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SECURITY

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## TOPIC 3: BIOTERRORISM

### **Introduction:**

According to the Encyclopedia of Earth, bioterrorism is defined as “the deliberate release of viruses, bacteria, or other germ agents used to cause illness or death in people, animals or plants.” An effective method of destruction, bioterrorism creates massive panic and can completely disrupt all aspects of society, social, political and economical. Bioterrorist agents are categorized based on their level of danger.

Category A is the most serious because these extremely dangerous agents will harmfully impact public health and can potentially cause large-scale dissemination. Examples of Category A agents are anthrax, plague, smallpox, botulism, viral hemorrhagic fevers, and tularemia. Category B agents are not as easy to disseminate and have lower mortality rates. These include food safety threats such as salmonella, water supply threats, brucellosis, melioidosis, psittacosis, glanders, and typhus. Category C agents are easy to produce and disseminate, and carry a high risk of mortality. Examples of Category C agents include Hantavirus, nipah virus, and tuberculosis.

Once bioterrorism is started, it is extremely difficult to contain because there are so many paths an agent can travel. Agents from all three categories can be transmitted to people, from water, food, and air. There are some ways to plan for and react to this type of attack, however it is very costly, so in the event of an attack developing countries are much more susceptible to destruction.

Efforts to combat bioterrorism are being made all over the world in laboratories to

develop detection systems to provide warnings, identify contamination in certain areas, detect high-risk populations, and facilitate prompt treatment. Preventative measures are also being taken to identify biological agents that could eventually be turned into lethal weapons. At the same time forensic technologies are being employed to determine the origin of agents that could lead to containment.

Real-time Outbreak Disease Surveillance (RODS) is also being utilized as an automated bioterrorism detection system. Other new technologies are being worked on as well such as small electronic chips that contain living nerve cells to detect the presence of bacterial toxins, fiber-optic tubes lined with antibodies coupled to light-emitting molecules to identify specific pathogens, and ultraviolet avalanche photodiodes used to identify bioterrorism agents in the air.

### **Twentieth Century Biological Warfare**

Nations as opposed to terrorist groups are actually the biggest developers of biological warfare programs. The United States, United Kingdom and Canada began to develop their own research and development programs as a result of the confirmation of bioweaponry development programs in Germany and Japan. Tularemia, anthrax, brucellosis and botulism toxin have all been created as a result of these bioweaponry programs.

Germany developed its biological warfare program during World War I, but it didn't discover how to use this new technology until 1916 with the utilization of anthrax. Anthrax was specifically used to kill Russian horses and livestock. Advances in

microbiology during World War II allowed for the development of pre-culture biological agents. During the Sino-Japanese War and World War II the Imperial Japanese Army used biological weaponry. Unit 731 used disease-carrying insects causing an epidemic plague outbreak by airdropping contaminated fleas. Former Unit 731 troops testified to having been part of a mission to contaminate and distribute food and water with typhoid. Well over half a million people were victims of this attack.

Also a suspect of bioterrorism, the Jewish Haganah militia was accused of releasing Salmonella typhi bacteria in the water supply of Acre during the Israel War of Independence in 1948. There was a large outbreak of typhoid fever among the population in this city. Egyptian soldiers were later executed for allegedly trying to repeat the attack disguised as Haganah troops near the wells in Gaza.

The Rajneeshee cult performed the only known bioterrorist attack in the twentieth century on the United States to gain political power. The cult used Salmonella typhimorium to contaminate the water supply of Wasco County, Oregon causing over 700 people to become sick. The illness was confused with food poisoning causing even more problems.

In 2001, the United States was struck by another bioterrorist attack known as Amerithrax. Beginning in mid-September and lasting a few weeks, letters were mailed to the country containing two grades of anthrax killing five people and harming seventeen other who still have health problems. Over a billion dollars was spent fumigating with chlorine dioxide gas the buildings contaminated with anthrax as a result of the mailings.

## **Current Status**

With new technology and experimentation, bioterrorism has become increasingly more prevalent. New information on bio-attacks and diseases is a powerful weapon for terrorists. Scientists are doing research to be able to prevent bio terrorist attacks as well as testing new medications. Most nations have determined to make prevention a main part of their national security.

Many nations however do not agree on aspects of the issue such as Dual-Use Research. The First Committee has the task of dealing with the issues at hand while analyzing what could become of bioterrorism in the future.

