

STRATEGIC ASPECT OF COMBATING BIOTERRORISM

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Abstract: *In many modern countries of the world, there is prevailing belief of government officials and the majority of the public that the question is not whether, but when will a terrorist attack by biological weapons happen. The probability that a terrorist organization might use biological weapons has increased considerably although the use of conventional instruments of terrorism has not diminished. The threat that terrorists will apply biological weapons is a present and unambiguous danger because with these means terrorists can multiply increase the effects of their actions. In this regard, many countries have opted for a strategic approach to prevent this type of threat to national security. This way they provide a comprehensive and continuous approach in the fight against bioterrorism and misuse of biological weapons. The author of this paper provides basic considerations of strategic approaches and primary focus of states and the international community to prevent the use of biological weapons for terrorist purposes. A strategic approach to this phenomenon is not a new approach and we can find it in the Cold War era when the great powers used to pay extra attention to the use of biological weapons. In modern times states are preoccupied with preventing its use by terrorist groups.*

Keywords: *strategy, biological weapons, terrorism, national security*

1. INTRODUCTION

Advances in technology and the fact that biological weapons possess characteristics that in certain situations and circumstances make it a very suitable vehicle for violent political purposes, created the possibility of its abuse by terrorist organizations.

In the modern history of warfare there is no evidence of intentional use of biological weapons, which greatly affects our inability to predict the results of its eventual use. Therefore, many estimates are based exclusively on natural outbreaks and experimental laboratory models. Development, production, storage and use of biological weapons is prohibited in many conventions and international documents, but despite all efforts, the threat of possible deliberate use of biological agents has increased since the end of the Cold War to the present.

On the other hand, for years, many countries have developed their own programs of biological weapons. These are, among others, Germany, France, USA, UK, Russia (then the Soviet Union), China, North Korea. According to certain data today about 15 states work on programs for the development of biological weapons. It is difficult to determine this number because the possession and work on biological weapons can always be justified by its possible use in a defensive purposes, which of course does not preclude examination of aspects of offensive biological agents as well as the need to establish protection measures. In other words, they can easily and quickly switch from a defensive mode to offensive mode of biological weapons development program. On the other hand, new scientific knowledge in microbiology, pathology, genetics and other fields have contributed to the development of biological weapons.

The development of science in the subject areas affected, among other things, the fact that the scientists were able to permanently change certain biological properties of some pathogenic microorganisms to increase their infectious capability and resistance to external physical influences. Unlike nuclear and chemical weapons, there are no technical means to detect biological weapons nor the opportunity to prove their use. While the nuclear weapons are complex, expensive and require advanced transmission systems, chemical weapons are easier and cheaper to manufacture but also difficult to transfer to the goal. Further, biological weapons are fundamentally different from other weapons of mass destruction. While nuclear and chemical weapons cause immediate victims, biological agents require from several hours to several days or even weeks of incubation before they cause deaths.

Biological weapons are relatively cheap and easy to manufacture which makes it attractive for use by terrorists, as well as the fact that they may be secretly produced whereby it is impossible to timely detect their use, which represents a considerable danger for the affected country. Also, a possible biological attack may not be aimed at humans, but can aim domestic animals as a source of food or agricultural production, and a particular danger manifests itself in the fact that biological agent may be introduced into an area (endemic area) that is characteristic of the agent making it even harder to detect biological attack. Biological weapons can cause unpredictable psychological consequences such as mass panic and loss of morale. Inability to provide adequate protection and medical services to all is an additional psychological effect, and panic is especially dangerous which is why the organization of anti-biological defense and preparation for the defense that includes the protection of food and water is of particular importance.

