

Threat of CBRN Weapons Use by Terrorist Groups and UN-NATO International Security Policy

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ABSTRACT

The global security environment is becoming increasingly contested, complex and interconnected. The world's armed conflicts, military wars and civil wars are accompanied by instability at the national, regional, international and global levels. New and non-traditional security threats have intensified in modern times, including cyber-attacks, hybrid threats, terrorism, proliferation of CBRN weapons and components, disinformation, climate change or artificial intelligence that can be exploited by terrorists. The spread of symmetric and asymmetric threats against the background of modern technological advances increases the scale and dimension of threats in the world. In this article, the dimensions of specific threats that the illegal proliferation of CBRN weapons and materials pose and may pose in the future are investigated. Significant attention is paid to the international preparedness of the United Nations and NATO. All this is related to the readiness to respond to potential terrorist attacks and threats from their side. The purpose of the study is the role of the UN and NATO in the policy of non-proliferation of CBRN weapons and in the fight against terrorism. The research questions are: What role does NATO and the UN play in the non-proliferation of CBRN weapons? How effective is the cooperation of the United Nations and NATO in the fight against terrorism?. The hypothesis of the study is as follows: in modern international politics, the role of the UN and NATO in the fight against the proliferation of CBRN weapons and terrorism is important. They need to adapt to the new emerging threats and develop new strategies. During the research of the article, the theories of securitization, constructivism were distinguished, using which it was possible to study and analyze the given research issue, which includes universal instruments. The article presents a "SWOT" analysis that presents threats from the proliferation of CBRN weapons. The article concludes that in modern international politics, the role of the UN and NATO in the fight against the proliferation of CBRN weapons and terrorism is important. They need to adapt to the new emerging threats and develop new security strategies.

Keywords: CBRN Weapons, Terrorist Groups, UN, NATO, Security.

INTRODUCTION

In a rapidly changing world, security challenges have become more complex and multidimensional, in which non-state aggressive actors have a significant role to play along with aggressive state actors. Terrorism is an important challenge in modern international politics. Terrorism is not a new phenomenon, it has existed for centuries and its causes are many. Research and analysis of all this is a rather difficult process. In the 21st century, terrorism has become more dangerous because, along with the development of new technologies, the scope of terrorism and the

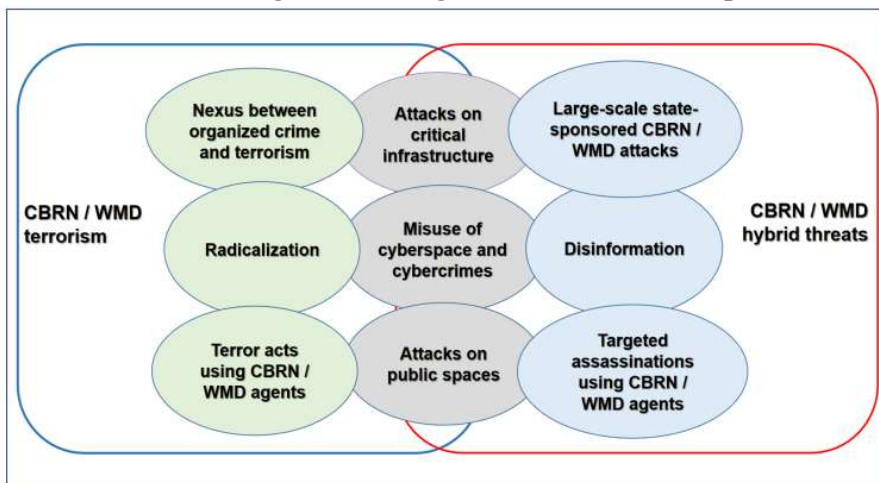
ways and means of carrying out terrorist acts have increased (Maisaia & Guchua, 2020: 147-148). Therefore, CBRN weapons, materials or components falling into the hands of terrorists pose a very big threat at the individual, national, regional, international and global levels.

