

Chapter 6

Environmental security. Challenges and perspectives

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Abstract: Ozone layer destruction, deforestation, nuclear weapons – these are principle environmental concerns which were stated out by different activists and governments in 80's and 90's. Back then, the issue of environmental security and awareness were not as popular and prevalent as they are today. The period of 2019–2020 has become a starting point of the so-called 'environmental awareness' due to influence of mass media, globalization, ecological activists, youth participation and variety of other factors. International society has begun to take into account unpredictable and severe effects of changes in the environment. Such factors of past experiences as climate change, migration, conflicts for such natural resources as water, and ecological/environmental terrorism, made not only society but global actors treat the danger seriously. Flaws of environmental security are to be set on the same level with 'traditional' outcomes of military conflicts. It is due to unpredictability of situation and large scale of lesion.

The relevance of the research paper is appropriate in current realities. Even if we track issues raised in the recent volumes of the Munich Security Conferences, the problem of environmental dangers is included to last 5 of them. The topic is controversial due to clashes of interests among such global leaders as the United States of America and ambiguous role of different international or state organizations. Nowadays, threats of ecological security are no longer in theory. Such type of dangers is described in 'water diplomacy' related to Israeli/ Palestine and India/Pakistan conflicts; controversial attempts to embrace common action by the UN and the NATO and 2015 Paris Agreement; and last but not least, development of new terrorism branch – ecological one. The aim of this paper is to analyze threats related to environmental security and to predict possible influences or appropriate tactics to overcome future challenges.

Keywords: ozone layer destruction, deforestation, climate change, migration, conflicts for such natural resources as water, and ecological/environmental terrorism

Introduction

Modern realities and conditions challenge international security domain. The paradigm of 'being safe' changes over time, as the world adapts to new kind of threats – environmental or ecological dangers. The idea of environmental threat is not new, however, it has been given dignified doze of attention not only from society but political and international players. The Paris Agreement seemed reliable back in 2015 though shortly after strategies and agreements towards prevention of climate change demonstrated flaws. Numerous experts called for keeping global temperature rise below or 1.5 degrees, but recent prognoses are centered around 3.2 degrees by 2100¹⁶⁵. Climate change is no longer a myth. The phenomena result in unpredictable environmental catastrophes, waves of the so-called 'ecological' refugees, rising level of conflicts over such natural resources as water, and contributes to rise of environmental terrorism. The importance of environmental security cannot be overestimated. According to results of 2018 Munich Security Conference, around 7 million of people were victims of climate related damage only in 2015¹⁶⁶. Thus, the conclusion can be made that pollution results in murdering 15 times more people than variety of violent actions.

The aim of this paper is to expand nature of environmental security and how is it linked to other branches of security. Apart from it, questions of 'water diplomacy' are going to be discussed, based on Israeli/Palestine and India/Pakistan cases; as well as rise of 'ecological' terrorism with analyzing such examples as the Earth Liberation Front and others. Taking into account all mentioned data, the paper seeks to make predictions regarding future of environmental security and ways to tackle upcoming threats.

¹⁶⁵ "UN emissions report: World on course for more than 3 degree spike, even if climate commitments are met," UN News, last modified November 26, 2019.

¹⁶⁶ Munich Security Conference Foundation GmbH, Munich Security Report 2018 (Munich: Prinzregentenstr, 2018), 46.

What is environmental security?

As any global issue, environmental security fosters lots of debates among global society. The term itself is often misunderstood due to lack of universal definition. Therefore, the conclusion can be made that such flaw brings in similar difficulties to the UN attitude towards terrorism. Misconceptions over nature of terrorism make it difficult to find effective multilateral approach to tackle the problem, as many countries might manipulate on these grounds. Similarly to the issue of international terrorism, nature of environment security can be willingly applied in the name of a country's interests.

According to Millennium project focused on environmental security study, the most relevant definition is as following: environmental security is the system, aim of which is to effectively overcome threats to the global peace and stability, caused by altering environmental conditions¹⁶⁷. Among its principle responsibilities are preventing environment from being damaged by military actions or helping to recover from it; dealing with issues of environmentally based conflict; and lastly, services of the environmental security are keen of preserving and promoting nature as the estimable value. Contributions of the Millennium Project highlight the importance of distinction between environmental security and safety. According to the study, environmental safety deals with level of reliability of such industrial 'devices' as nuclear plants, power stations, pesticides, level of waste and others.

