

Evaluation of the Biological Weapons Threat and Advanced Technologies

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DESCRIPTION

Weapons that are biological or poisonous are either microorganisms, such as viruses, bacteria, or fungi, or toxic compounds created by living organisms that are intentionally produced and discharged to harm humans, animals, or plants.

Anthrax, botulinum toxin, and plague are examples of biological agents that can pose a serious threat to the public's health by quickly killing a significant number of people. Epidemics can be caused by biological agents that are capable of secondary transmission. A biological strike could resemble a natural occurrence, which would make it more difficult to assess the situation and respond to it in terms of public health. High-threat pathogens laboratories can be targeted in times of war and conflict, which could have detrimental effects on the public health.

The larger category of weapons known as "unconventional weapons" or "weapons of mass destruction," which also includes chemical, nuclear, and radioactive weapons, includes biological weapons as a subset. The employment of biological weapons raises severe concerns, and there is an increasing likelihood that such weapons may be used in terrorist attacks.

Evaluation of biological weapons

Initially, several of the extra remarks from the survey respondents centred on the incredibly challenging task of evaluating the threat posed by biological weapons. We cannot rely just on national technical tools to combat this threat. We have a long way to go and need to move forward urgently because our human intelligence assets have deteriorated over the years despite efforts to build them back up. "We no longer have credibility when it comes to these judgments," the former top policymaker stated. Nobody believes us when we claim that nation "X" possesses weapon "Y." An other former top policymaker offered a different perspective on the challenge of assessing the biological weapons danger.

Nevertheless, the consensus was that biological weapons posed a serious threat. If we're talking about a communicable illness like smallpox, bioweapons pose "a serious concern in the hands of terrorists," according to one nonprofit expert. Participants in the study believed that the threat posed by biological weapons

was serious when compared to other categories of weapons of mass destruction. A total of 52% of poll respondents believed that the threat posed by biological weapons was more than or equal to the threat posed by nuclear weapons, while the remainder respondents said that the threat posed by biological weapons was less than that posed by nuclear weapons. The latter viewpoint was primarily espoused by non-governmental academics, but former senior officials generally believed that biological weapons posed an equal threat to nuclear weapons. The study results were extremely obvious when compared to chemical weapons, with 74% believing that biological weapons posed a higher threat.

Technologies of bioweapons

An expert pointed out that "biotechnology is evolving at a significantly higher speed than nuclear technology," which was one of the arguments advanced by a former senior policymaker for choosing bacterial weapons as a larger threat than nuclear weapons. The following comparison of chemical, biological, and nuclear weapons was made by another senior policymaker currently in office: "Bioweapons are more difficult to detect than chemical weapons, but must have optimal conditions to cause casualties approaching nukes." The difficulties of spreading biological agents were also noted by a former top policymaker, who noted that "[n]ukes can be modified for scope, but biological weapons control is far more complicated." False claims of the employment of biological weapons were also made, emphasising how difficult it is to distinguish between naturally occurring sickness, accidents, and intentional usage.

CONCLUSION

It is possible to create biological weapons utilising almost any disease-causing agent (such as bacteria, viruses, fungus, prions, or rickettsiae) or toxin (poisons derived from animals, plants, or microorganisms, or comparable chemicals generated synthetically). To make the agents better suited for widespread manufacture, storage, and distribution as weapons, they can be improved from their original state. Aflatoxin, anthrax, botulinum toxin, foot-and-mouth disease, glanders, plague, Q fever, rice blast, ricin, Rocky Mountain spotted fever, smallpox, and tularaemia are just a few examples of historical biological weapons programs.

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