Chemical, biological, radiological, and nuclear (CBRN) use threats are changing quickly in tandem with technological advancements and shifts in the political landscape. The presence of possible CBRN materials, which are typically employed for industrial and scientific objectives, exacerbates this concern. Particularly, the ongoing use of chemical weapons (CW) in armed conflicts has highlighted how flimsy current arms control accords are. Furthermore, the use of radioactive materials and deadly chemicals in a number of recent attacks in Asia and Europe raises the possibility that national security strategy should now address the issue of state-sponsored assassinations and attempted assassinations. “Such confirmed use of CBRN materials by both state and non-state actors in these contexts highlights substantial challenges that the world is facing” (Su & Anthony, 2019). Thus, it is important to identify the threats associated with the use of CBRN weapons and materials and to understand the barriers that prevent cooperation, both regionally and internationally, between states, regional and international organizations. Pursuing a cooperative security policy against the use of CBRN weapons and strengthening barriers to protect and improve existing international instruments will make the international security environment more secure.

Particular emphasis should be paid to the intricate and multifaceted character of the range of CBRN security hazards as well as the ways that ongoing scientific and technological advancements influence how CBRN security threats materialize. Since the end of the Cold War, the security landscape has been changing quickly. New security risks have emerged, such as novel CBRN capabilities and the growing availability of CBRN materials and information, while traditional security concerns, such as the proliferation of WMD and maintaining strategic stability, have been made worse. The quick speed of scientific and technical development in recent decades, particularly growing digitization, the use of artificial intelligence, and the growth of cyberspace, has been a significant impact in this respect. As a result, the security landscape has been reshaped, resulting in the convergence of illegal operations that occasionally make identification more difficult. Therefore, it is crucial to recognize potential synergy between malicious operations and their cumulative consequences when examining the complexity of the CBRN security risk spectrum (see figure 1) (Novossiolova & Martellini, 2021).

Figure 1.

The chemical, biological, radiological and nuclear risk spectrum



Source: Novossiolova, T., and Martellini, M., 2021. „Effective and Comprehensive CBRN Security Risk Management In IN The 21ST Century”, EU Non-Proliferation and Disarmament Consortium, Non-Proliferation

and Disarmament Papers, No. 75. P.11. Available at: https://www.nonproliferation.eu/wp-content/uploads/2021/06/eunpdc_no_75.pdf (11 August 2024).

When considering the dangers of CBRN proliferation, it is important to briefly consider the essence of CBRN/Weapons of mass destruction proliferation. The term "CBRN/WMD proliferation" refers to efforts by state or non-state actors to develop, acquire, manufacture, possess, transport, or transfer nuclear, radiological, chemical, or biological weapons or devices and their delivery systems or related material, including precursors, without compromising the rights and obligations of the States Parties to the following agreements: the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (CWC); the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (BWC); and the Treaty on the Non-Proliferation of Nuclear Weapons or Non-Proliferation Treaty (NPT) (*Arms control, disarmament and non-proliferation in NATO*, 2023).

CBRN Weapons Threats: Genesis of the Concept

Chemical, biological, radiological, and nuclear (CBRN) weapons are not new, and while they are rarely used, their potential to cause massive mass casualties and jeopardize international security make them a global concern (*Tin*, 2023). Chemical, biological, radiological, and nuclear dangers have all been referred to as CBRN threats in recent years, and actualization of these threats has been referred to as CBRN incidents. These include smaller-scale crimes and accidents, natural disasters, attacks by non-state actors like terrorist groups, and strikes with NBC weapons, often known as weapons of mass destruction (WMD). More specifically, chemical dangers include the use of mustard and sarin gas as weapons in attacks, as well as unintentional explosions in pipelines or chemical plants. The use of *Bacillus anthracis*, *Clostridium botulinum*, and other biological agents for attacks, as well as naturally occurring events like pandemic outbreaks of infectious diseases like novel influenza strains and infectious livestock diseases like foot-and-mouth disease, are examples of biological threats (*Ichimasa*, 2015). Recent years have seen the possibility of biological dangers from the misuse or abuse of developing life sciences knowledge and technologies. The usage of RDDs (also known as dirty bombs), which attach to explosive devices to distribute radioactive materials used for industrial or medical uses that are very easy to get, is an example of a radiological danger. However, attacks by nuclear explosive devices that are made to resemble weapons (nuclear weapons) are unambiguous examples of nuclear dangers. One may classify terrorist attacks on nuclear facilities, including nuclear power plants, as nuclear threats (*Ichimasa*, 2015). "The most obvious reason for terrorists to seek nuclear weapons is for the purpose of inflicting massive casualties upon their perceived enemies" (Ackerman, 2006).

