016-communiqu%C3%A9

ISBN: 978-93-85563-71-3
Price: ₹ 100.00 / US $ 1.95

United Service Institution of India (USI)

Rao Tula Ram Marg, Opposite Signals Enclave, New Delhi-110057
Tele: 26146774/ Fax: 26149773, E-mail: cs3@usiofindia.org