2. BIOLOGICAL WEAPONS

Biological weapons include microbes and other biological agents, or toxins regardless of their origin or method of obtaining, possession of which is not intended for prophylactic, protective or some other peaceful purpose, as well as weapons, equipment and other means and methods of dissemination of these agents with hostile intent or during the war.[1] According to NATO definitions:

- biological agent is a “micro-organism (or its toxin) that causes a disease of humans, animals and plants and causes damage to inanimate matter”
- biological warfare “is the use of biological agents to cause the loss of the people and livestock, as well as damage to plants and materials”;

- biological defense “includes methods, plans and procedures through which measures of defense against biological attack are established and realized”. [2]

The terms biological weapons and biological warfare for the first time officially appeared after World War II, at the meeting of the UN General Assembly held in 1947, when biological weapons, apart from nuclear and chemical addition, were included in the group of weapons of mass destruction. The concept of weapons of mass destruction began to be used at the end of the Cold War in the United States as a common term because until then nuclear, biological and chemical weapons were separate terms. This was a more correct approach because all of these categories of weapons significantly differ both in the effects of their operations as well as in the principles and use for military purposes. In addition, for each of these categories there are different rules in terms of arms control and proliferation of these weapons, and the introduction of a common concept is in direct correlation with the new tasks of the Armed Forces of the United States after the end of the Cold War. At the same time this is a period when ban on proliferation of all three categories of these weapons became one of the primary tasks of the USA foreign and security policy.

As its name suggests, the concept of weapons of mass destruction is used for weapons whose common feature are large destructive effects and huge human casualties or mass destruction, and it is mainly used as a common term for nuclear, radiological, biological and chemical weapons and is derived from the UN Recommendations Commission for Conventional Armaments in 1948. Since then biological weapons are considered to be potentially the most dangerous weapons of mass destruction of people, animals and plants with possible unforeseeable consequences. According to the definition by the UN in 1969 under biological agents we classify living organisms that are derived naturally or in a infectious way, which can cause illness or death of people, animals, plants, depending on the effects and the ability of reproduction in humans, animals or plants that they attack.

According to the NATO definition, biological and toxin warfare agents are microorganisms and toxins derived from them with the purpose of causing disease in humans, animals and plants or degradation of materials. Even without further specifying the definition of this phenomenon, we can see that in the context of these weapons there are microbial or other biological agents or toxins of any origin, whose use can not be justified with protective or other peaceful goals, as well as weapons, equipment or delivery methods that are designed to use such agents or toxins for hostile purposes. In short, a biological agent that is used in the armed purposes is a live micro-organism or biological created toxin that causes injury or death [3]. When it comes to the agent, it is derived from a living micro-organism or its products, and through incorporation into various types of weapons it becomes a biological weapon. Biological agents are viruses, bacteria, fungi, and toxins.

2.1. Characteristics of biological weapons

The concept of bioterrorism has multiple meanings. This primarily involves the application of biological agents in terrorist acts to cause infectious disease in innocent civilians or military formations, animals and plants that are spread in the form of an epidemic or pandemic [4].

From the point of view of a possible use of biological weapons in terrorist purposes, potential terrorist organizations have at their disposal a large selection of harmful agents.

In addition to the above, a special “mitigating circumstance” is its availability, especially in clinical and microbiological laboratories and other scientific institutions. They have a short incubation period and are very contagious and consistently act in small doses. With very low costs, accessible equipment and widely available knowledge, the production of these agents is very easy. A particular problem that all its negative implications manifests in the field of biological weapons, is the fact that a large number of biological agents that represent potential biological weapons are already found in nature. The aforementioned fact causes further problems in distinguishing a situation where there was a deliberate spread of disease from the situation that occurred naturally. The indisputable fact that a large number of viruses and pathogenic organisms are found in nature does not mean that they are all suitable for terrorist purposes. [5]

As can be seen from the above, in the history of mankind biological weapons were often used as a weapon of war or in achieving some other goals, although its use has always been considered a shameful act. Therefore, the question is why, despite universal public condemnation, certain states do not give it up, but keep it, produce, improve and apply it in a given situation. The answer would be that there are many characteristics that make biological weapons attractive, of which the most important are:

- a) easy production; it is easy to produce certain biological agents even in a modestly equipped microbiological laboratories: all that is required for the reproduction of bacterial culture is nutrient medium and incubator-thermostat;
- b) low-cost production, arising from the above; according to some calculations from a few decades ago, the costs of achieving a particular effect (“neutralizing living force”) on the surface area of 1 square kilometer by using various types of weapons are: conventional weapons - 2000 dollars, nuclear – 800, chemical - 600, and biological only 1 dollar;
- c) hidden application; it is very difficult to establish biological aggression or bioterrorism if there is no convincing epidemiological evidence or material; a professional user of biological weapons can, knowing the epidemiological and ecological characteristics of an area, cause illness on a smaller or larger scale that can not be distinguished from naturally occurring epidemics;
- d) efikasna primena; sa 1 kg antraksnih spora, diseminovanih kao aerosol, može se prekriti površina od 100 km² i na njoj izazvati smrt 50 odsto ljudi ; effective implementation; with 1 kg of anthrax spores disseminated as an aerosol, one can cover an area of 100 km² and lead to the death of 50 percent of the people;
- e) effects on humans, animals or plants, without causing significant material damage, destruction and without significant environmental consequences;
- f) causing mass illness - death; it depends, mainly, on the type of pathogen and the route of administration of the biological agent; the most appropriate agents are those that can be disseminated by air (aerosol), and in which there is a possibility of subsequent inter-human transmission (variola virus);
- g) causing panic, political instability, disruption of health care and other services and disruption of normal activity with all the consequences resulting from it;
- h) the emergence of the problem of fast detection and identification of the applied agent, establishment of adequate measures neutralizing biological attack, adequate treatment and prophylaxis of healthy patients - exposed.

Biological weapons can penetrate the body in three different ways: inhalation represents the most likely way, inhaling of infectious organisms or toxins that are found in the air. The second way is through ingestion or swallowing, where the infection i.e. intoxication is done through the digestive organs. Absorption through the mucous membrane i.e. exposure through the skin or as a result of wounds or scratches is a third possibility. In addition, biological weapons can cause damage to or make material resources unusable.

3. BIOTERRORISM

The current threat of terrorism is different from the one in the past in the change of tactics, stronger destructiveness, the introduction of professional planning of coordinated attacks and the transnational character of the operations. There is increasing talk about the terms of postmodern terrorism or superterrorism, which aims to draw attention to the use of weapons of mass destruction for the purpose of terrorist attacks. Today, there is a much greater danger of its use by various organizations, sects and individuals. In this sense, the term “bio-terrorism” is used, which is defined as the use of biological agents in the acts of violence for political, religious, environmental or other ideological reasons, regardless of their moral or political justification. [6] Some differentiate this term from the term “bio-criminal act” that would identify the use of biological agents not because of ideology, but for other reasons. The risk of the use of biological weapons for this purpose is on the increase due to:

- easy production of certain biological agent,
- wide availability of scientific information through publications and the Internet and
- the existence of a large number of institutional and non-institutional laboratories (microbiology, molecular biology, genetic) in whose work there is not always a complete overview.

The greatest effects would come from the operations of large, well-equipped, sometimes state-sponsored organizations that are able to use modern scientific knowledge, biological arsenal of various weapons and sophisticated equipment and technology for their production and dissemination. Somewhat smaller effects would come from the work of not so well equipped, smaller organizations, and the smallest effects from the functioning of small groups or individuals, usually in attempts to assassinate certain individuals or to initiate panic.

Biological weapons can penetrate the body in three different ways. The most likely way is inhalation of infectious organisms or toxins that are found in the air. Another way is by ingestion or swallowing, where the infection or intoxication is carried through the digestive tract. Absorption through the mucous membrane i.e. exposure through the skin or as a result of wounds or scratches is a third possibility. In addition, biological weapons can cause damage or make material resources unusable. Particular danger of biological weapons is its diversity and the difficulties in assessing the manner in which it will be used, which is the main problem in detecting and responding to such threats, especially when used in covert attacks.

