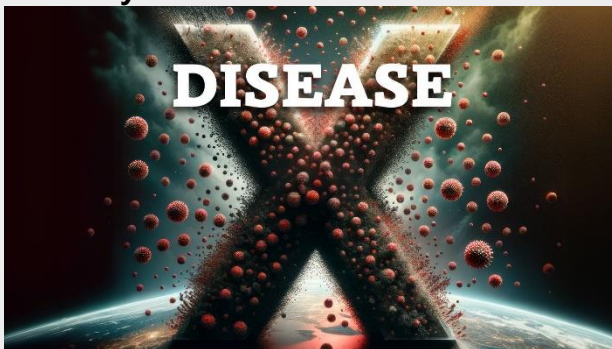


'Sharing is Caring'

If you have friends preparing for Civil Services, tell them that they can also receive Updates from PrepMate IAS by sending 'Name' and 'State' through WhatsApp on 75979-00000

1. What is Disease X and Why Should the World Prepare for It?

The Story So Far



In early December 2024, an outbreak in the Democratic Republic of Congo claimed over 400 lives. This unclassified outbreak has raised concerns that it could be an instance of Disease X. The World Health Organization (WHO) coined the term "Disease X" in 2018 to represent a hypothetical, unknown pathogen capable of causing a severe epidemic or pandemic. This concept

underscores the need for preparedness against unpredictable outbreaks.

WHO's Priority List of Pathogens

Origins of Disease X

The concept of Disease X emerged after the West African Ebola epidemic (2014–2016), which caused over 11,000 deaths and exposed critical gaps in global epidemic preparedness. COVID-19 is considered the first real-world example of Disease X, demonstrating the need for rapid global response to novel threats.

Purpose of the List

In 2018, WHO published a priority list of pathogens to direct global attention and resources toward combating the most serious infectious disease threats. These include diseases with high epidemic or pandemic potential but lacking sufficient medical countermeasures such as vaccines or treatments.

Current Pathogen List

The list includes Ebola, Marburg, Lassa fever, Nipah virus, Rift Valley fever, Crimean-Congo haemorrhagic fever, Zika virus, and Disease X. These pathogens are prioritized due to high mortality rates, rapid spread potential, and inadequate preventive or therapeutic measures.

What is Disease X?

Disease X is not a specific illness but a placeholder for an unknown and unpredictable pathogen capable of causing a global health crisis. It highlights the need for vigilance against emerging diseases that science has yet to encounter.

Characteristics of Disease X

Disease X encompasses elements of "known unknowns" (threats we anticipate but don't fully understand) and "unknown unknowns" (completely unforeseen threats). Potential causes include:

- **Pathogen X:** Viruses, bacteria, parasites, fungi, helminths, or prions.
- **Zoonotic Spillover:** Around 70% of emerging diseases since 1940 have zoonotic origins, often linked to human encroachment on wildlife habitats.
- **Other Risks:** Antimicrobial resistance, bioterrorism, and accidental lab leaks.

Patterns in Emerging Diseases

Human Activity as a Catalyst

Deforestation, urbanization, and climate change have increased human-wildlife interactions, raising the risk of zoonotic spillovers. Over 1.7 million undiscovered viruses exist in wildlife, with many potentially transmissible to humans.

Vulnerable Regions

Areas with high biodiversity and inadequate healthcare systems, like the Congo Basin, are particularly at risk. Global interconnectedness through travel and trade can quickly escalate local outbreaks into pandemics.

Challenges of Predicting Disease X

Unpredictability

Forecasting Disease X is challenging due to its dependence on unforeseen factors, including:

- **Zoonotic Diseases:** Historically major drivers of epidemics.
- **Climate Change:** Expands the range of vector-borne diseases.
- **Unknown Pathogens:** Only a fraction of human-infecting viruses have been identified.

Tools for Prediction

Advances in genomic sequencing, artificial intelligence, and real-time data sharing are narrowing the scope for predictions. However, the exact origin, timing, or behavior of Disease X remains uncertain.

