

**HOW PREPARED ARE WE FOR THE NEW FACE OF TERRORISM?  
ASSESSMENT ON THE POTENTIAL THREAT OF  
AGROTERRORISM**

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**ABSTRACT**

This study analyzes agroterrorism, a potential threat. Considered a sub-title of bioterrorism, agroterrorism refers to the attacks that terrorist organizations could carry out by using biological agents and pests on the agriculture and food sector. The existence of biological attacks against opposing parties at various times in history and the execution of special biological weapons programs by states reveal the possibility of terrorist organizations reaching this potential as an element of fear. The possibilities of increasing the possibilities and capacities of terrorist organizations, which constitute one dimension of the new terrorism debate, to the extent that weapons of mass destruction could be used are discussed throughout the study. The study aims to contribute to the field by evaluating the threats that agroterrorism may pose and how prepared societies are for bioterrorist attacks.

**Keywords:** Agroterrorism, Biological warfare, Terrorism, Bioterrorism.

## INTRODUCTION

Terrorism has many faces. As one of the most severe threats encountered today, terrorism puts societies, states, and the international arena at risk and threat in many different ways. The physical and psychological pressure created by terrorism can lead to important human, social, economic and environmental consequences and create irreparable destruction in the structure of the targeted social order. Terrorism strategy, which is traditionally tried to be carried out through physical attacks created by military ways, is experiencing a transformation process with the use of different methods and tactics and diversification of targets in line with what the period brought. In this process, while terrorist organizations continue their armed conflicts, they engage in activities such as perception management activities, cyber-attacks, attempts to discredit the economy, collecting moral support from the international community, and establishing cooperation with other illegal groups. Thus, in order to achieve their goals, they find the opportunity to expand the field of struggle to different areas, increase their opportunities and capabilities, strengthen their strategies based on the intimidation-making concession relationship, and pose a multifaceted risk to the security weaknesses of the other side. Discussions on new terrorism are intensifying in a framework where its definition is becoming increasingly blurred, organizational capabilities are developing, financial resources are diversifying, attack methods and tools are different, the effects of actions are increasing, and emerging organizations with global claims and ideologies.

Today, one of the prominent points in the debates on terrorism is directed attacks of terrorist organizations on cyberspace, critical infrastructure, economic activities, and historical and natural heritage, rather than military fields and elements. In order to force and intimidate the opposing society and the state, terrorist organizations try to make civilian areas unsafe with various attacks, disrupt the functioning of facilities such as energy transportation lines, create chaos in tourism seasons to lead to an economic depression, damage the international reputation with intense social media propaganda, and to damage forest lands by setting fires. In this context, different target dimensions of terrorism need to be evaluated in detail. Agroterrorism, which has social, economic, and environmental dimensions, also constitutes an important topic to be examined.

Although agroterrorism, which is generally defined through attacks against agricultural areas and activities, has not created a serious threat to date and remains a serious potential danger because it is a subset of biological warfare and bioterrorism. In addition, the possibility of terrorist groups using weapons of mass destruction, which is at the top of the general concerns about terrorism, pushes societies to be vigilant. Therefore, there is an aspect of agroterrorism that should be taken into account as it directly concerns the safety of society, the economy, ecology, and food. It is also necessary to draw a framework that agroterrorism can include attacks on livestock, food supply chains, and systems as well as on agriculture. While there are many natural causes that negatively affect agricultural activities, the danger posed by deliberate attacks to harm the other party is remarkable. In this context, agroterrorism can be defined as a biological attack directed against the agricultural and food areas, products, and sectors of the other party by using various pathogens and diseases.

