




Agroterrorism as a Threat to Modern Society

Boris Bursać¹ 
Andrija Blanuša² 

Received: May 25, 2022

Accepted: June 30, 2022

Published: December 30, 2022

Keywords:

Terrorism;
Agroterrorism;
Bioterrorism;
Modern society



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-Non-Commercial 4.0 License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission.

Abstract: *There is no country, no inhabited territory on the globe that is immune to terrorism. Although the roots of terrorism go back a long way, terrorism is a product of the modern age, and its causes and motives are different. Therefore, the authors identify terrorism as a world problem, because as a manifestation in one environment, it never isolates itself, but spreads very quickly to other areas. In this paper, a new, somewhat intimidating form of terrorism, better known as agroterrorism, is analyzed in detail. This paper aims to explain more precisely this new, modern form of terrorism, to make a clear distinction between the concepts of bioterrorism and agroterrorism, as well as to assess potential threats and consequences of agroterrorist attacks.*

1. INTRODUCTION

For a long time, many scientists have been working on understanding and defining the concept of terrorism. This engagement is reflected in the extensive literature on this topic. Although this “great library” reveals important aspects of terrorism, few of them speak directly about the “essence” of terrorism, i.e. what exactly is terrorism, what causes it, must terrorism be politically motivated or can it be characterized as an accidental hate attack? How important, for a phenomenon like terrorism, is it to form a psychological state of fear? What does it mean to be an innocent victim? Who is innocent and who is guilty? Is terrorism an attack exclusively on military targets or does it involve attacks on civilians and non-combatants?

Is it true that there is a parallel economic system that finances terrorism? What is terrorism under the auspices of a state? Are unemployment, inflation, mass layoffs, anarchy in the education system, and general social insecurity common causes of terrorism? Is it possible to privatize terrorism? Is it then justified to talk about human terrorism, which constantly attacks and threatens the flora and fauna? How is it that in the era of rapid information development, a term like terrorism is becoming less and less clear, although it is increasingly used? What are “cyber terrorism”, “bioterrorism” and “agroterrorism”? It is extremely difficult to answer all these questions because terrorism is a very complex concept, very subjective, extremely burdened, emotionally and politically charged expression whose meaning depends primarily on the political ideology and program and even the culture to which a person belongs (Best, Nocella, 2004). Given that little attention has been paid to these “new”, “modern” types of terrorism, the aim of this paper is based on the expectation that our findings will improve the fund of scientific and theoretical knowledge about a phenomenon known as agroterrorism.

¹ National Assembly of the Republic of Serbia, Trg Nikole Pašića 13, Belgrade, Serbia

² Faculty of Social Sciences, Belgrade, Serbia

2. LITERATURE REVIEW

With the passage of time and the topic of terrorism coming into the spotlight, especially after the terrorist attacks in New York on September 11, 2001, there is an increase in the number of articles on terrorism. Since then, many scientific papers are dedicated to the analysis of this topic, but the opinion is that this number is insufficient if we, for example, take into account the potential economic impact of agroterrorism. In 2001, an epizootic of foot-and-mouth disease (FMD) broke out in the UK, and on that occasion, the fight against the disease lasted six months, costing 25 billion US dollars; if we add to this the fact that many of the infectious agents, like this one, can be obtained quite easily and require little expertise to infect animals, we come to the conclusion that agroterrorism as a way and method of committing terrorist acts is quite attractive to terrorists. Accordingly, this phenomenon should be paid with great attention and should be seriously analyzed.

Therefore, the publications that make up the relevant starting material for the research of this complex phenomenon include the works of well-known authors in the field of political and security sciences like: Simeunović, Posavac, Radosavljevic, Belojević, Best, Nocella, Dudley, Woodford, Gill, Peregrin, etc.