The Need for Preparedness

Surveillance and Response

Robust surveillance systems are critical for early outbreak detection. Investments in healthcare infrastructure, particularly in low- and middle-income countries, are equally important. Organizations like the Coalition for Epidemic Preparedness Innovations (CEPI) are developing adaptable platforms to target unknown diseases within 100 days.

Global Collaboration

International cooperation is essential to combat Disease X. WHO's initiatives, including the proposed Pandemic Treaty, aim to foster unified global responses to health emergencies. Governments must prioritize:

- Data sharing
- Resource pooling
- Equitable access to diagnostics, treatments, and vaccines

A Call to Action

The Congo outbreak highlights the urgent need for preparedness. Disease X is not a distant hypothetical threat but a pressing challenge. By strengthening public health systems, investing in research, and fostering global solidarity, the world can mitigate the risks of future pandemics. Frameworks like the Nagoya Protocol could ensure fair access to research and medical countermeasures, promoting global collaboration.

Relevance: GS Prelims & Mains Paper III; Science & Technology

2. Why Was Telugu Actor Allu Arjun Arrested? Are the Charges Likely to Stick?

The Incident: A Tragic Early Screening



Actor Allu Arjun arrested days after woman killed in stampede at 'Pushpa 2' screening in Hyderabad

A special screening of Pushpa 2: The Rule on December 4, 2024, at Hyderabad's Sandhya Theater turned tragic. During the event, a stampede led to the death of one woman, M. Revathi, and left her teenage son in critical condition. The chaos was triggered when Telugu superstar Allu Arjun made an appearance at the venue.

What Went Wrong?

According to the police, neither the theater management nor Arjun's team informed authorities about his arrival. The venue lacked adequate security arrangements, with no separate entry or exit for the actor's team. When Arjun arrived at 9:30 PM, the unprepared security team struggled to manage the crowd's reaction. The gate collapsed under the pressure of the surging crowd, causing panic. The actor's personal security team allegedly pushed back the crowd, further aggravating the situation.

Revathi and her son suffered suffocation in the stampede. While police performed CPR to save the boy, Revathi passed away before reaching the hospital.

Legal Case Against Allu Arjun

On December 5, the Hyderabad police filed a case against Allu Arjun, his security team, and the theater management. The charges include:

- **Culpable Homicide Not Amounting to Murder:** Under Section 105 of the Bharatiya Nyaya Sanhita (BNS), this offense applies to acts that cause death without the intent to kill but with the knowledge that the act could result in death.

- **Voluntarily Causing Hurt or Grievous Hurt by Dangerous Means:** Under Section 118(1) of the BNS, this provision applies when someone voluntarily causes harm using dangerous methods or actions.

- **Common Intention Clause:** Section 3(5) of the BNS allows the police to charge individuals acting in furtherance of a shared intention.

Deputy Commissioner of Police Akshansh Yadav stated that stringent action would be taken against those responsible for the chaotic situation.

Arjun's Legal Response

Arjun has filed a petition at the Telangana High Court to quash the FIR and halt police proceedings. While the court is set to hear the case, Arjun was arrested on December 13.

Do the Charges Hold Merit?

Culpable Homicide Not Amounting to Murder (Section 105)

This charge requires proof that:

1. The accused caused the death through their actions.
2. The accused acted with the knowledge or intention that their actions could lead to death.

In Arjun's case, the prosecution must prove that his appearance directly caused the stampede and that he knew his presence posed a significant security risk. Without evidence that Arjun was aware of the inadequate security measures or that his actions directly led to Revathi's death, this charge may be difficult to substantiate.

Voluntarily Causing Hurt by Dangerous Means (Section 118)

This provision applies to harm caused by dangerous means such as weapons, fire, or poison. In this context, it may refer to the actions of Arjun's security team during the stampede. The prosecution will need to establish that the team's actions constituted a dangerous means of causing harm.