In this study, agroterrorism will be discussed in the new terrorism debate as

a sub-field of biological terrorism. In fact, we are fortunate that, apart from a few cases, attacks by non-state groups using weapons of mass destruction have not been encountered throughout history. But on the other hand, biological agents and disease attacks have been used at various times and have become a frightening threat. As will be discussed in the article, since obtaining and using biological weapons is easier than other weapons of mass destruction for various reasons, the risk factor in this area should be focused more on. As one of the subheadings of bioterrorism, agroterrorism is a threat that should be taken into account, in the theoretical context, since it has the potential to cause irreparable wounds in the food sector, which meets one of the basic needs of society. In this study, the potential threat of agroterrorism and what it may cause will be examined, and then how prepared for this situation will be discussed. It is thought that the study will contribute to the field because it draws a framework on the potential as well as the apparent threats of terrorism. In addition, as a result of the study, an evaluation will be made on whether the interpretation of the potential possibilities and capabilities of terrorist organizations is an attempt at securitization.

## **DIFFERENT FACES OF TERRORISM: THE NEW TERRORISM DEBATE**

Terrorism strategy is based on the weaknesses and vulnerabilities of societies. Traditionally, terrorist organizations seek to create fear through attacks on military and sometimes civilian targets and to obtain their desires from the societies they are trying to drag into chaos. In addition, organizations create a different picture by learning from their experiences and their environment, adapting technological developments, developing opportunities to apply new attack tactics, and prioritizing psychological struggle. A new discussion of terrorism emerged at a time when the structures of terrorist organizations have changed, their capacities and effects have increased, ideologies have diversified and blurred, domestic and regional organizations have been added to those with global claims, terrorist organizations and other illegal groups' activities have been intertwined, attacks have been carried out with different methods and tactics, and media opportunities have made discourses and actions possible to reach large masses.

Terrorism is a strategy put forward by illegal groups seeking concessions by resorting to violence to achieve their political ends. Organizations that incorporate the element of spreading fear into this strategy, while seeking to wear down the society they target within the framework of the ideology they adopt, on the other hand, try to gather as much support as possible (Whittaker, 2009; Schmid, 2011; Richards, 2019). Members of terrorist organizations can adopt a terrorism strategy with many motivations from material gain to the need to belong to a group, from a reaction to victimization they claim to a political goal with the belief that legal remedies are blocked. Thus, personal interests, ideological commitments, or fears of being excluded from the group may cause them to engage in terrorist activities (Gupta, 2005). A long historical framework is drawn in the general literature on terrorism, that is, the search for an asymmetrical structure to realize its political goals by committing acts of violence against a central power and society. The historical spectrum of terrorism emerges in a wide range from Zealots to Thugs, from Assassins to

anarchism, from Cold War era separatist movements to the type defined through radicalization and violent extremism today (Newman, 2006; Semelser, 2007; Chailand and Blin, 2007). As the transformation in the understanding of security can be examined, it would not be wrong to state that terrorism is a renewed phenomenon beyond its traditional lines.

In this process, which is called the new terrorism, terrorist organizations have changed their organizational structures, increased their financial opportunities, improved their technical capacities, redefined their ideologies and goals, have been able to apply perception management tools with expertise, have been using new communication channels to reach their members and sympathizers, have interacted with other terrorist organizations and illegal groups. In addition, political, military, economic, technological, and social developments in the national, regional, and international fields are also determinative of the causes, understanding, and effects of terrorism. Terrorist organizations have new opportunities in organizing, communicating, logistics, acquiring weapons, and recruiting personnel, especially with today's processes called information and technology revolutions (Laqueur, 1999; Tucker, 2001; Gofas; 2012; Ganor, 2009). In this context, a new type of terrorism threat emerges in the face of society. Thus, many aspects of the fight against terrorism such as political, legal, military, economic, educational, psychological, judicial, prison system, intelligence, and support to the victims appeared (Schmid, 2005: 226-237). In the traditional context, the mentality of fighting terrorism, which is based on military defeat, has become more complex by becoming multidimensional due to the increasing capabilities and influence capacities of terrorist organizations. It is crucial to monitor and prevent the illegal or legal-looking activities of terrorist organizations, their search for financial resources, the sources of acquiring weapons of all kinds, the foreign support they receive, the new attack plans they design and their social media behaviors.

