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**Topic 1: Addressing the Threat of Nuclear Terrorism**

One of the most persistent problems faced by mankind over the course of history, the issue of nuclear terrorism is perhaps one of the most significant with the potential for disaster. Japan as a nation looks to take the lead to abolish nuclear weapons in our world through the expansion of non-proliferation treaties and continuation of nuclear disarmament. Japan believes that nuclear disarmament is key in the peaceful use of nuclear power and it is essential to maintain nuclear security around the globe.

Since the 9/11 attacks of 2001, the international community has been ever-cautious in regards to terrorism. Many countries have instituted improved infrastructure for a comprehensive view on the prevention of the theft, sabotage, or illegal transfer of nuclear materials. Security at nuclear facilities have been vastly increased around the world. Few nations understand the pain, death and anguish experienced by those affected by a large scale nuclear attack, for one simple reason: Japan, too, has suffered tremendously being the only country on our world today to have been the direct target of a nuclear weapon which saw over 220, 000 deaths due to the acute effects of atomic bombings in the first day alone. Countless others suffered from the indirect effects due to the nature of nuclear weapons. (Ministry of Foreign Affairs, Japan, 2010). In the words of Wilfred Burchett, an Austrian journalist during the Second World War, the effects of nuclear weapons are truly horrendous:

*“Hiroshima does not look like a bombed city. It looks as if a monster steamroller had passed over it and squashed it out of existence.”* (Manne, R., 2013)

Clearly, Japan is no stranger to horror of war and has suffered as no other nation has under the effects of nuclear disaster. Certainly Japan can stand strong in an ever-changing world to advocate for global peace. So as the global community is to develop nuclear technologies in the new age of science, we must take proactive measures with firm determination to prevent acts of nuclear terrorism before it starts; with the increased growth and proliferation of terrorist groups across the world in a global scale, the fact that there has not yet been a devastating act of terrorism involving nuclear or radioactive material **must** not blind us to this threat. In 2011, Moldovan police seized highly enriched uranium sources from smugglers looking to sell the materials; luckily, this story ended happily ever after, with the materials identified and confiscated, the smugglers arrested, and nuclear securities of Moldova increased with the help of the IAEA. (Amano, Y., 2015). But what if the smuggling effort 5 years ago was just the tip of the iceberg? One thing is certain: the amount of nuclear material present within our world and currently in production is increasing; since 1995, IAEA member states have reported almost 2800 incidents involving mismanagement of radioactive material that has escaped regulatory control. (Ministry of Foreign Affairs, Japan, 2010). The thought that nuclear material produced for the peaceful intentions, for that of cleaner energy and a better future, be used for heinous crimes is simply horrid.

Granted, much progress has been made on the proliferation and strengthening of infrastructure in regards to nuclear and radioactive materials. Japan has amended the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors in 2005 as to implement comprehensive protection measures in line with recommendations from the IAEA regarding protection of nuclear material. (Ministry of Foreign Affairs, Japan, 2010). This included the adoption of a concept of a “design based threat”, implementation for regular inspection of nuclear materials, and obligations to confidentiality. (Ministry of Foreign Affairs, Japan, 2010). Furthermore, Japan as a country is doing the best of its ability to work towards increased regulation of nuclear materials and nuclear proliferation as seen, Japan has ratified the Nuclear Terrorism Convention, to classifying acts of nuclear terrorism as a criminal offence. (Ministry of Foreign Affairs, Japan, 2010).

In addition, health and safety of citizens in the event of a nuclear disaster is incredibly important as well. As seen in the events at Fukushima Daiichi, some nuclear disasters may not be acts of terrorism but are inevitable. In October 2009, Japan implemented a radioactive source regulation system to identify sources that pose a high risk to human health, keep track of such sources, and detect possible illicit trafficking of said sources. (Ministry of Foreign Affairs, Japan, 2010). Japan has also been implementing low-enriched uranium contrary to the common highly-enriched uranium in reactors as an alternative in order to minimize the severity and potential threat posed by such nuclear materials. (Ministry of Foreign Affairs, Japan, 2010). Japan firmly believes in non-proliferation and disarmament, being a party to all relevant multinational treaties including the Treaty on the Non-Proliferation of Nuclear Weapons, the Comprehensive Nuclear Test Ban Treaty, and the Missile Technology Control Regime in this international effort, taking into account pervious resolutions by the UN already on this matter such as UNSC Resolutions 1373 and 1540; this must be a collaborative effort with the international community involving the utmost transparency. (Ministry of Foreign Affairs, Japan, 2010).

Japan believes that it is incredibly important to implement international nuclear security policies in a comprehensive way that continues to strengthen them. It is important to further international cooperation in cooperation with the IAEA.