The US vision and main aims of environmental security are presented by the US Department of Defense in the Environmental Security Threat Report¹⁶⁸. The United States of America appreciates restoration of environmental values, prevention of pollution, assesses human health risks, and highlights the importance of both multilateral and bilateral negotiations in this area. Even though the US response towards environmental threats has been criticized under Trump's administration, it observes the

¹⁶⁷ Elizabeth Florescu, Jerome C. Glenn, "Environmental Security Rising on the International Agenda", *Development, Environment and Foresight*, Vol.1, No. 1-6-23, (2015).

¹⁶⁸ U.S Department of State Archive, *Environmental Security Threat Report*, 2001.

co- called 'environmental diplomacy' as one of the major tools. It mainly covers bilateral relations in regional or global spheres¹⁶⁹.

As for the Russian Federation, it represented vitality of environmental security in the country's national security strategy. Russia put human well-being and participation, integrity of biodiversity and how does it influence both external and internal impingement of the state as core factors of the updated presidential decree of environmental security since 2017¹⁷⁰.

Nature of environmental security is linked to such necessary areas of human development as energy sources, and energy security in particular. As the globalization has more and more influence around the world, demands of population increase. Jakstas claims that energy security has become more integrated area nowadays¹⁷¹. Undoubtedly, the concept depends on economic development, geography and aims of a state but it faces such common challenges as security flaws and sustainable environmental conditions. Indeed, energy security is not solely about affordability or accessibility of energy sources. According to Collins Ayoo, energy security is based on the so- called 4 As, mainly affordability, availability, accessibility, and acceptability¹⁷². The consumption and supply of energy have been challenged not only by geopolitical tensions (for example, the EU/ Russia gas tensions) but the impact of climate change lately.

Number of most developed countries have adopted application of alternative energy distribution ways. Though such technologies as solar panels and wind energy decrease harmful contribution to the greenhouse effect and minimize utilization of coal or nuclear components, they remain expensive and unbearable to fragile states. Based on mentioned data, conclusion can be made that alleviation of climate change heavily depends on development in the sphere of energy security. The problem reveals flaws

¹⁶⁹ Kurk Dorsey, "American Environmental Diplomacy", *American History*, 2016.

¹⁷⁰ Vladimir Putin, The Presidential Decree #176, Moscow, 2017.

¹⁷¹ Tadas Jakstas, "Chapter 5- What does energy security mean?" in *Energy Transformation towards Sustainability*, ed. Manuela Tvaronavičienė and Beata Ślusarczyk (London: Elsevier, 2020), 99–112.

¹⁷² Collins Ayoo, *Towards Energy Security for the Twenty- First century* (London: IntechOpen, 2020).

in governmental systems and classical dilemma about comfort of consumption versus environmental sustainability. Jakstas raises importance of such international agreements as the Kyoto Protocol and the UN Framework Convention on Climate Change due to severe aftermath of failures in systems of atomic energy supplying or nuclear weapons¹⁷³. Nowadays, it refers not only to Chernobyl nuclear disaster in 1986 but to repercussions of Fukushima Daiichi nuclear catastrophe in 2011. Indeed, the development of alternative energy sources is on the rise. On the one hand, wide implication of photovoltaic solar panels might be the key to greater energy sovereignty of a country, while on the other hand switching to the eco-friendly energy supply is time and money consuming. Therefore, the gas is expected to lead among the sources of energy supply in the nearest future, while atomic energy remains popular currently due to its relative cheapness and exalted outcome.

Apart from being interlinked with energy security, environmental one faces rising number of issues nowadays. For instance, such experts as P. Alston claim that security agencies are challenged by such aspects as resources shortage, rising demand on food consumption, migration and climate change¹⁷⁴. Another controversial problem is sovereignty of states. According to major points provided by the US Department of Defense, it covers not only a state's right to self-defense but refers to multilateral global corporations¹⁷⁵. They have a right to exploit natural resources, putting fragile or weaker countries under a threat. For example, the recent case of Brazilian controversy over the Amazonian forest¹⁷⁶ devastation clearly demonstrates how struggle for money or being supported by powerful political actor wins over environmental stability of not only the region but vast part of the world.

¹⁷³ Tadas Jakstas, "Chapter 5- What does energy security mean?" in *Energy Transformation towards Sustainability*, ed. Manuela Tvaronavičienė and Beata Ślusarczyk (London: Elsevier, 2020), 99–112.

¹⁷⁴ Philip Alston, *The parlous state of poverty eradication, Report of the Special Rapporteur on extreme poverty and human rights*. Human Rights Council, 2020.

