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## Geopolitical Competition of Great Powers and Biosecurity

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**Abstract:** *The paper highlights the phenomenon of great powers competition and biosecurity and focuses on the impact of great power competition on biosecurity. The paper identifies how the biosecurity vulnerabilities are increased to competition among great powers. The research then explains how states have been involved in biological and chemical warfare historically and in great world wars. It also focuses on how states due to the phenomenon of security dilemma states engage in biological and chemical research as the states consider the environment of the international system anarchic. The research by using content analysis and qualitative method of research focused on how states had been involved in biological and chemical warfare in history and an extensive literature review was carried out.*

**Key Words:** Great Powers Competition, Biosecurity, Biological and Chemical Weapons, COVID-19

### Introduction

The paper by using the Balance of Power theory explains how great powers in the international system are involved in competition against each other. Besides this how this competition phenomenon had prevented states from cooperation and this lack of cooperation and increasing competition led to the emergence of bioterrorism. The paper focuses on how the phenomenon of new great power competition intensified in the outbreak of the COVID-19 pandemic and moreover explains how states instead of cooperation in crisis got involved in vaccine nationalism. Great powers like China and U.S tried to manoeuvre world politics hence increasing vulnerabilities to biosecurity as a result COVID-19 emerged has significantly challenged the international system. Moreover, the research explores the existing challenges to biosecurity due to competition among the great powers in the international system and hence focuses on how those challenges can be managed by increasing responses and reducing challenges at the state and global levels. The research hence focused on how

the global community should respond so as to reduce challenges to biosecurity and hence suggests recommendations so as to mitigate the threats to biosecurity at the state and global level.

Geopolitical competition or Geopolitics is a 20<sup>th</sup>-century term that signifies the politics of European states in the 19<sup>th</sup> century. The word geopolitics was formed by a Swedish professor who himself was interested in the politics of Sweden. The term was used by German geographers and was made notable by Karl Haushofer ([van der Wusten, H. 1998](#)) who conducted a journal focusing on geopolitics. The term again became popular in discourse in the 1970s with regard to analysis and research of politics of great powers. Hence geopolitical competition is not a new phenomenon. States had been competing against each other and pitting their wits against their adversaries. During the competition, the states in order to achieve their interests and goals deploy different manoeuvres so as to vanquish the opponent. The

term geopolitics is interpreted as “potential for coercive bargaining interactions between each state”. The more a state will face competition in international politics the more it will try to expand its power capabilities and hence in this way geopolitical competition arises.

The new world order politics are alike the international politics of the nineteenth century. The great powers at that time were chasing economic and political ends and thus pursued their interests via different strategic means. They also counterpoise their rivals through alliance making and gave top priority to the national interest. The United States, Great Britain, Germany, and France all contended for resources and markets. [\(Henriksen 1995\)](#) Even Russia also increased its sphere of influence in order to secure its borders and attain territories. “The present seems to remember the past because great-power rivalries are reemerging.” [\(Henriksen 1995\)](#) Although the players in the international arena changed the role of the great powers is not that much different. The actors in world politics are not totally changed rather many of the great powers dominating the system were influencing the previous geopolitics. States like the United States, Russia, Japan, Germany, Britain, and France still dominate and influence the politics of today as they used to do in the past but with different geopolitical weights. These great powers are actually moved by national interests and to achieve them they apply different manoeuvres.

Biosecurity is crucial and a critical topic but it is not much highlighted and emphasized. In the contemporary scenario, its relevance and importance have much increased due to contemporary world politics and ongoing competition between the great powers. These biological and chemical hazards have the tendency to kill millions of people and billions of losses to economies resulting in economic instability.

Initially, biosecurity was defined in terms of the prevention of transference of naturally transmissible diseases. Later in the 1990s, the second definition arose and it focused on preventing the theft, loss or misuse of pathogens.

Later in 2004, the third definition revolved around dual-use research. Hence the foundation of NSABB was laid by the U.S government whose purpose was to provide guidance regarding research on life sciences that may be misused and exploited against the masses or generate threats to the national security of the state. Therefore this idea of biosecurity emphasized the scientific research and knowledge and role of scientists so that the knowledge and technology may not be exploited or misused. The fourth definition comprehensively includes the entire dimension and it implies the prevention of unpremeditated, unintentional or deliberate use of bio and chemical agents and technology as well as security against the outbreak of new epidemics. Biosecurity implies preventing the deliberate use and release of bioagents or acquiring the skill, instruments and knowledge so as to cause harm to rivals hence it provides policies to stop the intentional release of chemicals and bioweapons. [\(Koblentz 2010\)](#)

This paper analyzes the negative impacts of geopolitical competition on biosecurity and further, will examine and explore how geopolitics is adversely impacting biosecurity in this century. Hence it is believed that this geopolitical competition has increased threats to biosecurity thus increasing the vulnerabilities of mankind.

