

Biosecurity Threat in India

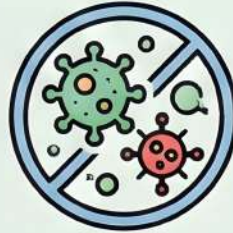


Context: In 2025, the Gujarat ATS uncovered an alleged ricin-based bioterror plot, marking India's first suspected ricin-linked bioterror case with possible international links.



Biological Weapons

- Biological weapons use pathogens (bacteria, viruses, fungi) or toxins (like ricin, botulinum toxin) to cause disease or death in humans, animals, or crops.



- They are classified as Weapons of Mass Destruction (WMDs) due to their potential for large-scale harm.



India's Existing Biosecurity Architecture



The Department of Biotechnology oversees research governance and safety frameworks for labs.



The Plant Quarantine Organisation of India regulates agricultural imports and exports.



The National Disaster Management Authority has issued detailed guidelines for the management of biological disasters.

Key legal instruments include:



The Environment (Protection) Act, 1986, governing hazardous microorganisms and genetically modified organisms.



The Weapons of Mass Destruction and Their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005, which criminalises biological weapons.



The Biosafety Rules, 1989, and guidelines issued in 2017 for recombinant DNA research and biocontainment.

International Measures



Biological Weapons Convention (BWC):

- It entered into force in 1975
- It prohibits the development, production, acquisition, transfer, stockpiling and use of biological and toxin weapons.
- It was the first multilateral disarmament treaty banning an entire category of weapons of mass destruction (WMD).



Chemical Weapons Convention

- Mandate** - It is an international treaty aimed at eliminating the production, stockpiling, and use of chemical weapons and their precursors.
- Adoption and Enforcement** - The Treaty was adopted on September 3, 1992, and entered into force on April 29, 1997.
- Member countries** - It currently has 193 member states.
- Legally binding** - It makes it mandatory to destroy old and abandoned chemical weapons.
- India's ratification** - India signed the treaty in January 1993.



Australia Group:

- The Australia Group is an informal forum of countries that seeks to prevent the proliferation of chemical and biological weapons.