¹⁷⁵ U.S Department of State Archive, *Environmental Security Threat Report*, 2001.

¹⁷⁶ "Amazon wildfires: Leaders pressure Brazil to quell 'international crisis,'" Deutsche Welle, n.d. <https://www.dw.com/en/amazon-wildfires-leaders-pressure-brazil-to-quell-international-crisis/a-50132482>.

Water conflicts and diplomacy

Modern conflicts dictate new rules. In his article Jan Selby explains how water influences both global and local affairs, especially in the Middle East area. Selby touches upon the so- called stereotype of rich North and poor Middle East. It might look similar to the Brandt Line (the well- known division of the world to the so- called Global North and the Global South in terms of economic and social development¹⁷⁷) though the main item for competition is water. Although the Middle East being rich in oil and other energy resources, it faces water scarcity problems due to the steady growth of population, development of modern technologies and improvement of living conditions. Consequently, there has been a spike in conflicts over water shortages. Some experts even equalize the value of water to oil, calling it 'the next oil.'¹⁷⁸.

Lufkin highlights importance of climate change and water demand, which is expected to reach 55% until 2050 due to rising level of sea and population in recent years¹⁷⁹. However, the decrease of inhabitants is prognosed due to sharp water scarcity and development of such diseases as the HIV or AIDS, malaria and others. In this section the author is going to focus on Israeli/ Palestine and India/ Pakistan conflicts over water resources and access to it.

Water scarcity has become one of the major factors that escalating the geopolitical clash between Israel and Palestine. Current prognoses claim that the water issue can become a threat to the so- called 'two state system.' The main areas of dispute between Israel and Palestine are centred around the West Bank, Late Tiberias, the Mountain Aquifer and others. Since 1967 two countries have been struggling over area of West Bank.

¹⁷⁷ Nicholas Lees, "The Brandt Line after forty years: The more North- South relations change, the more the stay the same", *Review of International Studies*, no. 47(1) (Published online November 16 2020): 85–106.

¹⁷⁸ Jan Selby, "The Geopolitics of Water in the Middle East: fantasies and realities," *Third World Quarterly* 2, Vol. 26, (2005): 329–249.

¹⁷⁹ Bryan Lufkin, "Why 'hydro- politics' will shape the 21st Century," *BBC*, June 16, 2017.

In addition, specific climate conditions of desert and territorial conflict are not the only factors that exacerbate the water dispute. Palestine faces steady rise of population which, in its turn, intensifies demand for clean water. The crisis was escalated after Palestine/ Israel military clash in 2014. As a result, Palestine faced serious power outages and new challenges, while Israel still holds control over 80% of crucial water supplies including Lake Tiberias and Mountain Aquifer¹⁸⁰.

Undoubtedly, the two sides of the dispute were accused of machinations and violation of International Law though the response of global community is criticised as well. For example, the Oslo II Accord signed in 1995 is still being both condemned and appreciated. The Accord included division of vital water resources among Palestine, Israel and Gaza. In addition, the Oslo II Accord not only acknowledged self-governing territory of Palestine but had divided the West Bank to the areas designated A, B and C. To expand, the 'A' area belonged to Palestine, the 'B' zone was delegated to both Israel and Palestine, while the 'C' one was governed exclusively by Israel¹⁸¹. Even though the Accord remains legitimate until today, it has been heavily criticised. For instance, the arrangement did not take into account problem of infrastructure, logistics, geography, politics, and environmental influence. What is more, the Accord only contributed to unjustified behaviour of Israel, as it was given unequal amount of the West Bank from the beginning. Members of international community consider that it was a precedent for the country to violate the Law in terms of the territory annexation or encroaching on it. The very recent example of Israeli actions was demonstrated through its intention to annex illegal Jewish settlements in the West Bank and to construct the 'Separation Wall' on the same territory¹⁸².

The West Bank controversy has become a ground for the establishment of 'Water Diplomacy.' Again, such type of diplomacy heavily relies on the

¹⁸⁰ Lazarou Elena, "Water in the Israeli- Palestinian conflict," *ERPS/ European Parliamentary Research Service*, PE 573.916, 2016.

¹⁸¹ Greta Baessato, "The Israeli- Palestinian Water Conflict. Water as a peace process?" *Research-Gate*, 2016.

¹⁸² "In Pictures: Israel's illegal separation wall still divides," *Aljazeera*, July 8, 2020.

