Prelim Bits 18-11-2023 | UPSC Daily Current Affairs

Voice of Global South Summit (VOGSS)

India hosts the 2nd Voice of Global South Summit (VOGSS) in a virtual format in 2023 and have inaugurated a global centre for excellence for the Global South countries called DAKSHIN.

> *The term **Global South** is not geographical and it refers to the developing and the less-developed countries of the world. It have been 1st used in 1969 by political activist Carl Oglesby.*

- India launched 1st VOGSS virtually in January, 2023 in the wake of its G20 presidency.
- **Objective** - To make the development of the people, by the people and for the people, the focus of India's G20 presidency (2023).
- **2nd VOGSS** – A platform to discuss ways to sustain the momentum generated towards a ***more inclusive, representative and progressive world order***.
- **Sessions** – It will be structured into *10 sessions*, the inaugural and concluding sessions would be at Head of State / Government level and there will be *8 ministerial sessions*.
- **Theme of the inaugural leaders' session** – Together, for everyone's Growth, with everyone's Trust.
- **Theme of the concluding leaders' session** – Global South: Together for One Future.
- **Focus** – To ***share the beneficial outcomes and progress achieved*** in the concerns/priorities of the Global South during India's G20 Presidency.
- To deliberate on the way forward for the Global south to achieve common objectives.

> *The Global South's 2 largest countries, China and India lie entirely in the northern hemisphere.*

Reference

1. The Hindu| Voice of Global South Summit
2. Indian Express| 2nd VOGSS

Chikungunya Viral Infection (CHIKV) and Vaccine

Recently, the world's 1st vaccine for chikungunya was approved by the Food and Drug Administration (FDA) in the U.S.A.

- It is a ***ribonucleic acid (RNA) virus*** that belongs to the alphavirus genus of the family Togaviridae.

  Chikungunya outbreak was 1st recognized in 1952 in southern Tanzania.

- **Transmission to humans** – By the bites of infected female '***Aedes aegypti and Aedes albopictus mosquitoes***'.

  *CHIKV has been described as '**an emerging global health threat'** and since 2004, the frequency and spread of outbreak increased, partly due to viral adaptations to be spread more easily by the Aedes albopictus mosquitoes.*

- **Geographical spread** – It has now been identified in over 110 countries in Asia, Africa, Europe and the Americas.
- **Symptoms** – Primarily ***severe joint pain, impaired mobility*** with fever and also includes muscle pain, nausea, and rash.
- Severe symptoms and *deaths from chikungunya are rare* and usually related to other coexisting health problems.
- **Treatment** - As of now, there is no cure, only symptomatic relief, with *analgesics to help with the pain*, *antipyretics for the fever*, rest, and adequate fluids.
- **Prevention** - Mosquito control activities like preventing mosquito's breeding and mosquito bites.

Vaccine for Chikungunya

- **Manufacturer** – It has been developed by *European vaccine manufacturer* and to be branded as ***Ixchiq***.
- It has been approved for administration in people who are 18 years or older, and are at increased risk of exposure to the virus.

References

1. The Hindu| World's 1st Vaccine for Chikungunya
2. WHO| Chikungunya Viral Infection (CHIKV)

AI Voice Clones (Deepfake audios)

The creation a cloned voice of anyone holds significant implications as India approach the upcoming elections, a period particularly susceptible to the proliferation of misinformation.

- A deep fake audio is one that closely mimics a real person's voice.
- **Technology** – It particularly uses ***deep learning algorithms,*** a form of generative AI.

Generative Artificial Intelligence (AI) *refers to the capability of AI-enabled machines to use existing text, audio files, or images to create new content.*

- **Aim** – To ***generate synthetic or manipulated voice recordings*** that mimic the voice of a specific individual.
- **Prerequisite** – A laptop with a good internet connection and the audio clip of the person whose voice you wish to clone.

The website covers.ai and other online tools like play.ht and Eleven Labs can be used to create AI voice clones easily.

