

## UPSC Daily Current Affairs | Prelim Bits 06-09-2024

### Mice study on COVID's True Cause

*A recent study suggests that fibrin, a key player in blood clotting, may be the primary driver of long COVID symptoms, rather than just a consequence of the disease.*

### Coronavirus disease (COVID-19)

- It is an infectious disease caused by the **SARS-CoV-2 virus**.
- Most people infected with the virus will experience mild to moderate respiratory illness and recover without requiring special treatment.
- However, some will become seriously ill and require medical attention.
- Older people and those with underlying medical conditions like cardiovascular disease, diabetes, chronic respiratory disease, or cancer are more likely to develop serious illness.
- Anyone can get sick with COVID-19 and become seriously **ill or die at any age**.
- The SARS-CoV-2 virus is well-known as a vasculopathic agent, a damager of blood vessels.
- The dominant respiratory symptoms associated with COVID-19 are largely **due to clotting and inflammation in the blood vessels** of the lungs (rather than the direct involvement of the airways).
- Its more severe complications, including neurological ones like stroke, are rooted in vasculopathy as well.

### Recent findings

- **Role of fibrin-** The study noted that **fibrinogen** binds with the SARS-CoV-2 spike protein, forming fibrin, which causes inflammation and complications in the lungs and brain.
- This contradicts the earlier view that inflammation due to the virus was responsible for clotting.

*Fibrinogen is a glycoprotein complex and a soluble protein is produced in the liver, that circulates in the blood of all vertebrates*

- **Spike protein interaction-** The study demonstrates that the **spike protein binds with fibrinogen** in the lungs, altering the clot structure and triggering an immune response.
- This interaction may drive long COVID symptoms even after active infection is gone.

*A spike protein is a protein that forms a large structure known as a spike or peplomer projecting from the surface of an enveloped virus.*

- **Implications for treatment-** A **monoclonal antibody** was found to block the interaction between the spike protein and fibrinogen without affecting normal clotting functions.
- This antibody is undergoing clinical trials, offering potential for new treatments.

*Monoclonal antibodies are proteins made in a lab that bind to one antigen only.*

- **Limitations-** The findings come from a **preliminary mouse model**, not long-term human studies, and require further research for confirmation.
- The study offers hope for a breakthrough in managing long COVID, but more research is necessary to validate its conclusions

## Reference

[The Hindu | Study on COVID's True Cause](#)

## Green Haryana manifesto, 2024

*In a first-of-its-kind initiative, People for Aravallis group initiated the process of creating 'Haryana Green Manifesto 2024' to address urgent environmental concerns.*

- **Aim-** To include their **environmental demands** in the manifestoes of various political parties ahead of the **upcoming Haryana Assembly election**.

## Environmental concerns in Haryana

- **Degradation of land** - Desertification and Land Degradation Atlas of India, 2021, shows that 8.24% of the total geographical area of Haryana has degraded.
- **Air pollution-** Haryana is home to **8 of the 50 most polluted places in the world**.
- **Waste management-** Unsegregated waste is dumped across the state, leading to toxic landfills, affecting natural ecosystems and water bodies.
- **Groundwater depletion-** Groundwater levels have dropped significantly, especially in South Haryana, reaching depths of 1,500-2,000 feet.
- **Industrial pollution-** Chemical waste from industries is polluting water sources, affecting both humans and animals with ailments like skin diseases and breathing problems.

## Green Manifesto, 2024

- **Critical Ecological Zones** - The main demand is to legally designate the Aravallis including the Bhoad areas and the Shivaliks as **'Critical Ecological Zones'**.
- **Deemed forests** - It asks for legal protection be given to all the state's forests by

including un-notified forests as 'deemed forests' under the Punjab Land Preservation Act (PLPA).

- **Tree Act-** A demand for a strict 'Tree Act' for Haryana, similar to the Delhi Preservation of Trees Act 1994.
- It asks to declare all open natural ecosystems (ONEs), such as the blackbuck natural habitat in Fatehabad district, as conservation or community reserves.

*Haryana has the lowest forest cover in India, at just 3.6%, compared to national average of 21%.*

- **Increasing tree Cover-** A call for an action plan to reach a target of 10% native forest and tree cover within 4 years.
- **Crop-Diversification** - It asks for promoting crop diversification as a key climate-change adaptation strategy by ensuring
  - Guaranteed purchase of every crop grown by the farmers on the MSP announced by the Centre,
  - Creating an action plan to restore soil and its microbial diversity,
  - Incentivising natural farming practices that improve soil health.

## Reference

[The Hindu | Green Haryana manifesto](#)

## Digital Solutions for Universal Access to Healthcare

*Recently, a National Conference on Universal Access to Healthcare was organized by National Human Rights Commission (NHRC) in collaboration with other stakeholders.*

- **Objective-** To bring together practitioners, experts, policymakers, and innovators in the field of healthcare and digital healthcare technology.
- To discuss universal access to affordable and quality healthcare, particularly in rural, remote, and hilly areas.
- **Participants-** National Human Rights Commission (NHRC), Sankala Foundation, supported by NITI Aayog and the Ministry of Health & Family Welfare (MoHFW).
- **Report-** During the conference a report title "Leveraging Digital Solutions for Universal Health Coverage" was released by Sankala Foundation research.