4. REASONS FOR STRATEGIC APPROACH

In the past, the concept of strategy was primarily related to the armed forces of a state, but in the modern era it gets a much wider application. In the most general sense strategy is a “long-term planning and political forecasting with a view to ensuring freedom of action, social freedoms, quality of life and order of the state on the basis of the Constitution in order to achieve common political concept”. [7] The danger of biological weapons is the dark side of globalization, so we often hear calls for global implementation of prevention and accountability. Faced with the possibility of using biological weapons for terrorist purposes, states have intensified efforts at the international and national levels aimed primarily at encouraging the introduction and use of a strategic approach in controlling biological weapons in particular in terms of possible misuse for terrorist purposes. Strategic concept is an overall, general and systematic approach to the basic features of bioterrorism with the aim of making rational use of available resources and more efficient prevention of the manifestation of this phenomenon. In addition, the strategy of countering bioterrorism is linked to the achievement of the strategic objectives pursued by the country and the international community as a whole.

As the factors that determine the strategic approach we should mention that biological weapons have their advantages over conventional, nuclear or chemical weapons. Therefore, the threat of biological weapons requires a different paradigm than defensive from a threat by conventional or other weapons of mass destruction. Naturally, a particular contribution to the strategic orientation is the fact that this is basically terrorism i.e. it is only one of the possible forms of its manifestation. Bioterrorism as a relatively new phenomenon further complicates the complexity of the fight against this phenomenon and dealing with its consequences. In fact, this is a special type of weapons of mass destruction which poses an increasing and terrifying addition to the terrorist arsenal. Its destructive potential is so great that it is now considered a strategic threat to many countries and can cause suffering on a large scale, but also significant political consequences. The above indicates that regarding the security plan orientation on preventive action is an imperative as well as establishing a long-term strategy of action in order to preserve security in the situation of global danger.

However, strategic approach to bioterrorism is not a new phenomenon because strategies existed during the Cold War, in which they were often changed, adapted and conceived. In the middle of the last century, biological weapons gained strategic importance in modern wars. The basic method of waging a biological warfare was the application of biological agents, germ-killers in the form of aerosols which also meant the total contamination of the atmosphere and territories of smaller states due to the inability to control the territory of countries that are not targeted. Especially important is the period at the end of the last century when biological weapons get new contours of a terrorist war or bioterrorism. On the other hand strategy of countering bioterrorism involves modern approach to the control and prevention of this phenomenon. In addition, the strategy can also be perceived as an expression of the evolution of the control of biological weapons with the orientation of the projection of future manifestations of bioterrorism in order to take optimal measures countering this phenomenon.

5. BIOTERRORISM IN THE NATIONAL SECURITY STRATEGIES

Because of its risks as well as other characteristics that set it apart from other weapons, preventing the use of biological weapons for terrorist purposes is a top priority of preserving national security of modern states. Many national security strategies pay special attention to this phenomenon. Very often, the biological weapons is viewed in the context of weapons of mass destruction but also particularly as is the case in the US National Security Strategy. [8] In the part relating to the prevention of the spread and use of weapons of mass destruction, in particular, it focuses on the ability that either state and non-state actors may procure or develop among others biological weapons too, which of course requires adequate response of relevant state entities. Apart from that, in the current US strategy in the part related to health security in a special way biological weapons are mentioned, stressing that the spread of communicable diseases pose an increasing risk despite the scientific and technological advances in their prevention. In particular is worrying the statement that there is lack of the capacity to prevent, detect and respond in the event of an outbreak of these diseases. As a world leader in the fight against the current pandemic, the US continues to strengthen the capacity for adequate response and crisis management caused by infectious diseases, which among other things requires the expansion of cooperation through the Global Health Security program to achieve a world that is safer and less susceptible to infectious diseases.

Special approach to biological weapons can be found in the Global Strategy for Foreign and Security Policy of the EU. However, in previous EU strategy significant attention was paid to this phenomenon for which we briefly reflect on its contents. The European Union has with a substantial delay and in completely different circumstances, but instructed by the tragic experience of the United States, prepared a conceptual document called the European Security Strategy [9] in which the proliferation of WMD is the greatest threat to the security of the EU and its citizens, and then it also made the EU Strategy to combat the proliferation of WMD.

A special importance to the problem of proliferation of weapons of mass destruction is the fact that proliferation of WMD is in connection with other global risks such as organized crime, international terrorism, regional conflicts and other global problems that are conducive to the proliferation of WMD, thus dramatically reducing global security.

