Forum: Special Political and Decolonization Committee (GA4)

Issue: The role of the international community in the prevention of the radiation threat in Central Asia

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INTRODUCTION

Central Asia is undoubtedly being exposed to one of the most harmful forms of energy in the world: radiation. Bordering on the Russian Federation in the north, China in the east, Iran, Afghanistan, Pakistan in the south and the Caspian Sea in the west, Central Asia is daily exposed to uranium for medical, scientific, industrial applications, or even for the creation of Weapons of Mass Destruction (WMDs). Other than the fact that uranium is responsible for the high percentage of serious diseases, like cancer, Central Asia has become a disposal site for missing radioactive sources. Therefore, the issue under discussion is not just a security issue, but a deeply political one.

FIGURE 1: Map depicting Central Asia and the countries it consists of, as well as the countries bordering it.

The radiation threat in Central Asia has a very long history. Its most crucial aspect is the actions of the Soviet Union, which invested time and resources into evolving its weaponry and military force, including Weapons of Mass Destruction. As a result, mines would often operate in the area —now being Central Asia—, where uranium —a greatly radioactive material— would be extracted. Therefore, huge damage

[1] "Map of Central Asia." *Wikimedia*, upload.wikimedia.org/wikipedia/commons/thumb/6/68/Map_of_Central_Asia.png/310px-Map_of_Central_Asia.png.

was caused to the environment and the health of the population. Today, even after the fall of the Soviet Union, the problem persists.

After several attempts to tackle the issue, including those of the International Atomic Energy Agency (IAEA), or the Nuclear Threat Initiative (NTI) and the Center of Energy and Security Studies (CENESS), it is now up to the international community to deal with the already-existing radiation threats and to prevent any further ones in the area.

DEFINITION OF KEY-TERMS

Uranium

Uranium is a radioactive metal that occurs naturally on Earth and is used for the production of nuclear energy and weapons. It is the most dangerous discovered metal for the human health.

FIGURE 2: The state of metal uranium.

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Remediation

Remediation is defined as the cure of a disease or the solution to any medical problem, which may pose a threat to the population.

Sanitary Code

A set of obligatory written principles or laws, which regulate healthcare and the way it is offered to the population.

Decay

The gradual and mostly natural process of an entity's decomposition.

"Uranium." *Satisfactory Week*, https://gamepedia.cursecdn.com/satisfactory_gamepedia_en/3/31/Uranium.png.

Shielding effect

The shielding effect is a chemical process, which weakens the bond between the nucleus and the electrons leading to the destruction of an atom. It is a practical solution when minimizing the potential threat posed by the disposal of radioactive waste.

Community development

Community development is a type of activity, which aims to ameliorate both the society's infrastructure and its members' healthcare. Often introduced by exterior sources, it is provided to the community through technical assistance and education.

Dirty Bomb

A bomb which contains radioactive material and, therefore, emits a huge amount of radiation when exploding.

Tailing Ponds

Tailing ponds are sites where water is separated and recycled in order to be reused for a certain operation. They are often found in mining sites —in this case, uranium mining sites—, where they operate for thirty to forty years. The Soviet Union has excessively used these ponds in order to extract uranium for its nuclear arsenal.

BACKGROUND INFORMATION

Knowing the complexity of the topic to be discussed, it is essential that every aspect of it is highlighted enough so that the international community is able to take action. Those aspects include the already existing technology on managing radioactive waste and detailed information on the issue in Central Asia and what it means for its citizens.

Radioactive waste technology

Depending on its radioactivity, each radioactive source is decayed after a certain period of time. The more radioactive it is, the faster it decays. Accordingly, radioactive waste is divided to low-level waste (LLW), intermediate-level waste (ILW) and high-level waste (HLW). LLW is generated in hospitals and in industrial zones. Before being disposed of, it is either compacted or incinerated. Waste can be compacted when greatly pressed and can be incinerated, when exposed to a temperature, which

weakens the bonds between the organic substances in the waste. ILW can be found in most of the chemical substances and/or sludges. Due to its relatively high radioactivity, it must be shielded before being disposed of. Some ILW also needs to be solidified. Finally, HLW are both the hottest and most radioactive waste, because it is produced when “burning” uranium. As a result, a greater length of time is required before shielding the HLW. Before disposing of it, it is also vital to cool the HLW due to its alarmingly high temperature. Another type of waste is the Very Low Level Waste (VLLW), which emits little enough radioactivity that leaves unharmed the environment or the population when exposed to them. Thus it is disposed as domestic refuse. The disposal technology has evolved to an extent that specialized facilities are being created in several countries, including the United Kingdom, Spain, France, Sweden, Finland, Russia, Japan, South Korea and the United States of America.