Oslo II Accord and involvement of different international actors. For example, the European Union, the United Nations, NATO and other leading global organisations observe the Middle East as a ‘turbulent’ area. It is not only due to specific features and diversity of beliefs but the possibility of Israel and Palestine being supported by different countries. Unfortunately, the Oslo II has not ended the confrontation between states. Numerous terrorist attacks have been conducted by advocates of Palestine’s liberty since the document was signed. The most intense period of terrorist attacks happened between 1994- 2005, being perpetrated by Islamic Jihad, Hamas, Fatah al- Asqa Martyrs Brigade, and other terrorist groups¹⁸³. Coming back to the problem of Israel building the ‘Separation Wall’ and having intentions to annex more territories on the West Bank, it had revealed flaws in the international position regarding the Israeli/ Palestine conflict. Although the US and the EU strongly condemn Israel for the International Law violations, they continue to develop trade relations with Israel. That is the reality of international relations: economic benefits prevail over justice and International Law is not legally binding.

In the end, Israel is included to the list of countries which hold nuclear weapons. The ‘nuclear lobby’ consists of the USA, the Russian Federation, the UK, France, the People’s Republic of China, India, Pakistan, Israel, and North Korea. Thus, if a conflict breaks out, some states from the list might step in and support either Israel (nuclear power) or Palestine (strong religious centre and a base for terrorist cells)¹⁸⁴. This is one of the examples how the dispute over natural resources can evolve into multidimensional, large- scale conflict.

Apart from the Israeli/ Palestine conflict, there are more global and regional conflicts on the rise. Among the most recent water- based conflicts are Venezuela, Libya, Russia versus Ukraine, and India versus Pakistan. Venezuelan crisis has deepened in 2019. It refers not only to economic issues but the quality of citizens’ living. For example, one of the most recent

¹⁸³ “Major Palestinian Terror Attacks Since Oslo”, Jewish Virtual Library, n.d.

¹⁸⁴ Zain Hussain, “Why the Israeli Policy of Nuclear Ambiguity is Harmful for Prospects of a WMD Free Zone in the Middle East,” British American Security Information Council, June 21, 2019.

cases happened in 2019 when a group of people protested publicly against shortage of water and electricity¹⁸⁵. It resulted in protesters being shot by police on the grounds of the local water dispute. What is more, water is often used as a tool in ongoing military conflicts. This refers to Libya and the case when local population was deprived of access to fresh water as a result of airstrikes. In the end, military action was taken to destroy water supplying tanks in Tripoli¹⁸⁶.

In July 2020, the Warsaw Institute published an article about water disputes influencing Russian/ Ukrainian relations. After the Russian Federation annexed Crimean Peninsula, the territory has been facing acute demand and shortage of water. Before the annexation, the peninsula was supplied from the Ukrainian side, but the state rejected to prolong such arrangements. The autumn and winter of 2019–2020 were dry. Therefore, Crimean Peninsula found itself on the edge of a water crisis due to lack of precipitation. Water supplies was on the agenda of peace talks, but the sides have not reached an agreement yet¹⁸⁷. Therefore, Russia showed intentions to invade Ukraine in order to ‘avoid humanitarian catastrophe’¹⁸⁸.

India and Pakistan, in their turn, are in conflict for the value and reserves of the Indus basin. Despite the fact that both countries approved the Indus Water Treaty signed in 1960, clashes still take place. According to the Treaty, both states had a right to use the river reserves for such aims as construction of electricity plants. The very recent dispute broke out in 2019 after India had announced the plan to build a huge power station. Unsurprisingly, the initiative was not approved from the Pakistani side. While India needs water supplies due to the rising percentage of population and poverty, Pakistan is an economy which is centred primarily around agriculture and the country is not ready to give up its rights over the Indus River.

¹⁸⁵ Arelis R. Hernandez and Mariana Zuniga, “Why are you crying, mami? In Venezuela, search for water is a daily struggle,” *the Washington Post*, 2019.

¹⁸⁶ International Committee of the Red Cross, “Operational update in Libya: Fierce fighting amid fears of protracted violence,” *Reliefweb*, 2019.

¹⁸⁷ Warsaw Institute, “Water Shortage in Crimea: Russia May Take a New Move Against Ukraine,” Minoboron, 2020.

¹⁸⁸ Ayse Betül Bal, “Crimea: What Moscow- Kyiv dispute means for water crisis,” *Daily Sabah*, 2021.

In addition, due to global warming the Indus River is expected to become a seasonal river until 2040¹⁸⁹.