When discussing CBRN threats, it is important to consider the nature of CBRN terrorism. The use (or threat of use) of chemical, biological, radiological, or nuclear material as a weapon by terrorists with the purpose to inflict harm is known as CBRN terrorism. This includes a broad variety of materials and agents, such as biological organisms, radioactive sources, toxins, poisons, and caustic chemicals. When inhaled, consumed, or absorbed, these substances can endanger people in a number of ways (*Threat from Chemical, Biological, Radiological and Nuclear (CBRN) Terrorism*, 2022).

Historically, there have been over 200 actual uses by terrorists of CBRN agents, with chemical incidents being the most common type. Most incidents have not resulted in many casualties, although there are a handful of mass-casualty incidents of CBRN terrorism (Binder & Ackerman, 2023). When chemical weapons are used in terrorist strikes, many people can be killed and fear can spread. However, because chemical and biological substances have two uses, making them relatively easy to obtain through the industrial and healthcare sectors, keeping dangerous materials from ending up in the wrong hands is a challenging challenge. Certain incidents in Japan, including the deployment of sarin in Matsumoto in June 1994 and Tokyo in March 1995, show that non-state actors are capable

of creating highly advanced chemical agents in specific circumstances (Su & Anthony, 2019). Also in 2001, the anthrax mail attacks that were carried out in the United States subsequent to the 9/11 attacks raised awareness of bioterrorism threats (*Ichimasa, 2015*).

ISIS began a chemical warfare campaign in 2014 and was accountable for 37 chemical assault events in Syria and Iraq, including the use of self-made mustard agent, some of which resulted in fatalities. The most recent and well-known instance of a violent non-state actor pursuing and using chemical weapons is ISIS. Security forces have been the target of CBRN attacks by other groups (*Asal, 2023*). The use of nerve agents in Malaysia in 2017, the use of chemical weapons by Islamic State in Syria and Iraq, and the Novichok occurrences in the UK and Russia in 2018 and 2020 are just a few examples of past terrorism with chemical weapons. The view of terrorists and non-state actors as threats has increased dramatically as a result of these occurrences (*Foy, 2021*).

In light of this, the non-State nature of terrorist actors who may be motivated to use CBRN weapons presents significant obstacles to determining the extent and nature of states' duties to stop such acts, as well as to their execution and enforcement (*Rossetti, 2022*).

Motivations and driving factors

The CBRN spectrum is so wide and varied that it is difficult to include all elements in a generalized discussion of motivations and factors driving the possible use of CBRN materials in terrorist attacks. However, a review of the potential implications of CBRN and past incidents would make it easier to understand why such means appeal to terrorists (Su & Anthony, 2019).

Several reasons include the following, in no apparent order.

1. Sophisticated CBRN agents are potentially highly lethal while being silent killers, and therefore harder to detect and contain;
2. Any attack using CBRN material would attract attention and receive prime-time coverage in the mass media;
3. CBRN attacks would most certainly provoke terror and panic among civilians;
4. CBRN materials have the potential to inflict serious consequences and collateral economic damage (e.g. by contaminating the environment and affecting animal and human health);
5. CBRN materials offer the means to blackmail governments or at least pressure them; and
6. Possession and use of CBRN means would place the perpetrator in a position of perceived power vis-à-vis national authorities (at least temporarily) (Su & Anthony, 2019).

Attacks could be carried out by well-known terrorist organizations as well as by so-called lone wolves using less advanced weapons. Even in small-scale terrorist strikes, CBRN materials run the possibility of becoming the preferred weapon (Su & Anthony, 2019). The threat of CBRN terrorism can be broken down into an analysis of the capabilities needed to successfully deploy a CBRN weapon as well as the reasons behind its pursuit. Terrorists may desire a CBRN weapon for a number of reasons. These can be helpfully divided into three categories: organizational motives, operational and instrumental goals, and ideological or psychological drivers. While it is possible for terrorists to obtain a CBRN capability through theft, acquisition, or state or nonstate sponsors, internal weapon development or an attack on a nuclear, chemical, or biological facility are the most likely routes (*Binder & Ackerman, 2023*).