One of the most important dimensions of the new terrorism debate is the diversification of attack methods and tools by terrorist organizations whose capacities and capabilities have changed dramatically. In fact, the acquisition and use of advanced weapons or technologies by terrorist groups stand as an alarming potential threat. In addition to the traditional attacks of terrorist groups, which seek weakness in the sensitive points of modern societies, all kinds of potential threats constitute a situation that needs to be taken care of. The potential for terrorist organizations to gain access to nuclear, radioactive, biological, and chemical weapons of mass destruction, and to carry out attacks against critical infrastructure or ecological areas are among the concerns on which this worst scenario is based. For this reason, societies need to be protected due to such dangers and risks posed by terrorist organizations as well as traditional armed attacks. While some of these can be seen as imminent threats, some of them need to be discussed on the possibility of their realization. However, even the possibility of applying in the future makes it necessary for the states to take the necessary steps in this regard. The fight against terrorism is an extremely difficult task with zero margins of error, which must be done before the attack comes, prioritizes the closure of the weaknesses of societies, and requires the prevention of terrorist groups' intentions before they occur.

## **AGROTERRORISM**

As the name suggests, agroterrorism is an abbreviation of the words agriculture and terrorism, and it simply deals with terrorist attacks on agricultural activities. Agroterrorism, which can be realized by various methods and tools, is a serious threat with political, economic and social effects. It should be noted that deliberate attacks on agricultural areas, related systems, or supply chains can have major national and international impacts (Crutchley, 2006). Agroterrorism, which is seen as a sub-branch of the field expressed as biological warfare or bio-attack, is not a new phenomenon. In fact, throughout history, the agricultural activities of the other side, food stocks, and the areas where related activities were carried out were targeted. States have sought intensively to develop biological and chemical pathogens and weapons in order to weaken their enemies. Such struggles have ranged from the burning of agricultural produce to the spread of viruses that can have a broad impact (Suffert et al., 2009). Along with other weapons of mass destruction, biological weapons also remain a threat at the international level, despite their limited use in the process. The fact that there are terrorist organizations that may prefer biological agents due to their relatively easy production, the capacity to cause a large number of deaths, the panic they may cause, and the difficulty of detection increases the anxiety in this area. For example, Seth Carus (2001: 7-8) states that there are twelve cases where biological agents were used for attacking agriculture and food fields that have been recorded so far. Among them, he remarks on five incidents in that groups used biological viruses to cause serious harm to the other side: Rajneeshees (1984), Aum Shinrikyo (1995), Dark Harvest (During WWII), Mau Mau (1952), Polish Resistance (During WWII).

Important biological weapons and agents that may cause general concern today are discussed in Ignatius Fong and Kenneth Alibak's review book (2009) as anthrax, plague, tularemia, melioidosis and glanders, smallpox, hemorrhagic fever viruses, botulism, ricin. Polyak (2004: 31-32) states that various attacks were made against agricultural areas, animals, and food stocks, especially during the First World War and the Second World War, in order to draw the enemy into food shortages. He argues that during the Cold War, states tried to develop many projects for biological attack, including facilitating the spread of foot-and-mouth disease. In this context, the use of biological weapons in the conduct of wars has not been an undefined attempt, but rather an orientation on which various attempts have been made. However, the absence of a large-scale biological attack by state or non-state elements for a long time has led to a low level of concern in this area. Nevertheless, it is possible to say that the threat of biological attack came to the fore again in the atmosphere created by the panic atmosphere that started with the sending of letters containing anthrax to some addresses in the USA right after the September 11, 2001 attacks. The fact that Al-Qaeda could threaten the United States, one of the most protected countries in the world, by organizing plane attacks, and the introduction of anthrax has led to biosecurity debates and thus the fear of biological terrorist attacks on vulnerable points (Cooper, 2006).