*The Sankala Foundation is a non-profit organisation registered in 2022 under Section (8) of the Companies Act, 2013 of India.*

- Universal access to healthcare has emerged as a basic human right.
- India has committed to achieve Universal Health Coverage by 2030, by utilizing digital health solutions to strengthen primary-level public health infrastructure.
- **Bridgital Model** - Ministry of Health and Family Welfare addressed overcrowding in AIIMS, New Delhi, by the Bridgital Model for registration and appointments.
- **Digital Nerve Centre (DiNC)** - It is a unique healthcare delivery model to enable quick access to primary health care and provide a well coordinated continuum of care for citizens visiting government health facilities.
- **Global Initiative on Digital Health (GIDH)** - India launched along with the WHO during the 2023 G20 Health Ministerial Meeting.
- **National Digital Health Mission (NDHM)** - It is implemented by National Health Authority aims to make India Self-reliant in providing universal health coverage to all the citizens in the country.
- **Digital Health Incentive Scheme** - It aims at digitising patients' health records and linking them with the Ayushman Bharat Digital Health Account.

## References

1. [PIB | Universal Access to Healthcare](#)

## Vishvasya Blockchain Technology Stack

*Recently Government has launched Vishvasya-Blockchain Technology Stack and other block chain related Initiatives.*

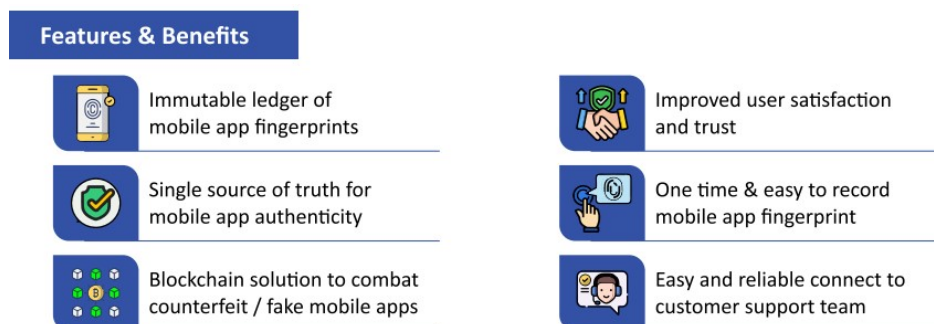
- **Vishvasya** - It is a Blockchain Technology Stack consists of blockchain related platforms and frameworks.
- It facilitates in enabling trust by developing new types of distributed software architectures and providing a single source of truth.
- **Nodal Ministry** - Ministry of Electronics & IT.

*Blockchain is a Technology suitable for developing applications with transactional data stored across network of nodes. It provides tamper resistant storage with audit trail for future verification.*

- Vishvasya contains BaaS, NBF, NBFLite, Praamaanik, National Blockchain Portal.
- **Vishvasya BaaS** - It is Blockchain as a Service (BaaS) model that provides security assurance of various Blockchain components across the stack.
- It enables technological support to organizations in developing and deploying Blockchain applications.
- It provides geographically distributed infrastructure designed to support various permissioned Blockchain based applications.



- **National Blockchain Framework** - It aims to create trusted digital platforms for promoting research and application development.
- It facilitates state of the art, transparent, secure and trusted digital service delivery to citizens.
- **Features**
  - Distributed Infrastructure
  - Core Framework functionality
  - Smart Contracts & API Gateway
  - Security, Privacy & Interoperability
  - Applications development offering Blockchain as a Service (BaaS).
- NBF currently supports two permissioned Blockchain platforms and is extensible.
- **NBFLite** - It is a Blockchain sandbox platform developed especially for startups/academia for rapid prototyping of applications, carrying out research and capacity building.
- Developed by - Collaborating efforts of C-DAC, NIC, IDRBT Hyderabad, IIT Hyderabad, IIIT Hyderabad and SETS Chennai.
- **Praamaanik**- Praamaanik is a solution that harnesses Blockchain technology to verify mobile app origins.
- It is powered by the National Blockchain Framework.



- **National Blockchain Portal** - It is developed to manage the contents related to the National Blockchain Framework initiatives.

### Portal Coverage

- Latest News
- Success Stories
- Technical Resources
- National & International Events
  - Workshops
  - Conferences
- List of Blockchain Startups
- Education and Training
- Publications / Patents

### Features

- **Integrated Chatbot:** AI based quick search on the queries related to the portal contents
- **Crowdsourced Content:** Facilitating the Users to "Contribute Content"
- **Managed Content:** Using various roles such as "User", "Reviewer" and "Admin" role
- **Subscription:** Get regular updates about the latest portal content

## References

[PIB | Vishvasya Blockchain Technology Stack](#)

## Swachh Bharat Mission (SBM)

*Recent research report found that districts with more toilets constructed under SBM corresponded fewer infant deaths.*

- **Swachh Bharat Mission** - is a massive mass movement that seeks to create a Clean India by 2019.
- **Components** - The mission will cover all rural and urban areas.
  - **SBM Rural** - Implemented by Ministry of Drinking Water and Sanitation.
  - **SBM Urban** - Implemented by Ministry of Housing and Urban Affairs
- **Swachh Bharat Mission Phase I (2014-2019)**
  - **Launched in** - October 2, 2014.
  - **Objective** - Eliminate Open Defecation by 2 October 2019.
- **Swachh Bharat Mission Phase II (2019-2025)**
  - SBM Urban 2.0 launched on October 1, 2021 to achieve Garbage Free Status for all cities.
  - SBM Gramin 2.0 was launched to transform all the villages from ODF to ODF Plus Model.
- **Performance** - From 2014 to 2020, the government constructed 109 million household toilets and declared that more than 600,000 villages were free from open defecation.
- **Relation between SBM & IMR** - Districts with over 30 per cent toilets constructed under SBM corresponded with 5.3 fewer infant deaths and 6.8 fewer child deaths per 1,000 births.
- Every 10-percentage-point increase in district-level toilet access, corresponded with a reduction in district-level IMR by 0.9 points and U5MR by 1.1 points.

## Reference

[DownToEarth | Swachh Bharat Mission](#)



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