1. Universal Adherence to International Rules and Regulations: It is important to ensure the universal adaptation of consistent international policies such as the Convention on the Physical Protection of Nuclear Material and the Nuclear Terrorism Convention. (IAEA, 2016). It is essential to request *and* provide the necessary support for any and all member states in this process for the ratification and implementation of these universal frameworks and standards. (IAEA, 2016).
2. Establishment of International Networks: We see it as extremely beneficial to establish regional and international networks in which the international community is able to establish and facilitate an exchange of information and sharing of best known practices. This point was raised at the Seminar on Strengthening Nuclear Security in Asian Countries in 2010 and continues to be a feasible opportunity. (IAEA, 2016). We have seen that the establishment of international and regional networks for the purposes of information sharing, effective coordination, and critique of national infrastructures has greatly improved issues such as drug trafficking.
3. Development of Leading Technologies: We cannot stress enough the importance of international cooperation in the development of technologies in this era of scientific advancements for the purpose of the protection and improvement of nuclear security. Use of infrastructure such as the Nuclear Threat Initiative are essential in this respect in which threat reduction projects can be created and supported with institutions and initiatives already in place for member states wishing to access it.

One issue current issue we see is that a certain number of countries aren’t being cooperative and aligning with relevant international efforts; they aren’t interested in collaborating with international initiatives and prefer to take unilateral action in the area of nuclear materials. However, we know that any potential issues that arise from such a situation would be disastrous. As such, Japan proposes the idea of the creation/expansion of free trade agreements with countries that do ratify nuclear safety policies and collaborate with the international community to strengthen nuclear safety infrastructure, instituting critiques and suggestions from member states, international governmental and non-governmental organizations, as well as international panels of experts such as the IAEA. We believe that through an economic incentive countries can be motivated to better develop and practice nuclear safety for the betterment of the global society.

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**Topic 2: Nuclear Energy as an Alternate Source of Energy**

For more than two decades, the issue of nuclear energy has been a primary focus of the energy sector, being much more efficient than other alternatives in addition to being free of the carbon emissions plaguing our world today. There is a huge amount of power in the nuclei of atoms; through nuclear fission atoms are made to split in order to release this energy for harvest. The practice of nuclear energy provides tremendous potential for energy production in our world and is seen as a major area of potential development for clean, sustainable energy in the future. In particular, the energy of atoms must be cooled due to the extreme heat created by nuclear fission; however, the downside to nuclear energy is the radioactive material that is produced and the fragility of this method.

After the Fukushima Daiichi disaster on March 11, 2011, this was a wakeup call not only for Japan but for the world. The harsh reality of nuclear power was exposed to billions of people especially the country of Japan, with over 160, 000 displaced from the disaster and unable to return to their homes and a 30% gap in Japan’s national electricity supply. (Ministry of Foreign Affairs, Japan., 2010). The reality is, nuclear energy is an extremely efficient and effective form of energy generation when implemented with the appropriate safeguards and prevention methods in place. The IAEA itself stated recently that:

*“The most cost effective way to decarbonize and diversify the global energy market was to increase the amount of generation from nuclear and renewable sources”* (Chubu, E., 2016).

Japan, as a country with few natural resources, initiated its peaceful use of nuclear power early on from the perspective of energy security and sustainability. Currently, there are around 54 nuclear reactors for power generation are in operation across Japan, accounting for over 30% of electricity generation in Japan. (Ministry of Foreign Affairs, Japan., 2010). In order to ensure the peaceful use of all nuclear power materials and infrastructure, Japan has negotiated a comprehensive safeguards agreement with the International Atomic Energy Agency (IAEA) under which Japanese nuclear facilities are subject to. Japan has also established a mechanism that maintains a high level of nuclear security and safety. Thus, Japan has repeatedly worked to ensure the elements known as the 3S (Safeguards, Security and Safety) in the use of any nuclear facilities. (Ministry of Foreign Affairs, Japan., 2010). This is a concept in which all member states with nuclear facilities and materials in operation are to create and negotiate comprehensive nuclear prevention and containment infrastructure. This includes a series of physical barriers between the radioactive material itself and a series of backups for the cooling system in which multiple safety systems are in place, each with a backup in the event of human error. In essence, any statistics for the comparison of nuclear energy against other energy methods remains relatively exceptional, with Chernobyl and Fukushima being blemishes on the otherwise spotless record.

