

## Current Affairs - 02 October 2024

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### NITI AAYOG REPORT ON FUTURE PANDEMIC PREPAREDNESS

#### Why in news?

NITI Aayog has released an Expert Group report titled 'Future Pandemic Preparedness and Emergency Response —A Framework for Action'. This report has provided a blueprint for the country to prepare for any future public health emergency or pandemic and have a rapid response system in place.

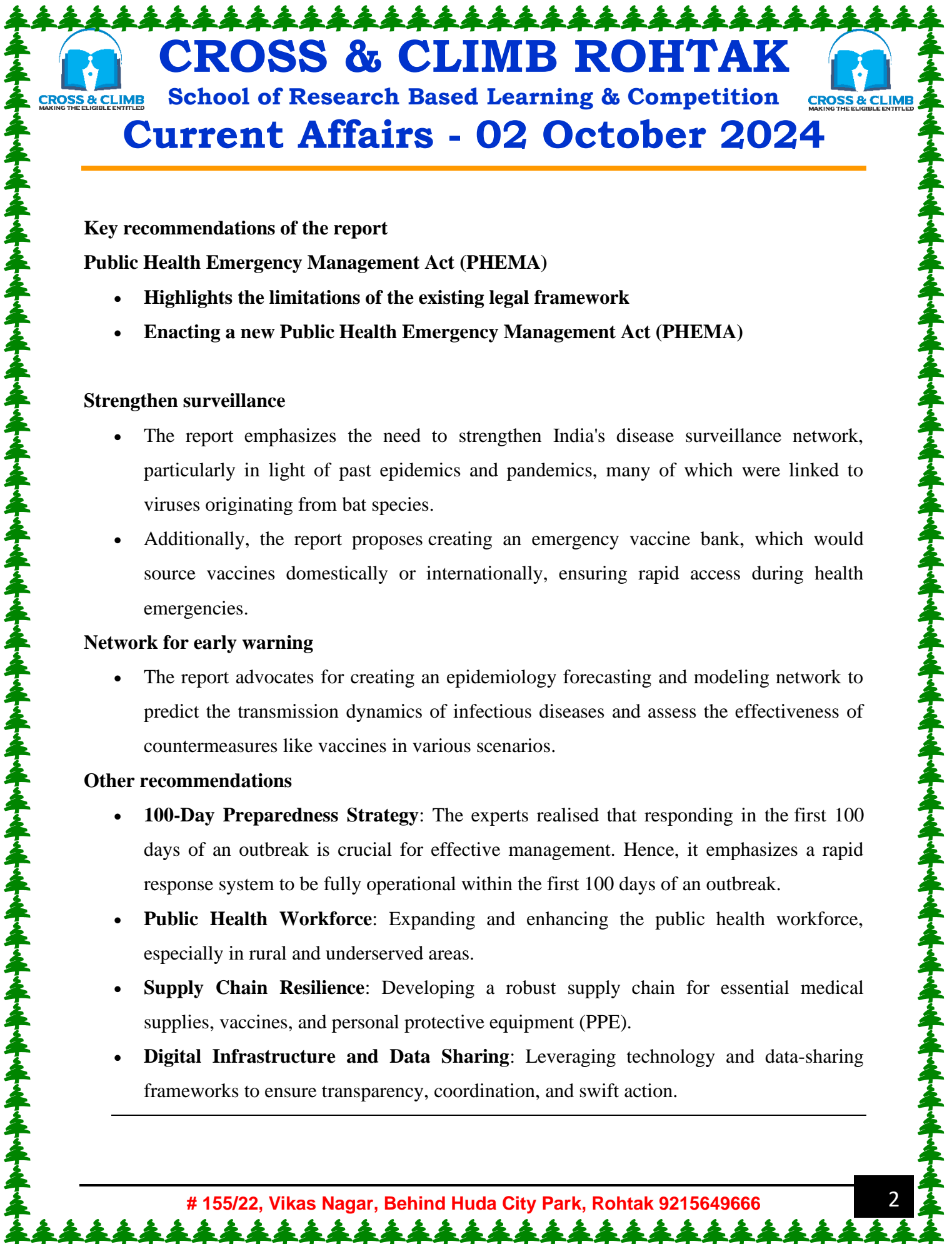
#### Background – the formation of an expert group

- **COVID 19 – Not the last pandemic**

- The COVID-19 contagion is undoubtedly not the last pandemic.
- Given the unpredictably, changing planetary ecology, climate and human-animal-plant dynamics, new potentially, large-scale infectious threats to human health are inevitable.
- The WHO has warned the world that 75% of future public health threats are likely to be zoonotic threats (which could be due to emerging, re-emerging and new pathogens).

#### Formation of an expert group

- In June 2023, NITI Aayog, recognizing the likelihood of future pandemics due to changing planetary ecology, climate, and human-animal-plant dynamics, constituted an Expert Group.
- The expert group was created to provide a Framework for Action for future pandemic preparedness. Its key task was to analyze how COVID-19 was managed both nationally and globally, identifying lessons learned from successes and challenges.
- The group aimed to pinpoint gaps in response strategies to enhance preparedness for future public health emergencies.