When it comes to security issues, the following fact has to be taken into account: both India and Pakistan are nuclear states. According to the data provided by the World Water source and South China Morning Post, India has recently shown sign of provocation. The country released certain amount of water from a dam which resulted in a moderate flooding on the territory of Pakistan¹⁹⁰. India stated that it was a regularly planned procedure while Pakistan observed the accident as an act of war. But the Indus basin dispute exists not only theoretically but also diplomatically. In 2019, 10 Indian parliamentary police members were victims of suicide terrorist attack from the Pakistani side which took place in Kashmir. The attack fell under the category of environmental terrorism, the nature of which is going to be discussed in the next chapter.

Environmental terrorism

As it was mentioned in previous sections, terrorism has a variety of definitions. One of the most widely applied is provided by the United Nations. According to the international organisation, terrorism is the unlawful use of violence with an ideological or political background, the principal intention of which is to invoke fear and draw attention¹⁹¹.

Terrorism has numerous branches and evolves due to globalisation and spread of the Internet. This chapter is going to focus on a particular branch of terrorism- environmental one. We are going to take a look at the importance of its definition, its relevance today, and case studies of the Earth Liberation Front, as well as the Animal Liberation Front, and discuss its prospects for the future.

¹⁸⁹ Mervyn Piesse, "The Indus Treaty Revisited: India- Pakistan Water Spring," (Research Manager, Global Food and Water Crisis Research Programme, 2015).

¹⁹⁰ Reuters, "Pakistan accuses India of waging 'fifth- generation warfare' in Kashmir by using water as weapon", *South China Morning Post*, 2019.

¹⁹¹ Office of the United Nations High Commissioner for Human Rights, "Human Rights, Terrorism and Counter- terrorism," 5.

Environmental terrorism has been considered a threat to international security since the late nineties. This branch of terrorism was adopted on legal grounds not only by the United States of America but the United Nations because of the controversial incident in 1991. It happened during the Gulf War after Iraqi Air Forces intentionally causing oil spills into the Gulf Waters¹⁹². The event, undoubtedly, resulted in a humanitarian crisis over the area though can it appropriately be marked as an act of environmental terrorism? Can Saddam Hussein be considered as the pioneer of environmental terrorism?

In his research paper linked to environmental terrorism Daniel Schwartz warns that due to a lack of an adequate definition, the concept could be misused by media or politicians. He claims that there are at least two characteristics of such attacks: when pipelines or any other industrial objects are damaged accidentally in attack or when they become a tool to attract public attention to environment-related issues. Schwartz presents the list of types of attacks related to the environment but not necessarily constituting the label of 'environmental terrorism' as will be elaborated on for the remainder of this section¹⁹³.

The first category is referred to as *Primary Symbolism on Deliberate grounds in Peace and War Times* whereby terrorists' aim to spread fear over a large scale of population by damaging the environment. It is supposed to make targeted audiences think about ecological consequence as well. The appropriate example of such a category took place in 1995. A group of armed fishermen decided to protest against imposed tariffs on the Galapagos islands. They threatened to annihilate rare tortoise species. In the end, the fishermen held hostages and killed around 80 tortoises¹⁹⁴.

¹⁹² O. Linden, A. Jerneloev, *The Environmental Impacts of the Gulf War 1991*, International Institute for Applied Systems Analysis, 2004.

¹⁹³ Daniel Schwartz, "Environmental Terrorism: Analysing the Concept," *Journal of Peace Research*, 35(4), (Retrieved July 28, 2020) 483–496.

¹⁹⁴ Daniel Schwartz, "Environmental Terrorism: Analysing the Concept," *Journal of Peace Research*, 35(4), (Retrieved July 28, 2020).

The second category on Schwartz's list is centered around the "eco- terrorism" during Wartime. There have been no cases of environmental terrorism registered yet however the author highlights the importance of the war's influence. In times of military activity for example, there might be ponderable differences in terms of governing laws and approaches towards the role of the environment. Therefore, an adequate evaluation of damage can be barely provided¹⁹⁵.

Other categories of the "eco- terrorism" definitions are represented by Deliberate actions on the basis of Symbolism in Peacetime and Wartime. To begin with, when terrorists conduct such attacks in a period of peace, they intend to affect bigger amount of people than were victims of the act itself, thus aims of the "environmental" terrorism are not different from the "mainstream" one. The 'Peacetime' category also includes threats of terrorist to apply nuclear weapons but perpetrators have not used such agents yet as it is considered to be 'inefficient' in terms of the outcome. However, there is an exception. The Tokyo subway attack in 1995 conducted by Aum Shinrikyo religious cult was rather representative of chemical terrorism. Again, the phenomena of terrorism can be described with the following collocation: terrorists want lot of people watching, not dead¹⁹⁶.