By analyzing the nature of the risks, threats and endangering of the European Security Strategy, European security is faced with the following key risks:

- the proliferation of weapons of mass destruction, especially in combination with international terrorism,
- terorizam, posebno sa velikim razmerama (“superterorizam”, “hiperterorizam”, “megaterorizam”) i terrorism, especially with large scale (“super terrorism”, “hiper-terrorism”, “mega terrorism”), and
- regional conflicts that occur as sources of other threats such as terrorism, proliferation of WMD, organized crime and extremism.

Most states of the European Union in their strategic documents, which are primarily related to national security, as the most important security challenges cites the proliferation of weapons of mass destruction and international terrorism (including the use of weapons of mass destruction. The most obvious examples are the National Security Strategies of Austria and Bulgaria, which similarly assess the potential hazard by asymmetric threats and par-

ticularly terrorism and the proliferation of weapons of mass destruction. [10] The content of strategies of other countries is quite similar so that we can give a general conclusion. All strategies treat weapons of mass destruction without special separation of nuclear, chemical and biological weapons, which has been a common practice that came from NATO. Apart from this, special attention is paid to the proliferation of these weapons which is due to the fact that these are transit countries through whose territory lead many road corridors which means that they can be vulnerable as transit countries for this type of weapon. Complete picture of bioterrorism is complemented by the fact that on the list of possible forms of threats there is also terrorism.

Faced with the threat of biological terrorism and its possible consequences, many states have approached this problem with a lot of attention. The provisions given in national security strategies are operationalized through separate strategies as a general framework for action by all relevant government entities. The relevant strategies are commonly referred to as Strategies for combating the proliferation of weapons of mass destruction that could be viewed as guidelines for improving the coordination and activities at national but also at the international level in combating this phenomenon. In addition, the strategy can be seen as a response to the commitments of the countries signatories of the UN Security Council Resolution 1540 of 2004, which calls on all states, in accordance with their national legislation and international law, to undertake joint measures and activities to prevent the spread of weapons of mass destruction and to observe relevant international legal instruments.

Special importance of the strategies is that they represent a basis for joint and coordinated action by the state authorities as well as the continuous improvement and finding mechanisms for the control and prevention of proliferation of biological weapons as well as the eventual establishment of specialized authorities with a view to implementing the provisions for more efficient strategies. Adequately formulated strategy allows the achievement of prevention as one of the key areas to prevent the spread of weapons of mass destruction. In this regard, there is the need to strengthen the national capacity of all institutions responsible for the implementation of the Strategy.

6. CONCLUSION

Biological terrorism as a modern phenomenon through its unpredictability, fanaticism and cruelty, is a major threat to humanity today. Bioterrorism can be a powerful factor in the destabilization of a country, especially if it is supported by foreign interests, and therefore it must be taken very seriously. Despite the fact that the NHB terrorism was present throughout the twentieth century, it is certainly a general danger and a threat to humanity in the XXI century too. Bioterrorism is a specific security threat because it is characterized by a combination of high mortality rates, relatively simple method of production and the possibility of covert use.

The simplicity of misuse of biological weapons is perhaps best evidenced by its definition as “atomic bomb of the poor” due to relatively low cost of production. From the standpoint of terrorist organizations and groups, the use of biological weapons brings more advantages over the conventional explosive materials as biological weapons produces a high level of mortality of humans, animals and plants, very small amounts of pathogens can achieve a high degree of destruction, pathogens can be activated (released) in a relatively easy

and fast way, biological weapons provides the possibility of permanent activation, and the necessary equipment is inexpensive and easily available. This danger is usually invisible, and a man who is not aware of it is not even able to take timely protection.

Trend of increasing number of casualties in terrorist attacks in recent years suggests that terrorists are looking for new strategies, methods, weapons and funds so that the effects of their attacks become as large as possible. Many evidence suggests that the use of nuclear, radiological, and most of all biological and chemical weapons is likely and we should be prepared for such scenarios. Biological "war" is quite possible, maybe it has already become our reality. The fact is that after the spread of the contaminated letters in the US biological war officially started. Those who meet it unprepared shall face unforeseeable consequences.

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