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### Key recommendations of the report

#### Public Health Emergency Management Act (PHEMA)

- **Highlights the limitations of the existing legal framework**
- **Enacting a new Public Health Emergency Management Act (PHEMA)**

#### Strengthen surveillance

- The report emphasizes the need to strengthen India's disease surveillance network, particularly in light of past epidemics and pandemics, many of which were linked to viruses originating from bat species.
- Additionally, the report proposes creating an emergency vaccine bank, which would source vaccines domestically or internationally, ensuring rapid access during health emergencies.

#### Network for early warning

- The report advocates for creating an epidemiology forecasting and modeling network to predict the transmission dynamics of infectious diseases and assess the effectiveness of countermeasures like vaccines in various scenarios.

#### Other recommendations

- **100-Day Preparedness Strategy:** The experts realised that responding in the first 100 days of an outbreak is crucial for effective management. Hence, it emphasizes a rapid response system to be fully operational within the first 100 days of an outbreak.
  - **Public Health Workforce:** Expanding and enhancing the public health workforce, especially in rural and underserved areas.
  - **Supply Chain Resilience:** Developing a robust supply chain for essential medical supplies, vaccines, and personal protective equipment (PPE).
  - **Digital Infrastructure and Data Sharing:** Leveraging technology and data-sharing frameworks to ensure transparency, coordination, and swift action.
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### 10 YEARS OF SWACHH BHARAT MISSION

- SBM was launched in 2014 to achieve an open defecation free (ODF) India in five years.
- This progressed the country towards SDG 6.2, which aims for adequate and equitable sanitation access for all, especially for women and girls.
- The mission sought to transform sanitation and waste management across India through both infrastructure development and cultural shifts toward cleanliness.

#### **Two parts of the mission**

- **SBM-Gramin** for rural areas, managed by the Ministry of Drinking Water and Sanitation, and
- **SBM-Urban** for cities, overseen by the Ministry of Housing and Urban Affairs.
- **Focus area**
  - **Building individual household toilets:** To eliminate open defecation by providing toilets to all households.
  - **Creating community and public toilets:** Especially in high-traffic or underserved areas where individual toilets may not be feasible.
  - **Solid waste management:** Efficiently handling waste collection, segregation, and disposal to improve cleanliness.
  - **Awareness and behavioral change campaigns:** Promoting the importance of cleanliness and hygiene to encourage lasting changes in public behavior.

#### **Impact of Swachh Bharat Mission on Health**

- **Deaths Averted**
  - WHO estimated that from 2014 to October 2019, the Swachh Bharat Mission-Gramin (SBM-G) could avert approximately **3 lakh deaths** related to diarrhoea and protein-energy malnutrition.
- **Link to Infant Mortality Reduction**

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- A recent study published in Nature found a significant link between the SBM and a reduction in infant deaths.
- The research indicated that the mission may have contributed to **60,000 to 70,000 fewer infant deaths** each year from 2014 to 2020.
- **Toilet Access**
  - According to the **2011 Census**, **53.1%** of households (rural and urban) lacked any form of toilets.
  - The extent of improvement in toilet access since then is yet to be assessed, as the **Census 2021** has been delayed.

### Criticism of SBM

- **Quality of Construction**
  - **Substandard Toilets:** Many toilets constructed under the SBM have been reported to be of poor quality, lacking proper sanitation facilities, and failing to meet the required standards.
  - **Non-Functional Toilets:** Some toilets were built but remain unused or are not functional due to maintenance issues or inadequate water supply.
- **Data Discrepancies**
- **Focus on Infrastructure Over Behavior Change**
  - **Lack of Awareness Campaigns:** While the mission emphasizes building toilets, critics argue that it has not adequately focused on creating awareness and promoting behavioral changes regarding sanitation practices.
- **Implementation Challenges**
- **Exclusion of Marginalized Groups**
- **Delayed Census and Lack of Data**
  - **Impact Measurement:** The delay in the Census 2021 has hindered the ability to measure the true impact of the SBM on sanitation coverage and improvements, leading to concerns over the reliability of available data.



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### BHARATGEN



- It is an initiative which will create generative AI systems that can generate high-quality text and multimodal content in various Indian languages.
- It is the first Government-supported Multimodal Large Language Model Initiative.

- It is implemented by IIT Bombay under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS).

#### Features of BharatGen

- The multilingual and multimodal nature of foundation models;
- Bhartiya data set-based building, and training;
- Open-source platform development of an ecosystem of generative AI research in the country.
- The project is expected to be completed in two years along with plans to benefit several government, private, educational, and research institutions.

#### What is Multimodal Large Language Model?

- It is designed to process and generate multiple modalities, including text, images, and sometimes audio and video.
  - These models are trained on large datasets containing text and image data, allowing them to learn the relationships between different modalities.
  - They can be used in many ways, including image captioning, visual question answering, and content recommendation systems that use text and image data to provide personalized recommendations.
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### KUNO NATIONAL PARK



With monsoon season almost at its fag end, Kuno National Park is looking forward to augment the prey base for cheetahs.