In fact, the realization of biological attacks with the use of various viruses or diseases is an experienced situation, but the values on which the concern is gathered have been humans and animals. However, the inclusion of plants and agricultural products in this process revealed a different dimension (Madden

and Wheelis, 2003). Agroterrorism can also be defined simply as a politically motivated non-state group trying to disrupt the agriculture, food, and farm sectors by using various pathogens and pests to harm the opposite society. Roger Breeze (2004: 251) states that agroterrorism refers to the deliberate attack on commercial crops or livestock populations with various viruses, bacteria, and fungi, either as targets in themselves or as means to attack humans in the case of a zoonotic pathogen. Keredemis et al. (2013) define agroterrorism as a subset of bioterrorism, which is defined as the deliberate introduction of animal or plant pests with the aim of creating fear, causing economic damage, and/or undermining social stability. While people's lives are at risk with agroterrorism attacks, problems may arise in the agricultural field on the other hand. Directing attacks with biological and animal pathogens to the most basic needs of people can create a state of panic and fear in society. Thus, a suitable environment for terrorism strategy will be obtained.

Biological attacks and agroterrorism can come from states, political groups, religious radicals, criminal organizations or individuals acting with different motivations. The motives of the groups can vary greatly, but one thing in common is their willingness to use biological weapons to effect changes in society. From their point of view, violence, which can bring death, fear, and social degradation, is an appropriate way to achieve its goals (Keremides, 2013: 19). Thus, the deliberate use of various agents or pathogens directed toward the wild nature, livestock, crops, forests or the whole agriculture/food sector constitutes the general definition of agroterrorism.

Tamara M. Crutchley et al. (2006: 42) highlight key points about the threat of agroterrorism in their listing of key vulnerabilities and their exploitation in the US agricultural system. From this study, it is possible to understand the impact of targeting sensitive points in agriculture. In the article, it is stated that intensive agricultural activities and products accelerate the spread of possible diseases and make it difficult to control, the deficiencies in keeping statistics make it impossible to determine the diseases without a large impact, the rapid spread of products to large geographies also spreads pollutants and prevents the problem from being under control, and the lack of reporting systems make farmers prevent from urgent and sufficient reporting in case of a problem, the lack of necessary training to the people in the sector hinders diagnosis and early detection, and inadequate agricultural and food surveillance systems can quickly turn into a weapon. Thus, it should not be forgotten that terrorist organizations have the potential to benefit from agriculture and food fields by using all kinds of deficiencies, mistakes, or densities. It would not be surprising that a well-calculated bioterrorist attack would reach a very serious level due to intense activities in the relevant sectors, lack of information, communication problems, and commercial speed.

Biological weapons have been used in various ways throughout history. The reasons such as being easily obtainable and applicable, low cost, spreading of their effects over time, indistinguishable from natural problems, causing psychological destruction due to the fear they create as well as physical damage make these weapons a special danger (Ridel, 2004). The use of various products developed by scientists for the benefit of humanity or currently used in agriculture and animal husbandry for the purpose of threatening the seizure of terrorist organizations is also a situation that should be evaluated under risk

(Tucker and Zilinskas, 2006; Bennett, 2009; Tucker, 2011; Dobson, et al., 2013). Especially today, when terrorist organizations redefine themselves in terms of ideology, strategy, and possibilities, it is not very unlikely that they will adopt a type of attack used in various periods of history. Today, it is not difficult to reach biological weapons production methods, materials, equipment, experts, and the necessary financial support, especially with the effect of globalization. In addition, the circulation of agricultural products and animal foods due to international trade may cause a product containing bioagents to have a devastating effect anywhere in the world (Polyak, 2004: 32-33).

Agricultural activities have special importance because they both meet the general food needs of society and are an element of national income. It is quite obvious that any terrorist attack on the agriculture and food sectors will have serious political, economic, and social consequences. While people's lives may be at risk, on the one hand, they will face a problem such as not being able to reach enough food on the other hand. Meanwhile, while plant and animal deaths will indispensably occur, ecosystems may also be negatively affected. Depending on the size of the attack, the long cleaning process will make it difficult to restore agricultural vitality. The long-term effects of some agents will degrade the reputation of the attacked state and its export products before other countries. In addition, the victimization of people who make their living with the income they earn from the relevant sectors will bring along critical problems.