The Wartime category triggers controversy over the accident happened during the Gulf War. On the one hand, the Iraqi attack had a symbolic overtone of undermining the power and wealth of the West. On the other hand, the attack was not legitimised as a part of ecological terrorism. It was considered as an act of terrorism in general but did not cause long-lasting damage to the environment according to the 1976 ENMOD Convention. In the end, the attack delegated by Hussein aimed to destroy 'wealth, not environment.'¹⁹⁷.

¹⁹⁵ Daniel Schwartz, "Environmental Terrorism: Analysing the Concept," *Journal of Peace Research*, 35(4), (Retrieved July 28, 2020).

¹⁹⁶ Michael Jenkins, "Chapter 8- The New Age of Terrorism," *Terrorism Beyond Al-Qaida*, 118.

¹⁹⁷ International Committee of the Red Cross, "1976 Convention on the Prohibition of Military or ant Hostile Use of Environmental Modification Techniques, Advisory Service on International Humanitarian Law, 2003.

Schwartz also states that accidents such as oil spills or Chernobyl nuclear disaster do not fall under category of environmental terrorism. In addition, incidents related to war (such as the US use of Agent Orange and its experimenting with weather modification in Vietnam War) cannot be observed as acts of environmental terrorism, as it does not have aim to spread fear and draw attention to possible ecological consequences¹⁹⁸.

The Earth Liberation Front has been on the rise since early nineties. While the group was known mostly by damaging local production or logging during that period, the ELF and its successors represent a greater threat nowadays. The Earth Liberation Front aims to drag attention to actions done by huge corporations and individuals in general which harm the environment. The European Union put it under the category of 'single-issue' terrorism, meaning that even though the event predominantly happens once, it does not necessarily bring in peaceful solutions and effects¹⁹⁹.

However, the Federal Bureau of Investigation claimed that the ELF should be considered one of the greatest terrorist threats in the USA in 2004. It has been accused of causing damage of more than 100\$ million to global corporations due to their harmful impact on the environment. According to the NATO Science for Peace, the ELF's actions can be classified as ecological terrorism because they target symbolic locations and use the environment as a tool to spread fear among population or to promote their ideological goals²⁰⁰.

What is more, ideologically motivated individuals or the ones under strong influence of religious beliefs are more likely to commit environmentally oriented attacks. In the case of the Earth Liberation Front, they are sure that if huge corporations do not minimize harmful influence on the environment, the apocalypse will take place which gives them some kind

¹⁹⁸ Daniel Schwartz, "Environmental Terrorism: Analysing the Concept," *Journal of Peace Research*, 35(4), (Retrieved July 28, 2020).

¹⁹⁹ EUROPOL, "European Union Terrorism Situation and Trend Report 2020," European Union Agency for Law Enforcement Cooperation, 2020.

²⁰⁰ Hami Alpas, Simon M. Berkowicz and Irina Ermakova, *Environmental Security and Eco-terrorism*, (The Netherlands: Springer, 2010).

of moral justification. The ELF has primarily been responsible for damaging property while targeting people to draw more attention²⁰¹. As for its similarity with the Animal Liberation Front, they both lack an adequate governing system. Therefore, absence of an adequate hierarchical structure makes it hard to target the group and determine whether they should be consisted a terrorist organization. Unlike the ELF, the Animal Liberation Front is more narrowly specialized. The ALF is more focused on facilities and companies which are responsible for killing animals. This category covers laboratories or farms which bred animals for murdering or fur extraction. Nowadays, the Earth Liberation Front is not that active as it was before. The FBI succeeded in capturing Joseph Mahmoud Dibee – one of the ELF leaders however more and more other groups are radicalized by the wave of ‘environmental awareness’ and rising number of ecological activists²⁰². For example, even after arrest of Dibee, the number of his followers still cherish similar ideas. In 2016 thousands of people were protesting against the construction of the pipeline in North Dakota, USA. They shut off a number of valves and later started to damage them in the name of securing the environment. The events were broadcasted online, and the Internet contributed in spreading the activist’s ideas²⁰³.