These threats are extremely complicated and unpredictable. Currently, a large number of possible CBRN incidents have a low likelihood but could have a significant impact. Regretfully, a lot of individuals overlook the possibility of the unexpected. This is demonstrated by the current Covid-19 epidemic. Furthermore, the large number of possible targets is directly related to the viability of CBRN assaults (*Galatas, 2021*).

CBRN weapons and cyber-terrorism

The risk environment for using CBRN weapons is changing in a number of ways due to emerging technologies. Technological advancements such as those in 3D printing, nanotechnology, synthetic biology and chemicals, and cyber technology may allow adversaries to create more affordable, potent, and user-friendly weapons. These same developments, meanwhile, may potentially improve identification and lessen the destructive and disruptive

potential of CBRN weapons (Unal & Agblani, 2016).

The prospect of non-state actors, including terrorists and their supporters, gaining access to and using Weapons of Mass Destruction (WMD)/Chemical Biological, Radiological and Nuclear (CBRN) materials is a serious threat to international peace and security (Chemical biological, radiological and nuclear terrorism, 2023). In order to increase harm and incite panic, terrorist organizations have experimented with different methods and tools over the years, such as weapons that use CBRN components. Some of these weapons are now more widely available due to technological improvements and the growth of both legal and illicit commercial channels, including the dark web.

Terrorist groups are among the many states and non-state entities who are still actively looking for the resources, tools, and expertise to further their goals of developing WMDs and other military weapons. Cryptocurrency and encryption are two examples of quickly developing technologies that can be used to conceal illegal activity from law enforcement. Additionally, a wide range of products and technologies, even commonplace items, have the potential to be altered or exploited to create military hardware and weapons. These are called “dual-use items of proliferation concern,” and their illicit acquisition and potential misuse is an important concern (Counter-Proliferation, 2020).

Cyber-attacks on CBRN facilities could also have detrimental effects. The Stuxnet virus, for instance, showed that it was possible to compromise even a highly secured nuclear facility, and the so-called "Aurora Project" has exposed the possible repercussions of breaking into a plant's control station using computers and other electronic equipment. In the end, the experimenters succeeded in making a model chemical factory self-destruct. This proved not only that cyber-commands could infiltrate and take control of a plant's information systems, but that they could also damage industrial equipment on their own (Meulenbelt & Nieuwenhuizen, 2016).

The renewed interest in cyber-terrorist activities is consistent with al Qaeda's use of, and fascination with, high-impact operations. In this respect, al Qaeda's, ISIS and other terrorist organizations longstanding interest in acquiring weapons of mass destruction (WMDs), specifically of a chemical, biological, radiological, and nuclear (CBRN) nature, is also well known. So far, the efforts of terrorist groups to acquire or use these weapons and materials have been sporadic and mostly unsuccessful. For the foreseeable future, militant jihadist groups will only be able to produce rudimentary radiological weapons (that is, “dirty bombs”) that would cause great panic and disruption but only limited casualties (Santamato & Beumler, 2013). But this does not rule out that terrorist groups will not be able to create much more dangerous and deadly weapons using CBRN material. States, anti-terrorist organizations, including regional and international organizations should not relax in this direction, because no one knows when and under what circumstances the danger will appear. Especially when specific states finance terrorist groups, train their fighters, give them weapons, intelligence information, etc. All this increases the scale of threats and complicates the fight against terrorism. The emerging technologies that facilitate acquisition efforts and the precedent set by groups like the Islamic State indicate that the potential for CBRN terrorism to result in a genuine WMD event will persist and might even increase over time (Binder & Ackerman, 2023).