But on the other hand, biological agents are unpredictable because they can get out of control, have great potential to backfire or become completely ineffective under several conditions. The possibility of being affected by temperature, the environment, or other substances that they could react with makes the attacker suspect these agents. In addition, biological agents should be used just after production due to their short life span (Laqueur, 1999:69). This situation may cause terrorist groups to reconsider the point of preferring biological weapons. Nevertheless, the possibility of using weapons of mass destruction by taking all kinds of risks to terrorist organizations, which have put forward a bloody strategy to achieve their goals, seems to be more prominent than their reluctance to use them.

## **HOW PREPARED ARE WE AND WHAT CAN BE DONE?**

It is quite clear that a possible agroterrorism attack will, directly and indirectly, affect human life, fertile lands, livestock, harvested and unharvested products, storage systems, woodlands, wildlife, and any chain of the food industry. Thus, while people and other living things will be lost, many political, economic, and social problems will arise. Post-treatment processes, removal of pathogens, destruction of contaminated products, elimination of damage in supply chains, and reduction of panic in society will be very difficult processes. As humanity, how prepared or ready we are for such a scenario needs to be discussed.

After the attacks of September 11, 2001, which was one of the turning points for the understanding of security, the general awareness about all aspects of terrorism showed itself also in the field of bioterrorism and agroterrorism. After this date, the laws and regulations, researches, reports and preparatory action plans enacted in the USA, which has drawn the direction of the concept of combating terrorism and is the pioneer of implementation in the international

arena, are noteworthy. In this context, in addition to the general problems caused by terrorism, possible risks and weaknesses in agriculture and food were discussed and issues such as the general situation, prevention activities, and budgetary needs were brought to the agenda (Monke, 2004; Cupp, 2004; Crutchley, 2006; Gonzales et al., 2006). Because the concept of combating terrorism needs to be multifaceted and integrated. It is necessary to take into account every aspect of real threats and the probable impact of potential threats. However, it is not possible to state that the attempts made by the USA in this field after the September 11 attacks were handled with the same sensitivity by other countries.

Manish Anand (2018: 8) states that the struggle in this area is hidden in knowledge management. Considering that agroterrorism is not a visible threat and at the same time its potential is considered, it is extremely important to share information in this field, to establish communication channels, to inform the relevant people in case of any risk, to raise awareness about such attacks and to convey developments in the field. In brief, he argues that a strategic and integrated strategy can be developed with appropriate knowledge management. Martensson et al. (2013: 46-48) draw attention to the importance of cooperation between institutions and information sharing in an area such as bioterrorism and agroterrorism, where the risk is high and the available data are limited. Here, it is meant to work together with the police, intelligence, forensics, customs, law enforcement agencies, and environmental, food, animal protection, and agricultural organizations. They propose national and international cooperation, surveillance awareness, joint situational awareness, coordinated decision-making, identification of weak signals, and keeping abreast of advances and trends in the life sciences with such a wide range of partners.

Melinda Cooper (2006) states that the USA's fight against biological weapons in the post-September 11 period is based on full control of the products used in production, counter-proliferation, and pre-emption. Thus, he states that a preventive struggle should be established in the production, dissemination, and use of biological weapons. From this point of view, it is supposed to be stated that the fight against agroterrorism must be based on the purification of agricultural and farm areas, food production, and logistics lines from all kinds of threats. For this reason, it is necessary to keep the materials used for the production of biological weapons under strict control and to determine the new production methods with expert teams.