Terrorism as a relatively recent phenomenon has its roots. Some of the elements of the term terrorism certainly existed in the oldest political times. Political assassination, attack on the ruler and the order to achieve extreme political goals, inciting fear with violence, and the spectacularity of the attack which challenges absolute power, are well-known phenomena in human history. However, none of them, not even the sum of a few of them, is a sufficient content set to define one of these events as terrorism (Simeunović, 2010). It is most justified to conclude that certain elements, which are today considered to be constitutive elements of modern terrorism, have their manifestations that go deep into history, but modern forms of terrorism must be viewed much more broadly and specifically, and in relation to the current international security situation. It is indisputable that terrorism is one of the modern security threats and as such differs in many ways from traditional security threats, in which interstate wars are the most typical. Unlike traditional interstate wars in which opponents are known and where widely accepted rules of warfare apply, terrorism is a threat that introduces opponents to the international scene who are unknown until the moment of the attack, who do not respect any rules of civilization, thus, the fight against such an opponent is much more uncertain and difficult. Modern society is faced with an extremely high level of threats, which are directed almost daily by a growing number of terrorist organizations around the world, and that is why today great attention is paid to terrorism, especially by scientific, professional, security, and political public. On the other hand, we have a very big problem; for example, even the United Nations has not clearly defined what terrorism is. We can say that there is a so-called working pre-definition of terrorism used by the UN in the practice. A UN panel, on March 17, 2005, described terrorism as any act intended to cause death or serious bodily harm to civilians or non-combatants with the purpose of intimidating a population or compelling a government or an international organization to do or abstain from doing any act. (UN, 2005)

We must certainly emphasize another example of the conceptual uncertainty that lies in the fact that even the US Department of State, the Ministry of Defense and the FBI use totally different definitions of the term terrorism. So when we talk about terrorism, or about the definition of terrorism, we can say that consensus has not yet been reached. Definitions of terrorism are often based on the political discourse of their creators, and not on their scientific understanding of

terrorism. Therefore, when we talk about terrorism in this paper, we will also rely on one comprehensive definition which views terrorism as one multidimensional political phenomenon or a complex form of organized, individual and rarely institutionalized political violence, which is marked by frightening brutal-physical and psychological methods of political struggle, which are usually used in political and economic crises, and less often in conditions of economic and political stability of a society, systematically trying to achieve “great goals” in a way completely inappropriate to the given conditions (Simeunović, 2009).

The current security moment, after the period of world wars and bloc division of the world, is significantly more sensitive because the risk that all countries face daily is now embodied in the constant terrorist threats coming from increasingly numerous and organized groups, which are most often gathered around extremely radical political, ideological and religious goals. As we have already mentioned, different types of terrorism have seen the light of day, such as “cyber terrorism”, “bioterrorism”, and “ecoterrorism”, and one of them is “agroterrorism”, which we will discuss in more detail in this paper.

3. DEFINING THE CONCEPT AND CHARACTERISTICS OF AGROTERRORISM

Terrorism is becoming one of the most important obstacles to modern society. Thanks to its ability to adapt quickly, terrorism is changing in its content, types, forms, and ways of action, where terrorists pursue only one inviolable goal and that is the fulfillment of their political and ideological ideas. One of these types of terrorism is certainly agroterrorism.

Agroterrorism belongs to a wider group of terrorism, which we define in the literature as ecoterrorism, more precisely to the subgroup of ecoterrorism better known as bioterrorism. So in order to fully understand what agroterrorism is, we need to precisely define what is bioterrorism, given that these two concepts are closely related. Bioterrorism refers to the intentional release of biological agents or toxins for the purpose of harming or killing humans, animals or plants with the intent to intimidate or coerce a government or civilian population to further political or social objectives (INTERPOL, 2017). The application of the mentioned biological material is most often done in populated areas and mainly in order to destroy morale as efficiently as possible by causing a large number of victims. By biological material, we mean biological agents, toxins, viruses, bacteria, fungi, etc.

If we try to make it easier to understand this concept, to further analyze bioterrorism, we can say that bioterrorism has its three manifestations, which are: genocidal - bioterrorist attacks against humans, agroterrorism - zoocidal and phytocidal, directed against domestic animals and plants and ecocidal - related to collective damage to the environment caused by bioterrorist attacks. Based on all the above, we can conclude that agroterrorism can be defined as a form of bioterrorism, which aims to disrupt or destroy the agricultural industry and/or food supply system of a population through the deliberate introduction of a plant or animal diseases, while as the ultimate goal, agroterrorism has the creation of economic losses, fear, and disruption of the internal stability of the attacked country.