Apart from the above, there is another form of radioactive waste, called “Legacy Waste”. It was first produced when nuclear technology was being developed in the absence of a military program. As such, legacy waste is very difficult to manage and is often disposed of in the wrong way harming ultimately the environment.

FIGURE 3: Depicted in the picture is radioactive waste. The green liquid is a sign that the waste is consisted of a very strong mixture of elements, which emits radioactive waves.

An equally important radiation source is nuclear power. In comparison to other toxic waste, however, it is safer and less hazardous when disposed, because its radioactive emissions are constantly getting weaker. Therefore, it is internationally accepted that radioactive sources should be geologically disposed.

The radiation in Central Asia

The loose control in Central Asia has led to the illicit trade of radioactive substances. After the Soviet Union's fall, which was responsible for many uranium mining efforts in Central Asia, the Central Asian countries were left with nuclear

[3] "VectorStock." *VectorStock*, encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQjajRq7RNwAVIYrZdoZ9Bsvz4rqcBdh4WTPPAfFxf-8Z6WpitL.

weapons. Even after their disarmament, Kazakhstan is still one of the nine countries holding Weapons of Mass Destruction, including nuclear weapons, while the rest of the countries hold material, which could lead to the construction of nuclear bombs, or of machines that can cause nuclear fission, as it has already happened in the past. Despite the United States' intervention and capture of Pakistani people involved in the aforementioned trading businesses, the threat in the area persists. This is what led the Russian atomic energy minister, Alexander Rumyantsev, to claim that the problem in Central Asia is serious enough and actions have to be taken as soon as possible. This marked the first comprehensive approach to the issue, as it was greatly neglected until then.

[4]

FIGURE 4: The uranium tailing ponds ("priority sites") where radioactive waste was left. The map was created in 2018.

Health is a factor to be considered when mentioning the negative effects of radiation. It is scientifically proven that exposure to radiation increases the person's vulnerability to cancer. The symptoms are not manifested at the time when exposed to radiation, but the radioactivity stays inside the human body, where it eventually does damage to the cells, resulting in cancer geneses. The severity of this problem is relative to the amount of radioactivity one was exposed at. It is of outmost importance to remark that children are especially prone to cell damage, meaning that genetic mutations caused by radioactive waste during early childhood could lead to an abnormality being passed down to future generations. Finally, other living organisms and the environment as a whole are severely damaged when exposed to radioactivity, especially radioactive waste.

Despite the above, it is essential to point out that radiation is emitted in Central Asia itself as well, and for purposes other than just the production of nuclear weapons in

[4] [4] "Environmental Remediation in Central Asia." *Central Asia News*, central.asia-news.com/cnmi_ca/images/2018/11/15/15366-_____-739_416.jpg.

Kazakhstan. The most significant of the purposes is community development. After the collapse of the Soviet Union, the five countries in Central Asia became independent, with their population having problems in regard to healthcare and quality of life. A most overlooked, yet important, consequence of this was the lack of drinkable water. As a result, with the support of the Joint Development Associations International (JDA), solar radiation was introduced as a means of purifying water, which should otherwise not be drunk by the people due to the pathogenic microorganisms living in it or to the water's exposure to chemical substances. The program involved teaching pupils how this method would be applied through puppeteer shows. The children would then explain the method to their parents. Finally, the method was favored by the residents of Central Asia, in spite of the initial skepticism concerning the reliability of solar radiation. We should not address this form of radiation at great length, but rather be aware of the positive effects radiation can sometimes have on the development of a region.

 [5]

FIGURE 5: The woman in the photograph has gathered all the necessary material and is ready to use the solar disinfection method in order to create potable water.

Judging from all the aforementioned facts, we can conclude that, although there are currently some organizations and states striving for the amelioration of the situation in Central Asia, the problem is deeply rooted to practices, such as the wrong use of radioactive waste, or the incomplete control over the area's security issues, which require supplementary actions to be taken.

MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED

The Russian Federation

The role of the Russian Federation in this issue in Central Asia is yet unclear. On the one hand, it is the only state to have, in theory, publically expressed its support to addressing the radiation threat. On the other hand, most of the radioactive waste in Central Asia comes from this very state and, especially, its capital, Moscow. Other than

[5] *Technology for Community Development in Central Asia*. Dec. 2005, www.jdainternational.org/technology%20development%20in%20Central%20Asia.pdf.

that, the Russian Space Agency is often observed buying radioactive material in Kazakhstan. This attitude of the Russian Federation has begun from the Soviet Union's early days, despite its communistic ideology.