- **Threat** – It is now possible to create highly realistic and convincing *audio forgeries*.
- It can *produce misinformation* at a significantly faster rate compared to the time required by fact checkers to debunk it
- **Control measures** – ***Digitally signed videos*** can be a way to verify that content can be trusted.
- Advancing the development of ***AI voice clone detectors*** and promoting its active usage.
- Cracking down social media platforms to control the spread.

Indian Ministry of Electronics and Information Technology (MeitY) sent an advisory to social media companies urging them to tackle deep-fake content.

AI Voice Clones in Politics

- It could sway electoral power.
- **Motive** - To *personalise the messaging* like a call or message from a national leader *addressing local concerns in local languages*.
- To show a leader of the other party in bad light.
- **Impact** - Even a short 10 second clip would be enough to whip up sectarian divides to polarise elections to the advantage of communal forces.

References

Indian Express| AI Voice Clones

Pulsar Glitch

In 1969, scientists noticed an abrupt and brief increase in the rotation rate of a pulsar called

as pulsar glitch.

> *When heavy stars die, their cores implode and if they're heavy enough, they become **black holes.** Else, they collapse to form a ball of neutrons called as **neutron stars.***

- **Pulsars** – They are ***rotating neutron stars*** (super-dense object) whose ***rotation rate slowed over time***.
- **Emission of radio signals** – The energy saved by reducing the rotation rate was used to accelerate *electric charges outside the star*, producing the radio signals that are emitted near the poles.
- It forms a cone that sweeps past the earth with every rotation.

- **Pulsar glitch** – An ***abrupt and brief increase in the rotation rate*** of the pulsar before relaxing to the original value slowly.

> ***The 1st pulsar** was discovered in 1967 and **1st pulsar glitch** was observed in 1969. Till date, we have spotted more than 3,000 pulsars and around 700 pulsar glitches.*

- This slow post-glitch relaxation hinted that the neutrons inside the star were superfluid.

***Superfluids**, a slippery, frictionless state which when set in motion inside a container will keep moving around.*

Origin of Pulsar Glitch

> ***The neutron star** is a 20-km-wide sphere with a solid crust and a core. The crust, believed to be a lattice of iron-like nuclei, is interspersed with neutron superfluid. The core predominantly contains the superfluid, and no solid parts.*

- A *superfluid in a rotating system creates vortices* which might be attached to the nuclei of the crust and attain less energy.

> ***Vortices** are a mass of air, water, etc. that turns around very fast and pulls things into its centre.*
>
> *The phenomenon of vortices 'sticking' to the nuclei is called **pinning**.*

- By radiation, the pulsar loses energy and slows down the rotation of crust but the pinned vortices maintains higher speed similar to the speed of the superfluid's rotation inside.
- This speed difference creates a force to overcome pinning and vortices are thrown outward, reducing the speed of the superfluid.
- The angular momentum lost by the superfluid is gained by the crust leading to brief increase in rotation called as a glitch in the pulsar.

> ***Angular momentum*** *is defined as the total quantity of motion possessed by the rotating moving body.*

References

The Hindu| Pulsar Glitch

PM Janjati Adivasi Nyaya Maha Abhiyan (PM- JANMAN)

On the occasion of Janjatiya Gaurav Diwas of 2023, India has launched a new scheme PM Janjati Adivasi Nyaya Maha Abhiyan.

> ***Janjatiya Gaurav Divas*** *is celebrated every year on November 15 since 2021 to mark the birth anniversary of tribal icon Birsa Munda.*

- **PM- JANMAN** – It is launched for the development of Particularly Vulnerable Tribal Groups (PVTGs).
- It is also named as **PM PVTG Development Mission**.
- **Objectives**
- To protect the tribes on the verge of extinction and ***nurture them with basic facilities***.
- To ensure ***last-mile welfare scheme delivery***.