From the very beginning of Japan’s nuclear research program, the Atomic Energy Basic Law of 1995 strictly prohibited the use of nuclear energy for peaceful purposes, a mindset that all member states must have. (Ministry of Foreign Affairs, Japan., 2010). Other related agencies such as the Atomic Energy Commission (AEC), Nuclear Safety Commission (NSC), Japan Atomic Energy Research Institute (JAERI), and the Atomic Fuel Corporation are all organizations instituted solely for the purpose of protecting and developing Japan’s nuclear capabilities in a peaceful, sustainable, and ethical manner. (Ministry of Foreign Affairs, Japan., 2010).

Furthermore, Japan has gained the trust of the international community by continuing the peaceful use of nuclear power while incorporating and maintaining the highest possible levels of transparency, a position that all member states must maintain in order to encourage an atmosphere of trust, cooperation, and sustainable development. A huge benefit of nuclear energy is it’s environmental sustainability, especially the potential for use of nuclear energies, *clean* energy, as a method for governments to ratify various carbon emission reduction goals including the Kyoto Protocol. (Potterton, L., 2016). Of course, the main concern in the development of nuclear energy is the safety and security. The safety and feasibility of nuclear reactors has already been well demonstrated with the continued operation of numerous reactors with a significant *lack* of problems in reactors adhering to western safety standards by design. (Capodici, V,. et al., 2016).

As such, the main priority of the international community should be to develop the usage of nuclear energy in a sustainable, controlled manner with the safety and security of nuclear materials at the focus of development.

1. International Safeguards: It is of utmost importance that international cooperation in the field of peaceful nuclear development is agreed upon and appropriate safeguards maintained and implemented through the IAEA to effectively prevent the proliferation of nuclear weapons; this must be a non-discriminatory process monitored by international bodies such as the IAEA, the Nuclear Energy Agency, or the United Nations Atomic Energy Commission (UNAEC) out of the numerous choices in which these organizations play a supervisory role.
2. Energy Development Priorities: A pyramid type approach must be built in which energy development priorities are outlined; in such an approach, indicators describing the impact of developments at the sectoral level (eg. energy, agriculture, and transport) are expressed in physical and monetary forms, including incorporation of internationally accepted criteria including that of the sustainable development indicators developed by the OECD to measure sustainability and feasibility of said methods. Above that, measures of net monetary gains are assessed through internationally-accepted criteria for an overview of net economic gain/loss with regards to green national accounts and future development. Lastly, the top of the pyramid would include the economic, environmental, and social dimensions: environmental effects such as greenhouse gasses, economic feasibility and sustainability and social considerations (including the views of citizens and the international community) are taken into account. This way, such a comprehensive analysis is to be integrated into global framework and provide for key strategic aspects in which to allocate resources and take appropriate actions.
3. Development of a Safety Culture: With safety being of the utmost concern, both reactor design and operator training are extremely important. Implementation of five successive barriers as the international norm for safeguards includes a number of control, limiting, and protection systems including multi-redundant stand-by, active *and* passive backups. (Takana, H., 2016). Safety measures intervene to stop the reaction of nuclear fission and essentially ensure the safety of nuclear material for human intervention. New designs aim to reduce the risks of a nuclear disaster by a factor of 10, with current probabilities for significant radiation release already less than 0.00001% per year. (Takana, H., 2016). In addition, accident prevention will be enhanced by reducing the frequency of equipment failures and possible human errors through improved man-machine interfaces such as the introduction of containment features such as gas coolants and vapor suppression pools to contain the release of contaminants and allow for automatic cooling. (Takana H., 2016). Such methods and increased technological development should be discussed, affirmed, and improved upon through discussion by international panels of specialists as facilitated by the IAEA or other existing organizations such as the International Panel on Fissile Materials, Nuclear Security International panel, or an international form of the U.S.-Japan Roundtable on Nuclear Energy Cooperation.

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**Topic 3: Measures to Implement and Enforce the Nuclear Program in Iran**

UNSC Resolution 2231 on the Verification and Monitoring in the Islamic Republic of Iran summarizes that the monitoring and verification activities the agency has conducted in the last few months show that Iran has continues to implement its nuclear related commitments and under the Joint Comprehensive Plan of Action, also known as the Iran deal. This agreement has already been put in place for exactly the topic to be addressed today; for Iran to eliminate its stockpile of medium-enriched uranium, cut its stockpile of low-enriched uranium by 98%, and only enrich uranium up to 3.67% for the next 15 years after 2015. (Manning, R.A., 2015). Furthermore, the entire point of the IAEA at this point is to monitor and verify Iran’s compliance with said agreement, having regular access to all nuclear facilities and relief from nuclear-related sanctions, targeting the economic aspect that Japan sees as essential to the resolution of this entire issue. (Kraig, M.R., 2005).