4. GOALS AND PERPETRATORS OF AGROTERRORISM

The fact is that food, water, and agriculture, in general, are the key elements of the infrastructure of every country because they provide products that are essential for life, thus, agricultural production that meets the needs of the state is a critical point of national security. If we take

this fact into account and add to it that biotoxins and infectious diseases have been sporadically weaponized throughout history (Dudley, Woodford, 2002), then nothing prevents us from thinking that terrorists can choose this type of fight to achieve their goals.

When we talk about the goals of agroterrorism, we can divide it into three groups (Gill, 2015):

- Direct - attack on plants, animals.
- Indirect - economic losses, fear, political instability - when an agro-terrorist attack is carried out on domestic animals, the attacked country must implement measures of quarantine and mass slaughter and burning of infected livestock. Everything is happening under the watchful eye of television, which, together with the huge financial loss due to the international embargo, is exactly what the terrorists want to see.
- Endangering human health - by ingesting contaminated food or if an animal pathogen is transmissible to humans by causing zoonoses.

The perpetrators of agroterrorist acts can be individuals, terrorist groups (political organizations, associations based on racial, religious, or other grounds), and individual states or military alliances. (Radosavljevic, Belojevic, 2009) Agroterrorism is a way of fighting that is undoubtedly very attractive to terrorists, primarily because infectious agents can be obtained quite easily. For example, in 1952, the Mau Mau (an insurgent organization in Kenya) killed 33 heads of cattle at a mission station using African milk bush (a local plant toxin). In 1984, the Rajneeshee cult spread salmonella in salad bars at Oregon restaurants to influence a local election. On the other hand, chemical weapons have been used more commonly against agricultural targets. For example, in 1978, the Arab Revolutionary Council poisoned Israeli oranges with mercury, injuring at least 12 people and reducing orange exports by 40%. In 1997, Israeli settlers injected a large number of pesticides into grapevines in two Palestinian villages, destroying up to 17,000 metric tons of grapes (CRS, 2007). In 2000, Al-Qaeda members tried to poison the water at the US Embassy in Rome with chemical agents; In 2003, Al-Qaeda members attempted to poison US military units by inserting ricin in food at a military base in the UK, etc.

5. PLANT AND ANIMAL AGENTS WHICH MAY BE USED FOR AGROTERRORISM PURPOSES

An example of a plant pathogen used for the purpose of an armed attack was the fungus *Puccinia graminis* which causes black rust of grain. This pathogen was used by Iraq in the fight against Iran, and it attacks all cereals and many other plants from the *Poaceae* family (Posavac, 2021). The causative agents of zoonoses known to be bred and tested as biological weapons are: *Bacillus anthracis* (anthrax), *Yersinia pestis* (bubonic plague), *Brucella abortus* (brucellosis), *Francisella tularensis* (tularemia), *Clostridium botulinum* (botulism), *Coxiella burnetii* (Q-fever), Burkholderia, Fusarium, Morbillivirus, Staphylococcus, Venezuelan Equine Encephalitis, and several hemorrhagic fever viruses (Ebola, Marburg, Lassa, Rift Valley) (Peregrin, 2002). According to recent data, animal pathogens that may be used for agroterrorism purposes are: AHS virus, ASF virus, BT virus, HC virus, FMD virus, Orthomyxovirus, influenza A virus subtype H5 and H7, LDS virus, PPR virus, Rinderpest virus, RFV virus, SGP virus, SVD virus, VS virus (Posavac, 2021).

Taking all the above facts into account, and if we add to them the last assessment of the expert who estimated that to develop a serious biological arsenal you would need about ten million dollars, a very small lab and a master's degree in chemical engineering, we can say that agroterrorism can be a serious threat with a huge impact on society (Homeland Security News Wire, 2009).