Common Intention Clause (Section 3(5))

This clause holds individuals accountable for offenses committed collectively. If the theater management, Arjun, and his team acted in a way that collectively endangered public safety, they could be jointly liable.

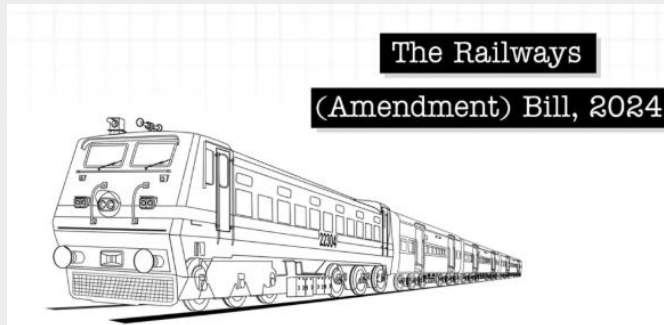
Key Takeaways

While the charges against Allu Arjun are serious, proving culpability will depend on the evidence of his intent or knowledge of the risks involved. The case also highlights broader concerns about public safety and event management in high-profile gatherings.

Relevance: GS Prelims & Mains Paper II; Governance

3. Why Was the Railways Amendment Bill 2024 Introduced, and How Did MPs React?

Introduction



The Railways (Amendment) Bill, 2024, was passed in the Lok Sabha on December 13, 2024, amid heated debates between the government and opposition MPs. The Bill seeks to modernize Indian Railways by consolidating outdated laws but has also raised concerns over unresolved issues like safety, vacancies, and

decentralization.

Why Did the Government Introduce the Bill?

Background

- India's railway network initially operated as a branch of the Public Works Department during colonial rule.
- In 1890, the Indian Railways Act was enacted to regulate operations, followed by the Indian Railway Board Act, 1905, to grant the Railway Board specific powers.
- While the Railways Act, 1890, was repealed in 1989 and replaced by a new Act, the 1905 Act remained in effect.

Purpose of the Amendment

- The government aims to repeal the Railway Board Act, 1905, and integrate its provisions into the Railways Act, 1989, simplifying the legal framework.
- This change is expected to enhance the efficiency and development of the Indian Railways.
- Union Minister Ashwini Vaishnaw stated that the Bill would usher in a "paradigm shift" for Indian Railways.

Key Provisions of the Bill

- Integration of the Railway Board Act: Provisions from the 1905 Act will now fall under the Railways Act, 1989.
- Enhanced Powers for the Railway Board: The Central Government may delegate its powers under the Railways Act to the Railway Board.
- No New Board Created: The Railway Board remains as it is, with the Chairman and members deemed appointed under the amended Act.

Concerns Raised by MPs

Positive Views

- **Aparajita Sarangi (BJP MP):** Called the Bill a step toward modernizing Indian Railways, emphasizing enhanced independence and functionality of the Railway Board.

Opposition Criticism

1. Lack of Deliberation:

O Neeraj Maurya (SP MP): Criticized the lack of an all-party committee to discuss the amendments, calling for greater independence for the Railway Board.

2. Missed Recommendations:

O Asaduddin Owaisi (AIMIM MP): Highlighted the Bill's failure to include key recommendations like creating an independent regulator, as suggested by the 2015 Committee on Restructuring Railways.

3. Diversity and Appointments:

O Chandra Shekhar (Azad Samaj Party MP): Questioned the inclusion of SCs, STs, OBCs, and women in Railway Board appointments. Stressed the need for appointments based on qualifications rather than political affiliations.

4. Unaddressed Challenges:

O Kalyan Banerjee (TMC MP): Raised concerns over whether merging the Acts would address issues like operational delays, safety measures, and technical upgrades.

Implications for Passengers

- The Bill is expected to streamline decision-making within the Railway Board, potentially improving railway services and infrastructure development.
- However, concerns persist over centralized decision-making, lack of independent oversight, and unresolved structural issues within Indian Railways.

Relevance: GS Prelims & Mains Paper II; Governance