Truly, Japan believes that its nuclear experience may offer essential and helpful insight into the ways to bridge the unstable trust-gap between Iran and the global community, and strengthen the incentives and abilities of member states to follow through on the established Iran Nuclear Deal. The biggest problem for the global community at this point is whether or not Iran will allow full transparency and cooperation in the process of nuclear inspections. (Manning, R.A., 2015). The essence of this deal will leave Iran a “virtual nuclear state”, with the capacity to obtain nuclear weapons but with constraints against doing so; a status Japan has held for a long time. (Manning, R.A., 2015).

Most importantly, Japan has become a model citizen of the Non-proliferation Treaty (NPT). Japan was the *first* non-weapons state to sign and implement the IAEA Additional Protocol, displaying extraordinary transparency which allows for more intrusive monitoring processes. Not only that, Japan has numerous bilateral nuclear safeguard agreements in place with countries around the world including the USA, the United Kingdom, Australia, and Canada just to name a few. (Ministry of Foreign Afairs, Japan., 2016). We firmly believe that this is an important mindset that all member states must adapt. In order to work towards global piece and cooperation, every member state *must* play its role as a part of the global community. It is essential that all countries contribute to the sense of trust and cooperation that must be fostered within the international family. The issue of nuclear weapons and materials has tremendous potential for disaster and wide-spread consequences that affects each and every single human being on the face of this earth. As such, each and every member states also holds a responsibility to positively contribute to the issue of non-proliferation and play its duty in the reduction of nuclear weapons present in our world.

Given the deep distrust present on both sides of the equation, verification of non-proliferation is essential to strengthening the sense of trust and credibility to any further deals. However, we must also keep in mind that it could be detrimental to remove the safeguards and sanctions present before the IAEA has a fully functional and comprehensive inspection regime operational and in place. (Phillips, J., et al. 2015). As such, this also consequentially incentivizes Iran to increase collaboration with the IAEA as an incentive to remove sanctions currently in place in accordance with UNSC Resolution 2231 which sets out a schedule to suspend and eventually lift UN sanctions, with provisions to re-impose sanctions in the case Iran is unable to fulfill its responsibilities. (Phillips, J., et al. 2015). Thus, it is also in Iran’s best interests to increasingly collaborate with the IAEA for the establishment of a comprehensive inspection infrastructure as to remove any sanctions still imposed upon Iran at that time. (Phillips, J., et al. 2015).

Mainly, Japan believes that borrowing from previous experience and adopting additional safeguards to improve transparency must be the focus of the global community, and not the number of centrifuges that Iran possesses. Possible advancements to this issue must be multi-faceted due to the incredibly complex nature, several of which are outlined below:

1. Cooperation with GCC nations: Japan believes that a possibility of the successful implementation of the Iran deal is the inclusion of other GCC nations to assist in building trust between Iran and the IAEA. For example, the IAEA could include inspectors from GCC nations for the purposes of monitoring nuclear non-proliferation. Also, Iran, Saudi Arabia and/or other such GCC states with nuclear facilities and programs could agree to bilateral mutual inspections with Iran, there being an increased degree of trust between said member states. Given the large degree of paranoia among the Gulf States regarding this nuclear deal, regional cooperation thus induces an increase in regional stability. (Mousavian, S.H., 2014). Furthermore, this may strengthen the confidence of GCC states nations that the main concerns surrounding such strict controls on nuclear materials is indeed surrounding energy, not an extensive conspiracy. (Mousavian, S.H., 2014).
2. Emphasis of the IAEA Addition Protocol: Japan believes that it is incredibly important to increase the emphasis of the IAEA Addition Protocol, a mechanism that is incredibly underappreciated. This comprehensive mechanism truly allows for comprehensive monitoring of nuclear programs and facilities; it also allows for the incorporation of high-tech devices contributed by member states to facilitate in the detection of cheating and possible stealth activities wishing to be undetected.
3. Facilitation of the Joint Comprehensive Plan of Action (Iran Nuclear Deal): In the Iran Deal, the exchange is that Iran’s nuclear program is to be legitimized and sanctions eventually raised in exchange for restrictions on uranium enrichment; however the global community has a responsibility to see this plan through. It seems possible that Iran may attempt to bypass the terms set **ou t** as it has done in the past and once various frozen assets of Iran are released (a number Philips, J., et al. estimates to be aver $150 billion) and sanctions are lifted, finances which may be used to build up and better facilitate the development of its nuclear arsenal after the short-term limitation on enriched uranium ends. (Mousavian, S.H., 2014). But that’s just one of infinite possibilities. As such, Japan sees it as more practical to keep options and relative sanctions on the table, heavily scrutinize the Iranian nuclear program with extensive monitoring programs such as the incorporation of the IAEA Addition Protocol to ensure the legitimate steps that the Iranian government is making in favor of non-proliferation.

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