CHEMICAL, BIOLOGYCAL, RADIOLOGYCAL AND NUCLEAR THREATS IN THE HYBRID WAR CONTEXT

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Abstract: *The report examines the security environment in recent years in both NATO and the Republic of Bulgaria, the challenges they face as a result of international terrorism and, in general, from hybrid threats. The natures of the hybrid threats and the guidelines for limiting and overcoming them have been examined.*

Keywords: CBRN, HYBRID WAR

1. Introduction

The modern challenges to prosperity and peace are seriously changing the security environment. In recent years, the scale and complexity of conventional and unconventional threats to peace and security have emerged, including low-intensity asymmetric conflicts, global terrorism, piracy, transnational organized crime, resource and critical infrastructure security, threats of increasing arms proliferation opportunities Weapons of Mass Destruction (WMD), which have been identified by NATO as hybrid threats. Major challenges for security and defence systems related to them are the emergence of new hybrid threats; the unimpeded and relatively inexpensive emergence of new entrants with regional and global capabilities ranging from elements of traditional armed forces to individual groups whose predictability of behaviour is small.

The Islamic State (DAESH) has prompted Alliance to take action on the most rigorous opposition to these new and diverse hybrid threats. NATO faces a period of persistent instability which coming from the Middle East. Powerful non-state armed groups continue to destroy existing state structures in this area and create many problems leading to mass migration of large groups of the population of these countries. The rise of DAESH is most significant of these new threats from terrorist organization which there are Syria and Iraq. The rapid advance of DAESH in Iraq in 2014 and the gained control of large areas of Syria and Iraq led to a massive humanitarian crisis and mass emigration of large populations of these two countries.

The main response to hybrid threats or attacks is within the sphere of the particular nation state as any defence or security challenge. Cooperation on a multilateral basis is also essential. As a part of the planning of the response to hybrid threats, nations can turn on the Allies and the general public for help, which should be coordinated by the host national authorities and aligned with their national plan to counter the challenges facing them they are upright.

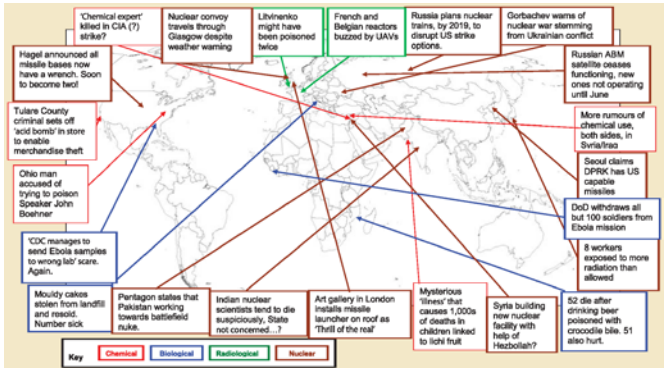

Fig. 1 *Global CBRN treats and activity. [6]*

2. The key role of CBRN hazards in the hybrid war.

Hoffman's ideas about hybrid warfare gained traction within the U.S. defence community, and several other military theorists expounded upon these ideas. Colonel Jeffery Cowan continues the discussion in his monograph "A Full Spectrum Air Force" in which he outlines the spectrum of conflict as envisioned by the defence analyst Shawn Brimley. [1] Brimley's model includes low-end insurgent tactics and limited technology such as nuclear weapons, bombers and aircraft carriers on the other end. In this model, modern conventional militaries attempt to cover the middle and higher end of the spectrum to guard against most likely threats. Cowan explains the model in the terms of hybrid warfare by arguing that the pressures of globalization allow potential hybrid threats to gain access to conventional military capabilities that normally reside closer to the middle of the spectrum through the use of global finance and the available proliferation of information the technology. Examples include air defence systems such as the rocket propelled grenade and the Kornet Antitank Missle, both used by Lebanese Hezbollah in the 2006 War against Israeli Defense Forces. [2] He then explains that the globalization and the proliferation of weapons of mass destruction (WMD) technology-defined as nuclear, biological, chemical, radiological and high explosive-have bent the high end of the spectrum toward the middle as non-state actors such as terrorists and hybrid threats complete with some Second and Third World nations to gain access to this end of the spectrum through the use of money and acquisition of available means such as technical knowledge and equipment.

Biological weapons can be produced from widely available pathogens that are manufactured for legitimate biomedical research or obtained from soil or infected animals and humans. In fact, many of the infectious diseases that are associated with biological warfare are endemic to the same countries that are most often suspected of trying to develop biological weapons. And because biological agents may be cheap and easy to obtain, any nation with a basic industry or facility such as a brewery has a de facto capability to produce biological weapons. [3]

The longstanding efforts of the international community writ large have to exclude weapons of mass destruction (WMD) from international competition and conflict. The proliferation of these weapons is likely to be harder to prevent and thus potentially more prevalent. Nuclear weapons are likely to play a more significant role in the international security environment, and current constraints on the proliferation and use of chemical and biological weapons could diminish. There will be greater scope for WMD terrorism, though it is not possible to predict the frequency or severity of any future employment of WMD. New forms of WMD—beyond chemical, biological, radiological, and nuclear weapons—are unlikely to emerge in the Hybrids war.

