

THE IMPORTANCE OF INTELLIGENCE IN BIOSECURITY AND BIOTERRORISM

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Abstract: *The main purpose of this article is to delimitate the concepts of biosecurity and bioterrorism and to highlight the importance of intelligence in the decision-making process. Biosecurity and bioterrorism are two terms who can be very similar at first view, but they are very different, and they only interconnect at one point, the first one is including the second. The first term biosecurity or biological security can be simply defined as an action taken to prevent a damage from a biological threat and bioterrorism is a form of terrorism which involves the use of a biological weapon. The intelligence in relation with biosecurity and bioterrorism can be defined as a process which is producing an analysis for the organisation. Biosecurity, bioterrorism and intelligence are all interconnected, the last one is the most important because a good intelligence can reduce or even disrupt threats and emergencies by providing an effective decision-making support when is needed. Intelligence has a very important role in managing bio threats only if stakeholders such as scientists, the first responder, clinicians and others are engaged in the process of taking the decision. A good intelligence provides a very important mechanism in understanding the threat and estimating the risk for a better decision to enable a potential biothreat.*

Keywords: biosecurity, bioterrorism, intelligence, risk.

1. Introduction.

After the events happened on 11 September 2001 when terrorists crashed the planes in USA, one month after another terrorist attack took place, a biological one. The bioterrorist attack involved the use of anthrax who was send to American officials in envelops [1]. This attack represents the first act of bioterrorism in USA and brought into attention of all world players the importance of biosecurity and intelligence measures as response to crisis. After this attack the concern about the bioterrorists and biosecurity was growing amongst public population and decision makers. The anthrax attack had a very big impact and demonstrated the critical role, of the

scientific experience, technology, intelligence and biosecurity measures in enabling future bio attacks. The impact of the attack was had also a role of recalibrating the way intelligence agencies and decision makers are dealing and understanding a biological act of terrorism [2]. In charge of the investigation of this attack was Federal Bureau of Investigations-FBI. The name of the investigation was called “Amerithrax” and it was one of the most complex investigation in the history of law enforcement, the timeline of the events and FBI investigation are summarized in table 1. [3].

Table 1. Amerithrax timeline of events [4].

Date of the event/action	Description of the event/action
September 11, 2001	Terrorists hijack airline jets and it crashes them.
September 18, 2001	Anthrax letters are mailed.
October 4, 2001	The first person with inhalation anthrax is hospitalized.
October 4-8, 2001	More cases with anthrax inhalation area appearing and the first-person infected dies.
October 9, 2001	FBI starts the investigation
October 9-November 25, 2001	The number of persons affected, and casualties is increasing.
June 25, 2002	The first suspects are appearing
July 29, 2008	One of the suspects, Bruce E. Ivins commits suicide
September 17, 2008	FBI seeks an independent review of the scientific community” because of the importance of the science to this particular case and perhaps cases in the future”
February 19, 2010	FBI concludes their investigation and established that Bruce E. Ivins committed suicide is the who mailed the letters.

2. Defining the concept of bioterrorism, biosecurity and intelligence.

The biosecurity and bioterrorism are two terms who are interconnected, the first one is referring to the measure who should be taken in order to prevent or to act in case of the second one occurs. Both are also interconnected with the third one, the intelligence, the last one is critical for the decision makers in case of a biological attack.

Bioterrorism is defined by Ryan Burnetteas” the threat or use of biological agents as weapons to cause fear, terror, economic and political disruption, and unrest among the populace to achieve political, ideological, social, and/or religious goals” [5]. In his definition Bournet is putting the accent on the use of biological agents in biological weapons with the goal to commit crimes.

Biosecurity is concept used widely in several fields such as research, human health, national and international security and particularly in agriculture.