Security Studies and CBRN Threats Brief Analysis

In a changing world, with increasing demands and challenges, it is important to ask the question: What is the field of security? Is it just economic and social threats, infectious diseases and environmental degradation, intrastate conflicts, civil wars, genocide, nuclear, radiological, chemical and biological weapons, terrorism, transnational organized crime, or something else? Due to the rapid, dynamic development of the world, security studies, which started with the military field, then expanded and underwent certain changes and are still undergoing evolution. For example, today there is an active research agenda on how much the coronavirus pandemic has changed the security environment and what threats we should expect in the future (Akobia et al. 2021: 82). At the same time, how far-reaching the terrorists' plans are, what is the danger of CBRN weapons and the illegal distribution of their

materials. The role of regional and international organizations is also important here.

In modern international politics, technological development has one of the leading roles, because it considers the Internet, cyber space and today as the leading space of security. It is this direction that is taking shape, be it cyber terrorism, cyber war or something else.

According to constructivism, how states perceive a threat is important, and perceptions are shaped by historically developed domestic and international norms, state ideology, and the experience of historical friendship and enmity. According to constructivism, nuclear weapons and military equipment are not evaluated only by their material data, but they are given meanings - threatening, deterrent, stabilizing, and it is these meanings that determine the nature of relations between India and Pakistan, for example (Akobia et al.2021: 83).

The first major work to emphasize the centrality of security in international relations was Barry Buzan's 1983 book *People, State and Fear: National Security Issues in International Relations*. The book fundamentally contradicts two of the four S's, saying that security is not just about the state, but about the collectivity of people. Nor can it be limited to a heritage focused on military might. Instead, Buzan developed a framework that discussed five main sectors that define security: military, political, economic, social, and environmental (Buzan 1983: 25-27). All five components of this structure are directly affected by the threat of CBRN weapons proliferation, as they can have a direct impact, both collectively and individually.

Within the framework of the research, it was revealed that the danger of the spread of CBRN weapons and materials in the modern world is quite large, in order for the home states to maintain their national security and defense capability, which means protecting their own population from threats, the existence of high-tech defense capabilities and its effective use are of the utmost importance. Also, intelligence information plays an important role in detecting threats and controlling them. In order for the security of the state to be protected and maintained at a high level, only the number of military weapons, the efforts of the security services, and the presence of human and financial resources are not enough. In order to protect the national security of the home state, priority is given to the role of alliances, coalitions, regional and international organizations, whose joint efforts can effectively respond to the threats and challenges in the modern world and protect security parameters. In this context, when assessing the strategic approaches of the UN and NATO, it became clear that NATO has a much more effective mechanism in dealing with CBRN threats than the UN.

In addition to the above, an important aspect is the coordinated action of management and control mechanisms, both in military and civilian structures. In the modern world, against the background of threats and challenges from terrorist organizations, it is clear that only by developing defense capabilities, one state alone will not be able to neutralize the threats.

Table 1.

SWOT Analysis

STRENGTHS	WEAKNESS
<ul style="list-style-type: none"> ❖ Collaborative security (military alliances and coalitions). ❖ Technological advantage. ❖ Communication. ❖ Collaboration. ❖ Coordination. 	<ul style="list-style-type: none"> ❖ Scarce resources. ❖ The ineffectiveness of fighting new generation wars with existing methods. ❖ Communication Gaps. ❖ Lack of Coordination. ❖ Ignoring international legal norms/laws agreements.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ❖ Ensuring security at the regional and global level. ❖ Institutional cooperation at the international level. ❖ Technological development. ❖ Effective management of military-civilian cooperation. ❖ Planning. ❖ Organizational Constructs. ❖ New Equipment & Technologies ❖ Training. ❖ Exercising. 	<ul style="list-style-type: none"> ❖ Illicit proliferation of CBRN/Weapons of mass destruction. ❖ Hybrid war. ❖ Cyber war/Cyber Security/ ❖ Quasi-states. ❖ Non-democratic regimes. ❖ Non-state religious actors. ❖ Extremism/Violent Extremists and separatism. ❖ Terrorism/Terrorist Organizations. ❖ Natural/Other Caused. ❖ Dual purpose materials. ❖ Use of drones.

Source: Compiled by the authors.