## Problem Statement

Biosecurity is a serious concern as biological experimentation and research cannot be banned. As the great powers are facing match politics and are in a state of geopolitical competition the phenomena of biosecurity itself have become vulnerable resultantly increasing the threats and menaces moreover generating real threats to human lives. Even the relevant research data suggests that biosecurity vulnerabilities are increasing and biosecurity measures are lowering.

## Research Methodology

In this research study, relevant literature has been analyzed. The methods of study used in the study are qualitative and inductive. Data has been collected and analyzed to understand how

biosecurity has become vulnerable due to competition among great powers. Further how challenges can be overcome and mitigated by improving responses at the global level.

The contents of the relevant literature have been analyzed in this exploratory and analytical research. The research has a threefold purpose: exploratory, explanatory and descriptive. As the study explores the challenges to biosecurity due to great power competition and in addition aim of the study was to explore the answer to relevant questions stated in the paper. Further the research focus on explaining the relationship between both variables as to how biosecurity is impacted by competition among great powers. As the research was descriptive hence by

Furthermore, the data has been collected through primary and secondary sources. Mainly the secondary data is involved in the study. Primary sources include governmental official documents. Secondary sources include relevant books, journals, magazines, articles, and conference proceedings. The library research method has been utilized to conduct this study.

## **Literature Review**

The literature on geopolitical competition is available sufficiently and it focuses on the rise of emerging powers on the horizon of the international arena. The literature even takes into account how the states rise and become great powers and then challenge the states in the international system but it does focus on which areas are under threat during the competition between great powers in order to achieve their interests and meet their ends use all means and states by just focusing on the realist tradition want to rule the international system.

ALBERT J. Bergesen and Christian Suter in the book "The Return of Geopolitics, elucidate the reemergence of geopolitical competition and rivalry in the 21<sup>st</sup> century and the resurgence of nationalism with the increasing rise of economic and political competition. Bergesen and Suter expounded that nationalism has not decayed rather it is the driving force. He is of

opinion that China President Xi Jinping, Russian President Vladimir Putin, Turkish President Erdogan, the American president and India's Narendra Modi all possesses nationalist agendas. The annexation of Crimea by Russia and Russian support for separatists in eastern Ukraine expose the rise of nationalism. Hence all this expounds competition in today's world is motivated by geopolitical competition.

Maria Eenida de Almeida in her article "The permanent relation between biology, power and war: the dual use of the biotechnological development" ([Albert 2019](#)) explicates that the advancement of biological advancement has a close affinity with powers strategies. Almeida explains that manipulation of bio and chemical agents has increased the chances of war through science. Hence this development of biotechnology has created a new paradigm for war in addition to the development in science. Thus besides new opportunities, this advancement has led to the creation of new challenges for the health at international level in the contemporary situation.

Gregory D. Koblenz in his article "Biosecurity Reconsidered" ([Almeida 2015](#)) explicate that the phenomena of biosecurity have become a buzzword and its significance has raised in the contemporary world order as according to the US National Security Council "New and reemerging infectious diseases will pose a rising global threat and will complicate US and global security over the next 20 years" He further explains that year 2000 proved watershed in history in considering health and disease as an international security issue. Further, the use of anthrax as a bioweapon, the use of chemical agents in the Iraq war in 2003 and other incidents in history all show the potential of bio and chemicals being misused thus threatening human life resultantly highlighting the issue in security agenda at international level. All these dangers caused by man-made or natural threats have been raised thus the General Secretary of the UN in 2005 vowed to "call to the attention of the Security Council any overwhelming outbreak of infectious disease that threatens international peace and security."

The International Peace Institute published a paper on “Weapons of Mass Destruction” ([Koblentz 2010](#)) and expounded that the growth and proliferation of WMDs is a serious issue and challenge to global peace and international security. Furthermore, they stated the complication of divisions of states in the UN over the issue of addressing this challenge like the Chemical Weapons Convention (CWC) is not joined by nine states and the biological and Toxin Weapons Convention (BTWC) is not joined by thirty-one states. In addition to this, the IPI paper focuses on the issue that gaps are still prevalent in the legislation and mechanism of enforcement of law in order to prohibit the proliferation of chemical and biological weapons.