International response

Aspects of environmental security tend to appear more frequently on the global agenda. The care about nature and, for instance, quality of air or water has been included to 17 UN sustainable development goals. The problem generates discussions over environmental vs. health security areas. In the section we are going to talk about international contribution to environmental stability, role of the UN and NATO, and evaluate efficiency of such events as the Paris Agreement and Munich Security Conferences²⁰⁴.

²⁰¹ Dean Schabner, “What Is ELF?”, ABC News, 2006.

²⁰² Dean Schabner, “What Is ELF?”, ABC News, 2006.

²⁰³ Alleen Brown, “The Green Scare. How a Movement That Never Killed Anyone Became the FBI’s #1 Domestic Terrorism Threat,” *The Intercept*, 2019.

²⁰⁴ Munich Security Conference Foundation GmbH, *Munich Security Report 2016* (Munich: Prinzenregentenstr, 2016), 44.

As the world is gradually entering the post- COVID 19 era, certain issues appear on the global surface. The concerns were presented back in 2016, in the Munich Security Report. The experts supposed that climate change could result in breakouts of severe dengue fever, caused by the rising number of mosquitos' habitats²⁰⁵. As for the COVID- 19 pandemic, it has provided both positive and negative impacts on the environment. On the one hand, the lockdown caused a decrease of Co2 emissions as global transportation was minimized, so as harmful human influence on nature. On the other hand, the pandemic distracted attention from such illegal activity as deforestation of the Amazon rainforest. The COVID-19 also weakened efforts of environmental diplomacy due to global economic breakdown. In addition, the lockdown contributed to the slowdown in the development of alternative energy sources, especially in fragile or developing states.

The United Nations and NATO are in the process of implementing a theoretical and practical strategy to address environmental security for the sake of preservation. As it was already mentioned in the introduction, the significance of environmental safety is represented among 17 UN sustainable development goals. The organization cares about Clean Water and Sanitation, Clean Energy and Climate Action. The category also includes Responsible Consumption and Production and Life Below Water or on Land²⁰⁶. The organization observes global cooperation as major tool in tackling environmental- related threats. It appreciates the role of such actors as UNESCO or UNICEF, as well as the World Bank and the Global Environmental Facility. The UN agenda consists of promoting such documents as Kyoto Protocol, 1992 UN Framework Convention on Climate Change and others. Furthermore, the United Nations promotes mechanism of 'collective action' regarding fragile states. Due to unstable economic, global, and ecological conditions they are in risk category as well as failed states.

²⁰⁵ Munich Security Conference Foundation GmbH, Munich Security Report 2016 (Munich: Prinzregentenstr, 2016), 44.

²⁰⁶ "Sustainable Development Goals. Take action for the Sustainable Development Goals," The United Nations, n.d.

The NATO focuses on the problem of pollution, cost of military actions and humanitarian aid providing to those states which cannot deal with the environmental crisis alone. The organization not only takes care of NATO member- states but supports international cooperation through the SPS program. Apart from prevention of conflicts based on resources or food scarcity, the North Atlantic Treaty Organization prioritizes developing an application of alternative (smart) sources of energy in its facilities²⁰⁷.

The Paris Agreement seemed to be reliable and optimistic back in 2015. The principle aim of the event was to keep the rising of global average temperature below 2 C and to overcome damage caused by climate change. Like the UN tactics, the main key of efficiency was global cooperation but vast percentage of responsibility is laid on more powerful and development states as the USA, Russia and others. The Agreement was ratified in 2019 by 187 states after a controversial event that had put the Agreement under threat. The United States of America withdrew from the Paris Agreement because of clash of interests. President Trump claimed that it contradicts US economic and leadership position²⁰⁸.

The controversial move of the USA has become an important topic on the Munich Security Conference in 2018. Not only America withdrew from the Agreement, but it excluded environmental challenges from the list of national security threats. Participants of the conference also acknowledged the fact that near 20 million of people were displaced because of sudden weather changes²⁰⁹.

Although experts did not initially see air pollution as a potential severe threat to global security, 2019–2020 marked the beginning of a climate advocacy agenda.

The Munich Security Conference 2020 revealed a UN pessimistic approach towards the 2015 Paris Agreement. Unlike past predictions, the world

²⁰⁷ "Science for Peace and Security: environmental security," Science for Peace and Security (SPS), the North Atlantic Treaty Organization, updated May 2, 2012.

²⁰⁸ Matt McGrath, "Climate change: US formally withdraws from Paris agreement", BBC, 2020.