Technological don't be provide to the covert development of nuclear weapons and to the development of more sophisticated nuclear weapons. Chemical and biological weapons (CBW) are likely to be:

1) More accessible to both state and nonstate actors due to lower barriers to the acquisition of current and currently emerging CBW technologies;

2) More capable, particularly in terms of their ability to defeat current or currently emerging defensive countermeasures;

3) More discriminate; that is, more precisely targeted and/or more reliably low- or nonlethal;

4) Harder to attribute (utilizing hitherto unknown agents and/or delivery mechanisms) than the traditional forms known today.

No major new technological developments regarding the radiological weapons are foreseen. Some types of CBR weapons can be employed to inflict discrete effects while conventional weapons can be employed in ways that are massively destructive. Radiological weapons are now seen as the most likely to cause relatively localized effects. Many biological and chemical agents can be used in highly discriminate ways, including assassinations, and some chemical and biological agents such as foot and mouth disease may be useful mainly for disruption. Moreover, different types of WMD can have different political-military effects.

More countries are likely to cleave to or seek out the perceived security of nuclear weapons in this more uncertain environment, and some may test the political and military utility of new biological and chemical weapons capabilities made possible by technological developments, especially in the life sciences. There will be greater scope for WMD terrorism. Of particular concern will be how the diffusion of WMD technologies will increase the capacity of small groups and even lone actors, whose motivations and actions are inherently less subject to prediction and control, to acquire and employ the technologies of mass destruction even if done inadvertently. [5]

3. Countering CBRN hazards in the hybrid war.

Hybrid strategies requires successful countering of Allies and NATO as a whole to be able to recognize, identify and resist hybrid actions in a timely and adequate manner. The processes that enable rapid assessment of the situation and decision-making are facilitated. However, in order for this to be done, member states and the Alliance as a whole must possess and develop the necessary capabilities to enable them to respond effectively. While NATO's primary objective is to demonstrate Allied and Alliance action for recognition, resilience, readiness and rapid decision-making to deter hybrid attacks and avoid escalation, each member state and NATO as a whole able to respond to any form of hybrid attack, including by military force in the event of a military conflict. This requires considerable effort to coordinate the actions of both parties - the member states and NATO itself.

There are three functions of preparation, containment and defence, which is following by the NATO, must ensure that the Allies are prepared to resist hybrid attacks in any form and limit the impact of any hybrid attack on the Alliance.

NATO-EU collaboration on CBRN threats and the potential impacts of WMD use is focused through collaboration between the NATO Joint CBRN Defense Centre of Excellence and the EU CBRN Centre of Excellence. The organizations work closely together to integrate crisis response, training capabilities, and threat analyses - still, more can certainly be done.

Close interactions between the NATO CBRN Task Force and EU CBRN Centre of Excellence are a good starting point for the establishment of more formal cooperative frameworks for protecting dual-use materials, monitoring terrorist activities, and developing joint threat assessments. NATO and the EU, however, could further enhance cooperation within the framework of the DAT and SPS programs to coordinate and develop the CT capabilities of EU agencies Europol and Frontex. This partnership could work to integrate and coordinate best practices for countering non-conventional threats. In addition, focus on counter-WMD capabilities, dual-use, or conventional weapons proliferation, criminal networks trafficking, and border and maritime security could help secure European ports, airports, cities, and other critical infrastructure. [4]

Shared situational awareness is another key area of NATO-EU cooperation on counterterrorism, which flows directly from the above. Intelligence sharing between the two organizations, however, is currently limited to informal information exchange between specific NATO and EU agencies and centers of excellence. Thus, collaboration between NATO, Europol, Frontex, and the EU cyber and CBRN centers of excellence remains one of the most important means of sharing information concerning terrorist threats between NATO and the EU. [4]

The analysis of the nature and scale of the CBRN treads and the feasibility of terrorist acts using radioactive, chemical and biological agents leads to the conclusion that CBRN hazards are an objective reality that exists both in the event of a crisis or conflict and in peacetime. The necessary capabilities for their timely detection, identification and warning of the Bulgarian armed teams in order to ensure their safety and conditions for the accomplishment of assigned tasks. The Bulgarian defense policy is key to defining structure, functions, requirements to required level of standardization for warning and reporting CBRN system. Achieving interoperability and ensuring its integration into the overall NATO warning and reporting system requires aligning it with the Alliance's core documents - the AJP Joint Allied Doctrine of AJP - 3.8 and the tactical doctrine of ATP - 45. This is what the basic requirements with regard to the system structure, the reporting and warning procedures for an emerging CBRN event and the necessary capabilities for detection, identification and monitoring.

The current system improve for clarifying and assessing the CBRN environment can be achieved by automating the detection, detection and warning of endangered objects.

4. Conclusion

Hybrid threats create a unique challenge for NATO member states as well as the Republic of Bulgaria. Strongly resilient to unilateral approaches, hybrid threats react to any counteraction by applying tactics, techniques and procedures other than traditional conventional methods used in the past century. The sustainability of all elements of the hybrid threat requires improved collective defense. Only the effective implementation of military and non-military methods and instruments will be able to counteract these new threats.

Hybrid threats, characteristics specificities, complexity of the challenges and multi-facets of their manifestation as well as the variety of implications for operational capabilities and their build-up for timely and effective response will continue to rank among the major challenges for security and defense systems of modern society.

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