In the article “Contemplating the Threat of Biological Weapons Proliferation” ([IPI. 2010](#)) Liu Jianfei explicates that the growing threat and proliferation of chemical and biological weapons is a serious concern for the security of humans. The situation will become worse if I reach the hands of non-states extremists actors. History also shows that these weapons of mass destruction have caused damage on a massive scale. After the attacks of 9/11 and the anthrax incident, the proliferation of these destructive weapons attracted great attention in the world. Jianfei further elucidates that the global community's apprehension and concern regarding the chemical and bioweapons have lessened because they have not been used by terrorists again and hence states now turn their attention to Iran and North Korea nuclear crisis but Liu made the point that if a new threat materializes that does not the old one has vanished so the great powers and community at international level must also focus on the bio and chemical threats.

In the article “Assessing the biological weapons and bioterrorism threat” ([Jianfei 2007](#)) Milton Leitenberg focused on the non-military issues or challenges to the security of states and the United States. He even stated the death rate which can result from biological and chemical agents. Furthermore, Milton by using U.S government sources explicated the expansion of offensive BW programs of state and in addition to this, he surveyed the state backing to non-state

actors in these programs. The author even focuses on the evolution of non-state actors and how they effort to acquire and use bio and chemical agents as a weapon. He takes into account the attempts of two groups who use chemical and bioagents as a weapon, the Japanese cult group Aum Shinrikyo and Al Qaida.

Julie E. Fischer in her article “The distinctive challenges to Biosecurity” ([Leitenberg 2005](#)) explains the challenges to biosecurity. She explains the fact it's not easy to generate integrated, appropriate responses and develop policies for it is difficult to even identify the culprit and hence it raised serious concerns. Even she explains that researchers who were experts in the science of *Bacillus anthracis* and other biological agents found themselves in a quagmire after the 2001 anthrax incidents, as they were found in the position of being specialist and also suspect. Hence biosecurity faces the challenge of generating effective responses and policy at the national and global levels. Fisher explicates that the domain of biosecurity hence required increased attention, resources and time from professional fields.

Kendall Hoyt and Stephen G. Brooks in their article “A Double-Edged Sword Globalization and Biosecurity” ([Fischer 2004](#)) put down that there was already increased recognition and apprehension in international communities even before the attacks of anthrax in 2001 that bio and chemical agents inflict equal threat if not more than military might. These pathogens are low-priced, cost-effective and clandestine ways to cause massive casualties. Stephen and Hoyt further state that although it is difficult to proliferate or even trace their source once these agents are making use they will remain desirable by any group, person or state with the desire to wreck damage to the adversary. Hence this threat is of serious concern for the international world system. Further, they explicate that even to assume that all this can have a technological fix is also fallacious and misleading because advancement in science and technology along with economic globalization is a double edge sword.

In the article “Biological warfare and bioterrorism: a historical review” ([Hoyt 2003](#)) Stefan Riedel explains that due to the risk posed by the pathogens there is a need to evaluate and understand the deadliness of these chemicals and bioagents. He explicates that these bioagents are more pernicious and potent than conventional weapons. Furthermore, he states that the wide accessibility of these agents has the further proliferation of bio and chemical weapons and the increase in the inclination of states to have them. The article focuses on the concept of germ warfare and moreover makes the point that the threat is real and substantial. Stefan Riedel also mentioned the use of bioagents by Germany during WWI.

In the chapter “Grounding the Threat in Reality” ([Riedel, S. 2004](#)) Amy E. Smithson explicates that threat and its greatness by stating the fact that thousands of people could lose their life in a single chemical attack and similarly hundred thousand could expire if the biological agents are used by terrorists.

Thomas H. Henrikson in his article “The Coming Great Powers Competition” ([Amy 2020](#)) elucidates the rising of great powers and their colliding interests resulting in the occurrence of clashes in the Pacific, Balkan and Central Asia regions. He even argues that the “present seems to remember past because great power rivalries are reemerging” ([Henriksen 1995](#)) but the cast is somewhat different from nineteenth-century powers. These great powers have different strategies in order to counterbalance the rival strategies and their ambitions and their national interest are the topmost priority.

### **Relationship between Biosecurity and Great Powers Competition**

The challenge to biosecurity has been arising due to competition among great powers and technological advancements in science. Great powers like Russia, China, the U.S and the EU are technologically advanced states and are even advanced in science and research hence such advanced states possess the capability of manipulation and exploitation of science and

misuse of chemical and bioagents. Like in the case of the anthrax letter attack incident the accused, Bruce Edwards Ivins was an American microbiologist and researcher in USAMRIID and Steven Hatfill was an expert of bioweapons and pathologist. The predicament is that if biotechnology is intentionally misused by great powers it could result in a disastrous outcome for human lives and also inflict damage on a massive scale. This results in a challenge to biosecurity which is an intentional spread of infectious diseases by state and also non-state actors. ([IFI 2021](#)) Hence the competition among the great powers is impacting biosecurity adversely.