6. AGROTERRORISM THREATS IN THE FUTURE

Because of the relatively low cost and amount of effort required in agroterrorism, some terrorist groups may direct their attacks more frequently toward agricultural production in the future. In addition, globalization, with increased importation of food, global food trading, and transportation of animals, have made modern societies more vulnerable to terrorist attacks (Keremidis, Appel, Menrath, Tomuzia, Normark, Roffey, Knutsson, 2013). A major agroterrorist attack would have substantial economic repercussions, especially when allied industries and services suppliers, transporters, distributors, and restaurant chains are taken into account. The fiscal downstream effect of a deliberate act of sabotage would be multidimensional, reverberating through other sectors of the economy and ultimately impacting the consumer (Chalk, 2003). What we can conclude from previous terrorist attacks around the world is that terrorists aim to achieve an element of surprise and often harm civilians, of course at the lowest cost to their own organization, so agriculture becomes very attractive and vulnerable, and as such, open to attacks. What we must also mention is the fact that many biological agents used in agroterrorist attacks can be relatively easily converted into a portable form, and, at the same time, there is no risk for terrorists who carry out the attack; also, in this type of terrorist action they do not need a large base, logistics or infrastructure to carry out such an attack. Also, when assessing the threat of agroterrorism, it should be assumed that the terrorist group has access to several species or types of pathogens; therefore, it is unlikely that such organizations or states directed all their knowledge, strength, and finances to develop only one type of biological weapon.

7. CONCLUSION

Agriculture is one of the basic national interests of every state, precisely because it maintains peace and prosperity of the nation by satisfying the needs of the state for raw materials and products of plant and animal origin. Terrorism is a complex socio-political phenomenon that has experienced rapid expansion in recent years, spreading beyond the borders of nation-states. In that sense, in recent times, terrorism is taking on a new dimension and is increasingly becoming a global problem. Countries face new forms of terrorism every day and one such form of terrorism is bioterrorism, more precisely agroterrorism. Agroterrorism as a concept is little known to the general public but its effects can leave great consequences for human and animal health, the environment, and the economy of a country. In the fight against agro-terrorist attacks, the only thing we can rely on is that humans as a species have become more humane and aware of the dangers posed by biological weapons, and that, even if such conflicts occur, people and institutions will be ready to cooperate. The questions that are constantly being asked in the world of terrorism and counter-terrorism are who will use biological weapons next and when, and whether the targets of the attack will be ready to answer.

REFERENCES

- Best, S. & Nocella, A. (2004). *Terrorists or Freedom Fighters?: Reflections on the Liberation of Animals*. New York: Lantern Books.
- Dudley, J. & Woodford, M. (2002). Bioweapons, bioterrorism and biodiversity: potential impacts of biological weapons attacks on agricultural and biological diversity. *Revue scientifique et technique*, pp. 125-137.
- Chalk, P. (2003). Agroterrorism: What Is the Threat and What Can Be Done About It?. *Rand National Defence Institute*, 1.

- Congressional Research Service. (2007). Agroterrorism: Threats and Preparedness. *CRS Report for Congress*, 16.
- Gill, K. (2015). Agroterrorism: the risks to the United States food supply and national security. *US Army Med Dep Journal*, 9-15.
- Homeland Security News Wire. (2009). Agro-terrorism threat is real. *Homeland Security News Wire*, 1-2.
- INTERPOL (2017). Bioterrorism prevention programme. *Bioterrorism prevention programme*, 2.
- Keremidis, H. & Appel, B. & Menrath, A. & Tomuzia, K. & Normark, M. & Roffey, R. & Knutsson, R. (2013). Historical Perspective on Agroterrorism: Lessons Learned from 1945 to 2012. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*, 1-2.
- Peregrin, T. (2002). Bioterrorism and food safety: What nutrition professionals need to know to educate the American public. *Journal of the American Dietetic Association*, 14-16.
- Posavac, M. (2021). Bioterorizam u poljoprivredi. *Sveučilište Josipa Jurja Strossmayera u Osijeku, Fakultet agrobiotehničkih znanosti Osijek*, 28-32.
- Posavac, M. (2021). Bioterorizam u poljoprivredi. *Sveučilište Josipa Jurja Strossmayera u Osijeku, Fakultet agrobiotehničkih znanosti Osijek*, 28.
- Radosavljevic, V. & Belojevic, G. (2009). A New Model of Bioterrorism Risk Assessment. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*, 443–451.
- Simeunović, D. (2010). Kritički ogled o utvrđivanju vremena nastanka terorizma i njegovim pretečama. *Vojno delo*, 324.
- Simeunović, D. (2009). *Terorizam*. Beograd: Pravni fakultet.
- UN (2005). Agreement on Terrorism Convention, Respect for Human Rights, Strengthening State Capacity to Prevent Terrorist Acts Key Elements of Strategy. *UN*, 1.