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European Union (EU)

Since the breakout of the Soviet Union, the European Union has started taking action, based on diplomacy, so as to provide the newly-independent countries in Central Asia with development aid. One of the main goals of this action is the remediation of the environment after Moscow's destructive disposal of radioactive waste into the area. As a result, the EU has already assigned sixteen million dollars to combat the problems deriving from radioactive waste in Central Asia and plans to devote ten more million dollars for the same reason. On 8 November 2018, the EU also declared the organization of an international conference in London where the correct disposal of uranium would be discussed.

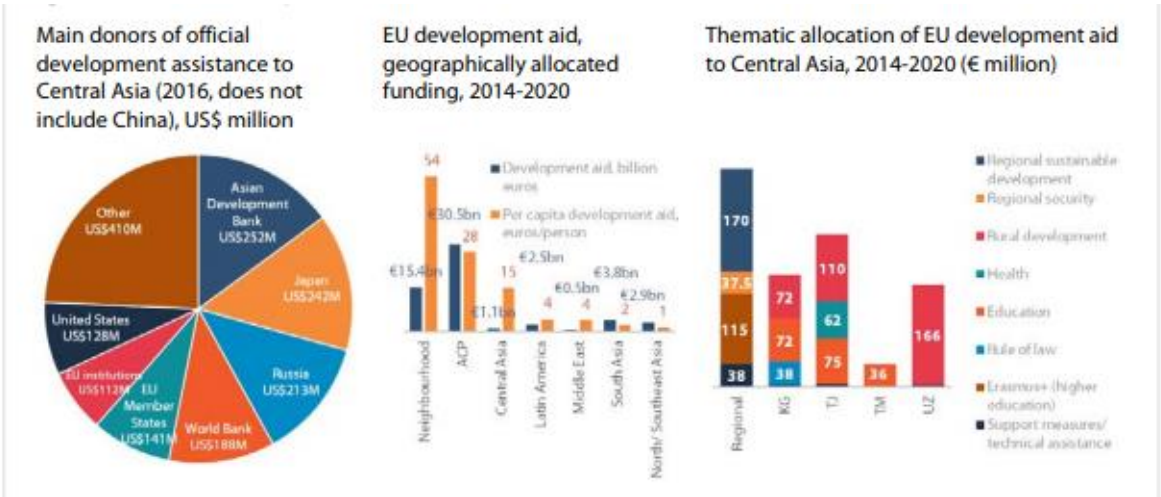

FIGURE 6: Graphical details on the EU's development aid to Central Asia.

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[7] "The EU's New Central Asia Strategy." *European Parliament*, 2019, www.europarl.europa.eu/RegData/etudes/BRIE/2019/633162/EPRS_BRI(2019)633162_EN.pdf.

China

China is one of Central Asia's economic partners. Despite that, China's support complicates the relations between Moscow, Beijing and Brussels. More specifically, Moscow considers Beijing as its enemy, although neither Russia nor China views the EU as the enemy. This has led Kazakhstan and Uzbekistan to avoid choosing sides and appreciating financial support from three different sources.

Afghanistan

Afghanistan used to be considered as a threat to peace in Central Asia, but in 2019, it seems to play a much more complex role. As one can see in the Figure 1, Afghanistan is a country, the geographical importance of which has come to link it with the countries in Central Asia. Afghanistan is now a transition country for pipelines and powerlines by Tajikistan and Kyrgyzstan, while a railway is currently under construction, which will connect Uzbekistan to Iranian routes and the Persian Gulf. So, Afghanistan seems to be a truly valuable partner of Central Asian countries.

Nuclear Threat Initiative (NTI)

The NTI has greatly contributed to countering the radiation threat in Central Asia through the creation of a nuclear weapon free zone, namely the Central Asia Nuclear-Weapon-Free-Zone (CANWFX). The CANWFX was opened for signature on 8 September 2008 and entered into force on 21 March 2009. It was ratified by all five countries in Central Asia and has unlimited duration. According to the treaty, the research, development, creation, possession or acquisition and stockpiling of nuclear weapons are not permitted and the same applies to the requests of assistance of those countries. Another important term of the CANWFX marked the first point of contention between Central Asian countries. This treaty can be amended under specific circumstances. Finally, it was supported by a relevant resolution voted on 5 December 2018 by the UN General Assembly under the title "Treaty on a Nuclear-Weapon-Free-Zone in Central Asia."

Center of Energy and Security Studies (CENESS)

CENESS is a non-governmental organization (NGO) and its role is analyzing data on nuclear weapons and their non-proliferation. As it focuses on the importance of

Russia's actions in this domain, is very interested in the issue of radioactive waste in Central Asia.

The workshops organized by the IAEA in Central Asia were also sponsored by the CENESS. However, the latter has also contributed to strengthening control over the area, preventing the illicit trafficking of radioactive sources and disposing of them at the end of their life cycle.