The US National Security stated that the phenomenon of great power competition after being disbanded has now returned again while indicating the China and Russian acts in the international system. These states are asserting their influence at the global level. Hence Gerald Epstein remarked that this reemergence of great power rivalry has implications for biodefense which explicates that this rivalry among great power is a challenge to biological security. Gerald Epstein who is a distinguished research fellow at NDU centre for the study of weapons of mass destruction remarked this competition “suggests an increased likelihood of the development and potential use of biological weapons by states” The Chinese and Russian acts according to U.S experts are interpreted “antithetical to U.S values and interests” ([USA. 2017](#)) and viewed as states which are exerting to bring change in the international order. The U.S National Biodefense Strategy of 2018 expressed that “nation-states and terrorist groups have found value in pursuing biological weapons, and there can be no confidence that will change in the future.”

### **Use of Bio and Chemical Weapons in Peace**

The phenomenon of the use of biological weapons has always been taken traditionally in history. A scholar like Epstein is of opinion that it is improbable that majors powers will never want to settle their disputes via militarily means and hence their chance of using the chemical and

bioagents is rare but if the power struggle among great powers leads them to militarily dispute then there is a threat of using pathogens as weapons. But one cannot believe that these deadly bioweapons can only be used in militarily conflicts because in the contemporary 21<sup>st</sup> century the cost of fighting direct wars is much high. Hence states will avoid direct confrontation as much as possible as wars are now fought on economic and technological fronts. Still, it cannot be considered that the states would not use infectious agents against rivals in order to overpower the adversary. Great powers like Russia's interest in using chemicals and bioagents is visible in the Russian attempt to assassinate Sergei Skripal, an intelligent officer in 2018 by using the Novichok nerve agent. In another incident, a similar nerve agent was used against Russian opposition leader Nalvany in 2020. Hence adherence to the Biological Weapon Convention of 1972 convention is questionable. Moreover, Russian President Vladimir Putin's call to develop weapons based on genetic principles also raises concern at the international level.

### Laboratory Biosecurity

The great powers' inclination to achieve more power and overpower each other in every domain besides the military also raises serious concerns and vulnerability to biosecurity. Extensive research in science, laboratory research and dual-use of technology hence raise apprehension as the major powers are involved in competition against each other. The recent emergence of infectious COVID-19 has raised more concerns and apprehension among humans as the origin of the virus is still not clear and even is debatable. Most scientists consider the spread of coronavirus as natural from animals to humans but few also argue that the leak of the virus from the lab cannot be ruled out also. Until now, scientists do not have sufficient evidence for the emergence of COVID so the hypothesis of lab leak cannot be clearly ignored. ([Gibson 2021](#))

A senior research fellow at Council on Foreign Relations a think tank based in Washington stated that there is a greater

possibility that the virus was leaked from the lab. Daniel Engber in "The lab leak theory meets its perfect match" argues that no clear evidence has been found that the seller of shrimp was patient zero in the spread of the pandemic. Rather Worobey suggested that the first case has occurred in 2019 Oct or November and in addition to this all the early infected patients (though some were) were linked to the market. Further Nicholas Wade a science journalist a proponent Covid lab leak hypothesis believes that the Corona virus was a leak from the laboratory as the Wuhan Institute on virology was only a few miles from the outbreak of the pandemic. Wuhan virology institute is a BSL4 lab, which is designed in a way that scientists can work securely with infectious pathogens. Such infectious agents whose treatment is not yet discovered. As the outbreak of SARS-CoV-2 coronavirus was only a few miles away from the virology institute it raised serious questions that the spread of the pandemic was from a laboratory leaked virus. Further, the Chinese officials were accused of hiding health data at the start of the pandemic. China is accused of not giving key data to the investigation team of the World Health Organization regarding the origin of Covid-19. As investigation team demanded the raw data on nearly 174 ([Amy 2020](#)) cases that were initially identified from Wuhan according to Reuters but only half were exposed. Hence the United States raised serious concern over the issue. The adherents of the lab leak hypothesis say that the virus consisted of strange features and genetic arrangement hence it lead to the notion that the virus was engineered by researchers further raising the question of the scientists' role and evil use of technology. Previously small outbreaks have resulted from SARS due to the escape of the virus from the lab of Beijing. The incident resulted due to the exposure of two scientists to the virus causing SARS. Further the virus-infected seven more people while hundreds of people were quarantined.

### Conclusion

The above discussion implies that the vulnerabilities to the domain of biosecurity have

increased because even if the great powers like China do research carefully in the labs where infectious pathogens are dealt with carefully there are chances that these deadly pathogens may leak consequently causing harm to the life of millions

of people as in the case of coronavirus. Moreover, it also raises the concern that great powers like China in pursuit of advancing biotechnologically and overpowering the other major increase the vulnerabilities to biosecurity.



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