- Location:
- It is located in the Sheopur district in Madhya Pradesh.
- It is nestled near the Vindhyan Hills.
- It is named after the Kuno River (One of the main tributaries of the Chambal River) that cuts across it.
- Initially established as a wildlife sanctuary, it was only in 2018 that the government changed its status into a national park.
- Kuno National Park was selected under 'Action Plan for Introduction of Cheetah in India'.
- Vegetation: Kuno is primarily a grassland region, though a few rocky outcrops are found here too.
- Flora: Kardhai, Salai, and Khair trees dominate the forested area of Kuno National Park, which is mostly mixed forest.
- Fauna: The protected area of the forest is home to the jungle cat, Indian leopard, sloth bear, Indian wolf, striped hyena, golden jackal, Bengal fox, and dhole, along with more than 120 bird species.

### WHAT IS ALZHEIMER'S DISEASE?

Alzheimer's disease, a progressive neurodegenerative disorder, poses a significant global health challenge, particularly as the aging population continues to grow.



- It is a brain condition that causes a progressive decline in memory, thinking, learning, and organizing skills.





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- It is the most common type of dementia, accounting for 60-80% of all dementia cases.
  - It involves parts of the brain that control thought, memory, and language.
  - It can seriously affect a person's ability to carry out daily activities.
  - The condition usually affects people aged 65 years and over, with only 10% of cases occurring in people younger than this.
  - Cause: The exact cause of Alzheimer's disease is not fully understood, but it is believed to be influenced by a combination of genetic, environmental and lifestyle factors.
  - Symptoms:
    - The early signs of the disease include forgetting recent events or conversations.
    - Over time, it progresses to serious memory problems and loss of the ability to perform everyday tasks.
  - Treatment: There's no cure for Alzheimer's, but certain medications and therapies can help manage symptoms temporarily.
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### FIVE-HUNDRED APERTURE SPHERICAL TELESCOPE (FAST)



**China has kicked off a second phase of construction to enhance the capabilities of the Five-Hundred Aperture Spherical Telescope (FAST).**

- It is a radio telescope in China's Guizhou Province.
- It is the world's largest and most sensitive radio telescope, with a receiving area equivalent to 30 football fields.
- It measures 500 meters in diameter.

Scientific Goals:

- Detect neutral hydrogen at the edge of the universe; reconstruct the images of the early universe;



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- Discover pulsars, establish a pulsar timing array, and participate in pulsar navigation and gravitational wave detection in the future;
- Join the International Very-Long-Baseline Interferometry Network to obtain hyperfine structures of celestial bodies;
- Perform high-resolution radio spectral survey;
- Detect weak space signals;
- Participate in the search for extraterrestrial intelligence.
- FAST uses a data system developed at ICRAR (International Center for Radio Astronomy) in Perth, Australia, and at ESO (European Southern Observatory) to manage the huge amounts of data it generates.

### NATIONAL MISSION FOR EDIBLE OILS - OIL PALM (NMEO-OP)



**The second day of a National Level Multi-Stakeholder Consultative Workshop on Sustainable Oil Palm Cultivation under the National Mission on Edible Oils-Oil Palm (NMEO-OP) was held recently.**

- Launched by the Government of India in August 2021, NMEO-OP targets a substantial increase in oil palm cultivation and crude palm oil production.
- It is a Centrally Sponsored Scheme with a special focus on the Northeast region and the Andaman and Nicobar Islands, with a focus on increasing the area and productivity of oilseeds and Oil Palm.
- Scheme Outlay: A financial outlay of Rs. 11,040 crores have been made for the scheme, out of which Rs. 8,844 crore is the Government of India share and Rs. 2,196 crore is the State share, and this includes the viability gap funding also.

Targets:

- To increase the area of oil palm to 10 lakh hectares from 3.5 lakh ha during 2019-20 by 2025-26 (an additional 6.50 lakh ha).





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- To increase the Crude Palm Oil production from 0.27 lakh tonnes during 2019-20 to 11.20 lakh tonnes by 2025-26.
- Increase consumer awareness to maintain a consumption level of 19.00 kg/person/annum till 2025-26.
- The State Department of Agriculture, State Department of Horticulture, Central University, ICAR-Institutions, CDDs, SAUs, KVKs, Central Agencies/Cooperatives, Oil palm processors/ Associations, DD Kisan, AIR, DD, TV channels will be the implementing stakeholders of the NMEO-Oil palm.

Features: The salient features of NMEO-OP include assistance for planting material, inputs for intercropping up to a gestation period of 4 years and for maintenance, the establishment of seed gardens, nurseries, micro irrigation, bore well/pump set/water harvesting structure, vermicompost units, solar pumps, harvesting tools, custom hiring centre cum harvester Groups, farmers and officers training, and for replanting of old oil palm gardens, etc.

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