In the research process of the paper, a "SWOT" analysis is presented, the purpose of which is to determine the threat of proliferation of CBRN weapons facing modern international security, which will contribute to a better understanding of the issue. The main list of challenges and opportunities is presented in the form of a Table #1, which is compiled using the "SWOT" analysis.

The aforementioned examples clearly demonstrate the breadth and complexity of CBRN defense, which addresses a variety of threats such as armed attack scenarios utilizing NBC weapons, terrorist attacks, illnesses, natural disasters, and accidents. The scope of bilateral or multilateral collaboration is significantly expanded by these dangers, which transcend both traditional and nontraditional security problems. From a different perspective, this means that the CBRN defense expands the potential to collaborate with a wider range of current specialized fields, such as disaster prevention, public health, counterterrorism measures, and the nonproliferation of WMDs, which extend beyond the traditional defense and security fields as needed. Given this, CBRN defense may serve as a new avenue for global collaboration while also serving as a goal in and of itself (*Ichimasa, 2015*).

States' national security and international stability depend on their participation in specific international fora, including the United Nations (UN), the North Atlantic Treaty Organization (NATO), the Group of Eight (G7), the Quadrilateral Group on CBRN Counter-Terrorism, the Global Health Security Initiative (GHSI), Regional Emergency Management Advisory Councils, and other bilateral and multilateral partnerships (*Chemical, Biological, Radiological, Nuclear and Explosives Resilience Strategy for Canada, 2011*).

CBRN Weapons and UN Global Counter Terrorism Strategy

There are still limitations in many countries' and regions' ability to implement counterterrorism measures and create cogent counterterrorism responses. These issues can be resolved by putting into practice thorough plans of action and tactics that are backed by sufficient funding and based on an awareness of local circumstances (*Global South initiatives to counter terrorism and prevent violent extremism, 2022*.) The risk of chemical, biological, radiological or nuclear (CBRN) weapons or related materials being used by non-State actors for terrorist or other criminal purposes is one of the gravest concerns of our time. In response, the international community is pursuing

a common legislative framework to counter this threat (*Countering Chemical, Biological, Radiological and Nuclear Terrorism*, 2023).

The Security Council has specifically addressed the threat of WMD/CBRN terrorism on a number of occasions (*Chemical biological, radiological and nuclear terrorism*, 2023). Shortly after the terrorist attacks on 11 September 2001, the United Nations Security Council adopted Resolution 1373 (2001) (Kaunert & Léonard, 2019). In resolution 1373 (2001), the Council recognized the connection between international terrorism and, inter alia, the illegal movement of CBRN materials. Its seminal pronouncement on the issue came in the form of resolution 1540 (2004), through which the Security Council affirmed that the proliferation of CBRN weapons and their means of delivery constitutes a threat to international peace and security. More recently, the Security Council again called on Member States in resolution 2325 (2016) to strengthen their national anti-proliferation regimes in the implementation of resolution 1540 (2004) (*Chemical biological, radiological and nuclear terrorism*, 2023).

The UN Global Counter-Terrorism Strategy calls upon the Member States, International Organizations and the UN System to:

- Combat smuggling of CBRN materials;
- Ensure that advances in biotechnology are not used for terrorist purposes;
- Improve border and customs controls to prevent and detect illicit trafficking of CBRN weapons and materials;
- Improve coordination in planning a response to a terrorist attack using CBRN weapons or materials (*Chemical biological, radiological and nuclear terrorism*, 2023).

In the Sixth Review of the UN Global Counter-Terrorism Strategy, the General Assembly called upon all Member States to “prevent terrorists from acquiring weapons of mass destruction and their means of delivery... and [encouraged] cooperation among and between Member States and relevant regional and International Organizations for strengthening national capacities in this regard” (*Chemical biological, radiological and nuclear terrorism*, 2023). However, despite this call, some states are actively engaged in the illegal production, distribution and use of CBRN materials.

With its emphasis on a number of terrorism-related topics, such as international collaboration, terrorist punishment, and prevention, the UN has undoubtedly played a significant role in this situation. The importance of preparedness measures that involve several streams of efforts, including "planning; public information and warning; operational coordination; cybersecurity; physical protective measures; risk management for protection programs and activities," was widely acknowledged only in the more recent UNSC Resolution 2341 (2017) on threats to international peace and security caused by terrorist acts (Guttry, 2022).