²⁰⁹ "Forced from home: climate- fueled displacement," OXFAM International, December 2, 2019.

faces 3.2 C average temperature rise until 2100. International community expects huge waves of environmental refugees. According to the latest predictions, around 140 million people are to be replaced by 2050 in Sub-Saharan Africa, South Asia, and Latin America. Once again, fragile states are more exposed to such dangers. The conclusion of the 2020 Conference reveals the threat of interstate violence because of resource scarcity and the rising possibility of serious floods as Arctic zone is in risk²¹⁰.

Suggestions and conclusions

The global security faces new forms of conflicts. Plots of movies and futuristic books have a tendency to turn into reality, as more and more military experts claim: in the nearest future aims of conflicts will not be focused around authority or sovereignty. Instead, people would compete for natural resources or territories that were not affected by climate change²¹¹. The focus of this paper was to evaluate the ecological security nuances, water-based conflicts, environmental terrorism, and global response towards it. In order to tackle environmentally related problems, a coherent definition is needed, as well as legally accepted global strategy to deal with effects of climate change and threat of 'ecological refugees.' Philip Alston predicts that the vast majority of 'environmental refugees' will come from South Asia, Sub-Saharan Africa and Latin America, leaving approximately 140 million people displaced²¹².

The problem of energy security should be addressed not only in the framework of its affordability for populations and the so-called energy sovereignty, but from the perspective of climate change. Indeed, developed countries can invest into 'going eco-friendly' while developing states are in a need to remain heavily dependent on coal and oil. One could suggest

²¹⁰ Munich Security Conference Foundation GmbH, Munich Security Report 2020 (Munich: Prinzenregentenstr, 2020), 58.

²¹¹ Regula Gattiker, Esther Marthaler, *Natural Resources and Conflict*, HELVETAS, 2017.

²¹² Philip Alston, *The parlous state of poverty eradication, Report of the Special Rapporteur on extreme poverty and human rights*. Human Rights Council, 2020.

that the PV(photovoltaic) solar panels and wind energy solutions are the key for energy security and independence, yet the challenges remain. For instance, according to Kenneth Rapoza, the Peoples Republic of China currently controls 80% of solar panels manufacturing. Therefore, it is appropriate to talk about shifting perspectives and dependencies than full energy sovereignty of a state.

What are the prospects of violence related to ecological issue? As the population continues to rise, so too does the demand for natural resources which will likely lead to an increase in ecological terrorism attacks. The recent pandemic of the COVID-19 for example has contributed to the activity of terrorist cells similar to the Earth Liberation Front whereby many religious leaders observe the situation as a 'sign of the upcoming apocalypse'.²¹³ Apart from the importance of interpretations, the power of Internet and mass media has to be taken into account. It is hard to deny, populists, fake news and tons of unreliable information have never been as easily accessible as they are in the 21st century. We also should not forget about the prospects of terrorism shifting towards more 'distant' approach which does not necessarily require a direct physical involvement of the perpetrators. Furthermore, the cells are not likely to use nuclear weapons or other agents of mass destruction due to inefficient outcomes but instead seek to manipulate and draw attention by poisoning a city's water pump to achieve their desired goals. A variety of counter terrorism tactics also highlights the role of geography, religion, cyber warfare and globalization, as well as the importance of global cooperation. International discussions and solutions towards problems related to ecological security are on the agenda, though they might be costly and complicated due to clashes of interests, as it was demonstrated with the example of 2015 Paris Agreement and US withdrawal from it. The problem of ecological security might be complex, as exemplified in Israeli/ Palestine or India/ Pakistan water conflicts may result in the application of nuclear weapons and intervention of world's community.

²¹³ Simon Dein, "Covid- 19 and the Apocalypse: Religious and Secular Perspectives", *Journal of Religion and Health*, no. 60 (published online October 2020): 5–15.

In the end, environmental security covers not only areas of nature and struggle for clean water, but it is also interlinked with health and energy reliability. Furthermore, flaws of ecological security such as air pollution has already caused the death of millions of people. Leading international organizations such as the United Nations and the North Atlantic Treaty Organization predict that major vital rivers as Indus one are to become seasonal until 2050 and a high percentage of people (at least 140 million)²¹⁴ would have to be replaced from Latin America, South Asia and Sub-Saharan Africa. Metaphorically one could say that water is becoming the new oil.

²¹⁴ Philip Alston, *The parlous state of poverty eradication, Report of the Special Rapporteur on extreme poverty and human rights*. Human Rights Council, 2020.