



Combating Bioterrorism

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Why in News

The **Covid-19** pandemic has exposed the vulnerability of several world powers in the event of use of **biological weapons** against them by rogue states and terrorist groups.

The **United States, Britain and the Soviet Union** were involved in developing complex biological weapons programs **after World War II** and several nations continue to do so currently as well.

Key Points

- **Bioterrorism or Biological Attack:**

It is the intentional release of viruses, bacteria, or other germs that can sicken or kill people, livestock or crops.

- **Biological Weapons:**

- They use microorganisms and natural toxins to produce disease in humans, animals, or plants.
- Biological weapons can be **derived from: bacteria, viruses, rickettsia, biological toxins** and **fungi**.
- These agents can be **deployed as biological weapons** when **paired with a delivery system**, such as a **missile** or **aerosol** device.
- **Bacillus anthracis**, the bacteria that causes **anthrax**, is one of the most likely agents to be used in a biological attack.
- The most destructive bioterrorism scenario is the **airborne dispersion of pathogens** over a major population region.
- **Tropical agricultural pathogens or pests** can be used as anticrop agents to hamper the food security worldwide.

- It is a **substantial threat** because small amounts of biotic agents can be **effortlessly hidden, transported and discharged** into vulnerable populations.

- It can **impact and expose military and civilian susceptibilities** to biological weapons and to the complexity of offering ample safeguards.
- Bioweapons experts believe that **currently bioterrorists probably lack the biotechnological capability** to produce-super pathogens or super pests.

Covid-19: Bioweapon or Not

- **Novel-coronavirus** is **alleged** to have **originated in bats**.
- Some intelligence agencies initially proclaimed that coronavirus **occurred naturally** but later on, they **claimed that the pandemic might have begun from the Wuhan lab in China** after the researchers were probably able to figure out how bat coronaviruses could mutate to attack humans.
- However, there is **no proof that the pandemic virus was engineered or manipulated**, yet.
- In the **Indian context**, with the existence of **hostile neighbours** like Pakistan and China, the **threat of biological warfare becomes important** and cannot be ruled out entirely.
- The **European Union (EU), Russia** and **China** are finding ways to deter bioterrorism and biowarfare. The aim is to make it **harder for terrorists to obtain the resources** for designing biological weapons.

- These efforts should include:
 - **Intelligence Sharing & Rapid Detection**
 - Global intelligence agencies should operate together and share credible intelligence.
 - Combining human resources, laboratory resources and information supervision in novel, legal and satisfactory ways that allow for timely detection and categorization of hazards.
 - Rapid detection and surveillance are important for an efficient response to a bioterror strike.
 - **Pathogen Analysis**
 - Speedy, uniform techniques that allow for the discovery of an extensive range of pathogens used as biological weapons in a measurable fashion.
 - Pathogens are a usual part of the environment and can complicate detection attempts.
 - **Strengthening the Biological and Toxin Weapons Convention**
 - The **Biological and Toxin Weapons Convention (BTWC) of 1972 prohibits** signatory nations to develop, produce, stockpile or otherwise, acquire or retain:
 - **Microbial or other biological agents** or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes.
 - Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.
 - However, there is no exact authentication method that can ensure compliance with the BTWC. Therefore, efforts must be made to strengthen the BTWC so that it helps to uncover and successfully prevent biological weapons programs.
 - **India ratified and pledged to abide by its obligations in 2015.**
 - **Biodefense Systems**
 - Upgrading and installing biodefense systems in major urban conglomerates to protect against deadly disease outbreaks initiated by bioterrorism.

During the **Cold War**, Soviet Union had set up several Biodefense systems across the country.
 - Developing and stockpiling vaccines and antimicrobial medicines that can be used to defend the people against infections triggered by biological weapons.
 - Coaching first responders on how to deal with a biological weapons attack.
 - Refining diagnostic laboratory capability and epidemiological capabilities.

- The **studies** conducted to assess the actual efficiency of counter bioterrorism measures are **insufficient** which needs to be changed.
- It becomes important that **engaged and methodical efforts in studying** the efficiency of counter bioterrorism measures are **applied in a meticulous way**.
- It should be taken into account that the implementation of some specific counter bioterrorism practices can **possibly have consequences** with respect to human rights, institutional liberties, fundamental democratic values and the Rule of Law.

Source: FE