NATO Policy in CBRN Security

The Allied peace and security today, terrorism remains the main asymmetrical threat. Terrorism has been a key challenge for Allies since the al-Qaeda terrorist attacks on the United States on 11 September 2001 (Larsonneur, 2022). NATO has a long history of actively pursuing non-proliferation, disarmament, and arms control. Through this strategy, the Alliance continues to work toward its security goals while making sure that its collective defense commitments are fulfilled and all of its missions are completed (Arms control, disarmament and non-proliferation in NATO, 2023). The non-proliferation of CBRN/WMD weapons is greatly influenced by the North Atlantic Alliance. In order to safeguard the alliance's internal security and, above all, its global security, NATO has been working in this direction for many years. Being aware of its resources and missions, NATO has been able to pinpoint the ways in which it contributes to particular facets of the fight against terrorism (Santamato & Beumler, 2013). Since the Allies adopted NATO's Comprehensive, Strategic-Level Policy for Preventing the Proliferation of Weapons of Mass Destruction (WMD) and Defending against Chemical, Biological, Radiological, and Nuclear (CBRN) Threats in 2009, the security situation within NATO has become increasingly complicated and difficult. (*NATO's Chemical, Biological, Radiological and Nuclear (CBRN) Defence Policy*, 2022).

The NATO leadership is well aware that in the case of the proliferation of CBRN weapons, the dangers arising from the components of these weapons will also reach them, because after the spread of chemical weapons, biological weapons, or radiation, their containment is difficult and in many cases impossible. The borders of their states cannot contain the factors of their spread: this, considering that it is impossible for air, water, birds, rodents, etc. restraint. It should be noted here that in addition to the natural distribution, the artificial distribution of these weapons poses a greater threat from the terrorists. Because with the use of modern technologies, terrorists can use various methods, starting with home-made bombs, rockets, paragliders, and ending with drones. The use of cyber technologies has further increased the scope of the threat, as terrorists can obtain intelligence information.

In the future, information-gathering technologies could support first reaction efforts and increase resilience. Recently, miniature unmanned aerial vehicles (UAVs) equipped with chemical sensors and gamma probes have been created especially for use in counter-CBRN operations. Future developments in UAV and nanotechnology may possibly make it feasible to employ swarms of drones in decontamination operations. In fact, UAV technology, as seen in natural disaster response operations, along with the intelligence, surveillance, and reconnaissance capabilities of UAVs and other robotic technologies, creates significant opportunities for remote chemical identification (Ulna & Agblani, 2016). Drones can also be used to spread radioactive or biological weapons, and chemical weapons can also be spread using drones, making it easier for terrorists to operate.

In a statement released during the 2016 NATO Summit in Warsaw, Allied leaders emphasized their readiness to work together in order to "prevent, mitigate, and respond effectively to terrorist attacks, including through our efforts to project stability" (Guttry, 2022).

Through NATO Heads of State and Government participating in the North Atlantic Council meeting in Vilnius on July 11, 2023, the "Vilnius Summit Communiqué" was adopted, in which the Alliance openly stated its position and policy regarding the illicit proliferation of CBRN weapons and materials, which reads as follows: "The potential use of Chemical, Biological, Radiological and Nuclear (CBRN) materials or weapons against NATO by hostile state and non-state actors remains a central and evolving threat to our security. We are implementing NATO's new CBRN defence policy, as agreed at the Madrid Summit, and are investing in the military capabilities required to effectively operate, fight and prevail in any environment, and to ensure our national and collective resilience against CBRN risks and threats" (*Vilnius Summit Communiqué*, 2023).