As a result, it is possible to list several prominent reasons for fueling concerns about agroterrorism: (1) Providing security is difficult because agricultural production and livestock-raising lands are large and rural, (2) obtaining viruses, insects or diseases that can be used for biological attacks is easier than other mass destruction weapons, (3) it is difficult to distinguish between deliberately spreading viruses and natural diseases, (4) the panic atmosphere of any attack using biological weapons is more intense and prolonged, (5) affected plants and animals are likely to carry diseases, and (6) the effects can be felt long-term. For an integrated struggle against agroterrorism; (1) people at all levels of the agricultural sector should be trained about biological agents, (2) security-related institutions should specialize in this field, (3) terrorist organizations' work on biological elements and their relations with other actors should be followed, (4) experts should be employed specialized in all kinds of viruses, on diseases



and pollutants in agricultural areas, (5) the digital environments that enable the operation of the system in the relevant sectors, as well as the physical areas, should be protected, and (6) in addition to the traditional activities of terrorist organizations, all kinds of attempts related to weapons of mass destruction should be followed by intelligence organizations.

## CONCLUSION

Today, two increasingly important dangers stand in front of societies. The first is terrorism and the other is food shortages. Terrorist organizations threaten all humanity with attacks that they can do at any time and by any means, with the means and capacity they have reached. As an important aspect of the new terrorism debate, terrorist organizations seek to diversify and develop their strategies, financial resources, attack methods, member and sympathizer acquisition plans, technological opportunities, and target preferences in order to achieve their goals. The most important concern in the field is the ability of these organizations to use weapons of mass destruction, which can create more serious effects and chaos, in addition to their traditional weapons. It is possible to characterize attacks that can be made on military and civilian points and critical infrastructure with the use of chemical, biological, radioactive, and nuclear weapons as a disaster scenario. On the other hand, food security is becoming an increasingly serious security concern due to the increasing population, various viruses and harmful substances, financial crises, environmental problems, and disruptions in the supply chain. In many countries in the world, there is a problem with access to sufficient food due to reasons such as wars, drought, and income inequality. It is clear that food security will stand in front of humanity as a global problem if the necessary precautions are not taken.

Based on these two situations, terrorist organizations' attacks that will disrupt the agriculture and food sectors, which are extremely sensitive areas, constitute an aspect that needs to be addressed due to the increase in the anxiety caused by terrorism and the direct threat to the functioning of daily life. Since it is known that state or non-state elements can carry out biological attacks throughout history or damage agricultural lands and food production-storage areas during conflicts, agroterrorism constitutes one of the headings that should be seriously discussed. Terrorism remains a top threat at the national and international levels. Especially after September 11, 2001, the events experienced in the process, seeing the capacity reached by terrorist organizations, created an increasing fear through the use of different attack methods and the diversification of their weapons. Although there is no serious attack yet, the possible political, social, economic, and public order problems of attacks by terrorist organizations with weapons of mass destruction, which can cause irreparable harm, make it necessary to take all kinds of security measures in this area.

On the other hand, one dimension of the debate in the field is that such a concern about the potential actions of terrorist organizations will serve to securitization. It can be argued that attributing meaning to terrorist organizations through weapons that are uncertain about their possession will create a causeless panic and will legitimize any measure taken by states in the fight against terrorism. In addition, the idea that addressing the threats that terrorist groups may pose at a high level can serve the propaganda of terrorism comes to mind. In addition,

it is an important concern that detailed analyzes of the possible effects of such attacks create a situation that can direct or even attract terrorist organizations. In particular, many analyzes are made on the types of attacks and target diversity that today's terrorist organizations can put into practice through the means and capacity they have reached. Whether these analyzes or the discourse of the magnitude of the terrorist threat is an element of a conscious security policy is a matter of debate.

Of course, all these concerns have their justifications, but the fight against terrorism should be carried out in a preventive way. After the threat becomes real, the struggle can become more arduous. This also reduces the success rate. For this reason, it is necessary to analyze possible attack methods, targets, financial and logistical resources, weapons, and propaganda tools of terrorist groups and implement the necessary interventions. It would not be a surprise if the problems caused by terrorist organizations' possession of weapons of mass destruction and their use in agricultural areas, clean water distribution lines, energy transmission infrastructures, and public buildings providing social services create undesirable disasters. For this reason, it is always safer, cheaper, and more logical to be prepared for even the most improbable scenario of terrorism than to be caught off guard.

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