Organization for Security and Cooperation in Europe (OSCE)

The OSCE has been greatly active in achieving the democratization of the five Central Asian States after the collapse of the Soviet Union, but has not shown any interest to the currently ongoing matters in the region. More specifically, less than 5% of its budget is devoted to actions in Central Asia. Other than poor funding, the organization's agencies controlling the region are understaffed and new discussions on the topic are yet to be encouraged.

TIMELINE OF EVENTS

DATE	DESCRIPTION OF EVENT
1944	The Soviet Union commences uranium mining in Tajikistan.
1990	Nuclear weapons piled in Kazakhstan are withdrawn to Russia.
1991	The Soviet Union ultimately collapses.
1992	Humanitarian relief and community development begins in Central Asia by the JDA.
1994	Uranium is discovered in Kazakhstan and taken away by the United States of America.

April 2000	In a power plant in Tajikistan, six residents are captured for developing uranium, which could be suitable for nuclear weapons.
2007	Establishment of the UNRCCA.
8 September 2008	The CANWFX is opened for signature.
21 March 2009	The CANWFX enters into force.
May 2017	The first regional workshop is held in Astana, Kazakhstan, supported by the IAEA.
Spring 2018	The European Union assigns 16 million dollars aiming to reduce the radioactive waste in Central Asia.
June 2018	The second regional workshop is held in Bishkek, Kyrgyzstan, sponsored by the IAEA.
November 8, 2018	The EU organizes an international conference in London where the correct disposal of uranium is discussed.
December 5, 2018	A resolution titled “Treaty on a Nuclear-Weapon-Free-Zone in Central Asia” is voted by the UN General Assembly.

RELEVANT UN RESOLUTIONS, TREATIES AND EVENTS

A/RES/72/283

This resolution was adopted by the General Assembly (GA) on 22 June 2018. The topic discussed was “Strengthening regional and international cooperation to ensure peace, stability, sustainable development in the Central Asian region”.

The members of the GA throughout the above session recognized the ongoing issues in Central Asia and their threat to the stability of the region, as well as the negative effects of the use of uranium. Wishing to preserve the ecosystem in the area and underlining the importance lying in the provision of adequate education, the GA reassures its support for ongoing regional efforts in the area. It welcomes the first summit of Central Asia, which will be held in Astana on 15 March 2018. It also proposes the development of bilateral and regional cooperation aiming at the proper use of water and energy sources in the area. Other than that, it supports friendly relations between the countries in Central Asia. Finally, UN specialized agencies, funds and programs are asked to take immediate action in order to minimize all the problems that stem from the radiation in Central Asia.

United Nations Regional Centre for Preventive Diplomacy for Central Asia

The United Nations Regional Centre for Preventive Diplomacy for Central Asia (UNRCCA) was established in December 2007 with the goal of helping the five countries in Central Asia to develop fruitful relations. The actions of this center are all based on diplomacy. Its five “priority areas” are the strengthening of prevention in the region, the development of tighter checks and earlier warnings, the establishment of cooperative relations, the promotion of UN preventive actions, and the strive for better collaboration between Central Asia and Afghanistan.

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

The most constructive attempt to tackle the issue in Central Asia is the one by the IAEA. The IAEA organized two workshops in Kazakhstan and Kyrgyzstan in 2017 and 2018 respectively, which informed the citizens of the radiation technology, radiation waste and its threat to human health and the environment, as well as to proper nutrition. Citizens were also given valuable information on agriculture, the correct use of water and energy sources, nuclear development and management and other industrial applications.

POSSIBLE SOLUTIONS

Having thoroughly examined the issue of radiation threat in Central Asia, it is of great importance to highlight the role of the international community in combatting the already existing problem and preventing any further radiation threats. To begin with, the current problem could be solved with the aid of NGOs, which could provide technical support in disposing of the radioactive waste. Other than that, organizations, such as the World Bank or the United Nations Development Programme (UNDP), are to be taken into account. The delegates should also consider measures to offer people struck by radioactive emissions proper treatment so as to be cured. As for the preventive actions, awareness must be raised both of the current situation and of modern techniques used in properly handling radiation waste. International support has to be provided to the countries in Central Asia in order to properly manage any radiation sources used, or any ones that were used by other countries and were left to decay in their territory. The awareness raising campaigns could be followed by a supplementary series of workshops both in Central Asia and in the bordering countries aiming to teach citizens how to react when exposed to radiation, as well as industrial leaders how to control their radiation sources. It is also essential that all relevant NGOs and UN bodies take action and provide financial and medical support to the area in order to prevent any further radiation emissions from radioactive waste and offer patients struck by radioactive waves proper treatment. Finally, the international community will be expected to condemn actions, which diverge from the guidelines concerning the proper use and disposal of waste.

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