Gregory D. Koblentz when is defining the term biosecurity is putting the accent on the difficulties associated with this term. In the context of bioterrorism, Koblentz is highlighting biosecurity as “the protection of microbial agents from loss, theft,

diversion or intentional misuse” [6]. Amore complex definition of biosecurity is provided by National Academies of Science and defines the term as”security against the inadvertent, inappropriate, or intentional malicious or malevolent use of potentially dangerous biological agents or biotechnology, including the development, production, stockpiling, or use of biological weapons as well as outbreaks of newly emergent and epidemic disease” [7].

This last definition is comprehending booth types of outbreaks, the one from natural sources and the deliberate one [8].

From bioterrorism to biosecurity is a very long process, to define this process we need intelligence because a good intelligence can reduce and disrupt an emerging threat, by these the two terms are connected.

The main function of intelligence is to provide a source of understanding of the threats and to estimate the risk of them in order to provide a good base for the process of decision making.

3. The relation between intelligence, bioterrorism and biosecurity.

In the context of biosecurity and bioterrorism, as in any others, intelligence is representing a product whose aim is to help the decision maker to interpret the risk and the threat [9]. Intelligence can be useful

for a decision maker if the information is accurate and collected in a specific interval of time because if those two conditions are not respected than all the work can be useless.

The way that biological science is evolving, the same biological threats are evolving and represents a big challenge for the intelligence agencies because they should take into consideration a series of factors such as the financial transactions for supply orders with equipment and material used in biological laboratories by an individual person or a collective group. The biological attack can be very simple planned and put in practice, we have as an example the anthrax letters attack, for this one it was need couple of years to figure who did it even though the dissemination way was very simple one by letters and the material used was known [10].

Walsh is defining intelligence as” a product and process that must contain three characteristics: security environment, secrecy and surveillance” [11]. The security environment is represented by all the threats and risks in a specific area. Secrecy is also very important because without this the information cannot be collected if the source knows about this. The third characteristic the surveillance represents a complex process which includes collection, analysis and interpretation of data.

At world wide level it exists an intelligence alliance called “Five Eyes”, this alliance is comprising national intelligence agencies from: United States, Canada, United Kingdom, Australia and New Zealand and it main purpose is to share information in order to handle better the global threats, some of their functions are presented in table 2 [12].

Table 2. Functions of the intelligence agencies in “Five Eyes” alliance [13].

Type of intelligence	USA	Canada	UK	Australia	New Zealand
Domestic intelligence	Federal Bureau of Investigation, Department of Homeland Security	Canadian Security, Intelligence service	Security service	Australian Security Intelligence Organization	New Zealand Security Intelligence
Intelligence Assessment	Office of the Directory of National Intelligence, Central Intelligence Agency, Bureau Intelligence and Research, National Counterterrorism	Intelligence Assessment Secretariat, Integrated Threat Assessment Centre	Joint intelligence Committee, Joint Terrorism Analysis Centre	Office of National Assessments, National Threat Assessment Centre	National Assessment Bureau, Combined Threat Assessment Group
Military Intelligence	Defence Intelligence Agency	Department of National Defence	Defence Intelligence Staff	Defence Intelligence Organization	Directorate of Defence Intelligence and Security
Organized crime	Federal Bureau of Intelligence	Criminal Intelligence Service Canada	Serious Organized Crime Agency	Australian Crime Commission	Organized Financial Crime Agency NZ

3. Conclusions

The concepts of biosecurity and bioterrorism will continue to evolve, and

the technological progress will bring more challenges in this area and it is very important that the decision makers to develop new strategies as a reaction to the

future attacks. In order to improve risk and threat methodologies in the biosecurity and bioterrorism context an evidenced based approach to knowledge collection is critical [14].

At worldwide have been, are and it will be big challenges for the intelligence communities and their focal decision makers on how to coordinate and to act against risk issues and biological security

threats. It is challenging because the world is evolving every day and new changings in terms of biological evolution are appearing. Even though the bioterrorism history is a very weak one because of the small number of cases, such type of attacks are still possible, it is a matter of time when it will happen, but the biggest problem is *Are we prepared to face this type of attack?*

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