NATO devotes an important place in its policy to three factors: Arms control; Disarmament and Non-proliferation. In order to better analyze the mentioned directions, it is necessary to consider them one by one. The most generic of the three phrases, arms control generally refers to mutually agreed-upon limitations or prohibitions (usually between governments) on the development, manufacture, stockpiling, proliferation, deployment, and use of conventional weapons, small arms, troops, and weapons of mass destruction. Agreements that improve military capabilities and operations' transparency are part of arms control, which aims to lower the possibility of misunderstandings or poor calculations (Arms control, disarmament and non-proliferation in NATO, 2023). "Any effort to prevent proliferation from occurring, or should it occur, to reverse it by any means other than the use of military force" is what the Alliance defines as "non-proliferation." Both conventional capabilities like missiles and small guns as well as weapons of mass destruction, such as nuclear, radiological, chemical, and biological weapons, are subject to non-proliferation (*Arms control, disarmament and non-proliferation in NATO*, 2023).

The threats of extremist ideologies, intolerance, fundamentalism, and the development of terrorism and terrorist havens are all issues that NATO takes seriously. NATO also focuses on the danger of terrorists gaining access to CBRN materials and weapons, as well as the use of both conventional and unconventional methods by terrorists (Santamato & Beumler, 2013).

Non-state actors they are known to both seek access to more sophisticated CBRN materials and WMD, as well as to attempt to weaponise toxic industrial chemicals and other materials that may be easier to acquire. Furthermore,

the obstacles to obtaining or creating sophisticated and varied CBRN materials and delivery methods are still being lowered by scientific and technical advancement. As a result, there is a greater chance that non-state actors will use or spread CBRN (*NATO's Chemical, Biological, Radiological and Nuclear (CBRN) Defence Policy*, 2022).

UN and NATO Cooperation in CBRN Security - NATO and the United Nations (UN) share a commitment to maintaining international peace and security. Since the early 1990s, the two organizations have been working together in this field to promote crisis management and peace support initiatives. Given the complexity of today's security issues, NATO and the UN need to have a more extensive conversation. As a result, the employees of the two organizations as well as UN specialized agencies now have stronger cooperation and liaison agreements (*Relations with the United Nations*, 2023).

On October 26, 2018, the UN and NATO adopted an updated Joint Declaration outlining their future collaboration objectives. The main policy statement of the Alliance, the 2022 Strategic Concept, commits NATO to managing wars, averting crises, and stabilizing post-conflict circumstances by strengthening its coordination and collaboration with the European Union and the United Nations. NATO's efforts to combat terrorism are framed by the UN Global Counter-Terrorism Strategy, international conventions and protocols against terrorism, and pertinent UN Security Council Resolutions. The UN Counter-Terrorism Committee (UN CTC) and its Executive Directorate, the Counter-Terrorism Implementation Task Force, and numerous of its component organizations are all closely partnered with NATO at the staff and committee levels (*Relations with the United Nations*, 2023).

In order to protect against chemical, biological, radiological, and nuclear threats as well as to stop the spread of weapons of mass destruction (WMD), NATO is collaborating closely with the UN and other international organizations. Following the adoption of United Nations Security Council Resolution (UNSCR) 1540 (2004), which addresses the threat to global peace and security posed by the proliferation of nuclear, chemical, and biological weapons and their delivery systems, NATO supports the work of the UN Security Council Committee (*Relations with the United Nations*, 2023).

Conclusion

In the conditions of the security dilemma, when asymmetric threats are difficult to predict and respond to, the international security system becomes vulnerable. Accordingly, the issue of protecting international security has become more urgent in the light of modern challenges, when it becomes easier for aggressive groups to commit various crimes with the use of new technologies and cyberspace. In the face of increased global instability, states must take more responsibility for their own security. They need to increase their capacity to act autonomously, and it is also very important to increase cooperative security at regional and international levels.

All this requires a complex approach and study of the issues affecting security stability. Against the background of these challenges, the role of NATO, the United Nations and other regional and international organizations, which work precisely on the issue of non-proliferation of CBRN and weapons of mass destruction, is increasing. All this means that in the conditions of the threat of proliferation of CBRN weapons and in the background of threats coming from non-state aggressive groups, the role and factor of regional and international organizations in global security protection policy should be increased. They should share strategic information with each other in order to detect and prevent terrorist acts. Against the background of new asymmetric threats, it is necessary to strengthen the protection of chemical, biological, radiation and nuclear facilities and laboratories of critical infrastructure, because the goal of terrorists is to obtain the aforementioned components, which will cause the greatest harm to humanity.

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