Recently, the United States has been faced with many bioterrorist attacks. The government has used the Food and Drug Administration to increase security. The FDA works with the authorities on the federal, state, and local levels to investigate prevention of attacks especially removing contaminated products from the market. The main responsibilities of the FDA are: to develop new regulations, increase surveillance, work to reduce threats and vulnerabilities, test new technologies, to make treatment and vaccinations to diseases readily available for public use should their be an emergency, and to limit access to dangerous pathogens and information regarding bio-warfare.

A big problem with doing scientific research is the risk that the information can be obtained and used by someone else with bioterrorism in mind. As we increase our amount of knowledge and technology advances, the chances this information is used for harm increases. Called, Dual-Use Research, scientists becoming nervous that information could be potentially disastrous

in the future, so it is necessary to keep everything very secretive.

Every nation has a different opinion on how much information to restrict from the public. The United States has a policy that protects the public by keeping information secretive, but the German government puts forth as much information as possible. The First Committee tries to come up with a comprehensive solution to Dual-Use Research. Recent phony terrorist threats with substances thought to be anthrax but are actually harmless have created panic, social anxiety and economic loss.

Bioterrorist attacks are serious because they pose serious medical threats, but also because of the huge economic loss they pose. A bioterrorist attack can range anywhere from a \$477.7 million to \$26.2 billion loss.

The Global Outbreak Alert and Response Network is one of the best ways to link information about bioterrorism and security threats throughout the world. The network includes 191 World Health Organization member countries, NGOs, and the Global Public Health Intelligence Network while using formal and informal sources to spread information.

### **Possible Solutions**

To ensure the safe and secure passage of biologically hazardous materials, the agencies responsible for their transportation must make sure their personnel are certified to handle the materials. The agencies are also responsible to make sure their personnel do not suffer from any forms of illness.

Global and national organizations if working together can eradicate bioterrorism altogether. The Bioterrorism Act of 2002

which was designed to protect the United States from bioterrorism authorizes the Department of Health and Human services to take action to protect the nation's food supply against contamination. The act has four main regulations:

1. Registration of food facilities
2. Prior notice of imported food
3. Establishment and maintenance of records
4. Administrative detention

The Japanese government has taken steps to prevent a bioterrorist attack by forming an organization in December 2001 that produces mass amounts of a smallpox vaccine. Swiss pharmaceutical companies have also followed a charter "Principles to Avoid the Abusive Use of Biologically Dangerous Substances or Materials." Since Switzerland is one of the worlds leading pharmaceutical nations, their restrictions on accessibility to laboratories and the ban use of certain substances could benefit other nations if they choose to follow Switzerland's guidelines.

The United Nations Security Council Resolution 1540 of 2004 states the measures states must take to prevent a bioterrorist attack as well as urges nations to take domestic measures and join the international effort. Resolution 1673 states ways in which biological weapons materials can be stopped from illegal transportation across borders. Besides for the UN, other large organizations have taken preventative measures to ensure security such as the European Union.

### **Bloc Positions**

#### *North America*

North American countries, especially the United States, have strict policies against

bioterrorism. The US formed the Department of Homeland Security in 2003 which is responsible for organizing the Bio-Watch Program network. The program has three main components of bioterrorism, sampling, analysis and response that are overseen by different agencies.

Canada has an agency called Public Safety and Health Canada responsible for programs such as the Global Public Health Intelligence Network, which monitors disease outbreaks and global disease events. North American countries have developed effective programs to avoid bioterrorist attacks as well as implemented response systems in the case of an outbreak.

#### *European Union*

In response to the anthrax attacks in the United States, the European Union created a “European network of experts” of diseases and vaccines to prevent and be unified in their methods to prevent bioterrorism. The EU also has an alert system which notifies all member nations in the event of an attack within 24 hours of the outbreak, part of the “EU-wide communicable disease network.” Although the EU is united on communication of bioterrorism, not all of the nations agree on the best ways to deal with certain diseases and vaccinations.

The Health Security Committee was established to help EU states be more collusive and allow countries to collaborate with each other on safety issues. EU members have formed certain agreements allowing countries to share resources such as labs and vaccines but the EU does not have the power to enforce mandates on its member states. Cooperation between fifteen states in the form of a task force has been instituted to keep communication open and quick between them.

#### *Middle East*

A large portion of bioterrorism has come from the Middle East. The nations in this region do not have stable governments or economies and are thus constantly involved in religious conflicts within their own countries and with other nations. Bioterrorist threats from this region are most prevalent in the world today. INTERPOL projected a proactive step against bioterrorism in Oman. The project involved a regional prevention workshop dealing with the people of the area to educate and warn them on the dangers of bioterrorism and measures to prevent it. The workshops involved lessons, discussions and training. Those who attended were encouraged to take their new knowledge back to their own countries and support their government in its proactive steps.

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