> *Particularly Vulnerable Tribal Groups (PVTGs) are a more vulnerable group among tribal groups in India and 75 PVTGs are in India.*

- **Budget** – Around ***Rs 24,000 crores***.
- Government will reach out to tribal groups and primitive tribes and several ministries will work in tandem to implement development projects.
- **Beneficiaries** - Government has identified ***75 tribal communities and primitive tribes*** with a population of lakhs who reside in more than 22 thousand villages in the country
- **Ensures basic facilities** - Road and telecom connectivity, electricity, safe housing, clean drinking water and sanitation, improved access to education, health and

nutrition and sustainable livelihood opportunities.

References

PIB| PM- JANMAN Scheme

Other Important News
Operation 1027 • Operation 1027 is a joint military operation by the 3 brotherhood alliance - Ta'ang National Liberation Army, (TNLA) the Myanmar National Democratic Alliance Army (MNDAA), and the Arakan Army. • Its goal is to combat the Myanmar Junta's armed forces and allied militias in northern Shan State, close to the ***Myanmar-China border***. • The operation, titled after the ***date of its commencement*** - **Oct. 27**. The violence has forced people to flee to Mizoram in India.
BDS (Boycott, Divestment, Sanctions) Movement • It is a ***Palestinian-led campaign*** that uses economic pressure to delegitimize Israel. • It is a loosely connected network of Palestinian civil society groups coordinated by the Palestinian BDS National Committee. • The BDS movement aims to create a world without a *Jewish state*. • The movement was launched in 2005 by more than 170 Palestinian groups to garner international support for Palestinian people's rights.
Gene therapy for Sickle cell Disease • The world's 1st gene therapy "***Casgevy"*** for sickle cell disease has been approved in Britain recently. • It is made by Vertex Pharmaceuticals (Europe) Ltd. and CRISPR Therapeutics. • Gene therapy for sickle cell disease uses a *non-infectious lentivirus* to silence the ***BCL11A gene***. • It approved the treatment for patients with sickle cell disease and thalassemia who are 12 years old and over. • Both sickle cell disease (common in people with African or Caribbean backgrounds) and thalassemia are caused by mistakes in the genes that carry hemoglobin.
Yellow-spotted Amazon River turtle (Podocnemis unifilis) • It is one of the largest river turtles in South America, also known as the yellow-headed sideneck turtle and the yellow-spotted river turtle. • This diurnal (most active in mid-morning and afternoon turtle) is native to the Amazon River basin and can be found in the Amazon and Orinoco Rivers and are locally known as Taricayas. • **Conservation status -** IUCN - ***Vulnerable***. • An extended heat wave and drought have shortened the incubation period for thousands of turtle hatchlings in the Peruvian Amazon recently.
U.S. and Philippines Nuclear deal • The United States and the Philippines have recently signed a nuclear deal that would allow Washington to export nuclear technology and material to Manila, Philippines. • The pact is in adherence with non-proliferation requirements.

Kavro Doma 360

• It is the ***world-1st rifle protection ballistic helmet***, *indigenously* developed by Kanpur-based MKU Limited.
• It offers uniform protection in all 5 zones of the head against threats like the AK-47 MSC, M80 NATO BALL, and M193 rifle bullets.
• ***'Back Face Signature'*** is a way to measure how much a protective helmet deforms or indents on the inside due to the impact of a high energy bullet.

Vadhavan Port project

• Union ministry of ports, shipping and waterways reinstated the Vadhavan Port project in ***Maharashtra***, after it had been stuck over environmental concerns for over 2 years.
• It is ***India's 13th major port***, developed as a joint venture by the Jawaharlal Nehru Port Authority (JNPA) and the Maharashtra Maritime Board (MMB).
• It is a ***Public-private partnership (PPP) project*** (JNPA - 74% stakes and MMB - 26% stakes).

MIKA

• It is the world's 1st ever ***AI humanoid robot CEO*** of Polish rum company Dictador.
• It is developed by Dictador and Hanson Robotics, a Hong Kong-based engineering and robotics company which is behind the renowned AI robot Sophia.
• Mika is a more advanced version of her sister prototype, *Sophia,* who was activated in 2015.

Bharat Organics

• Union Minister for Cooperation has recently launched the 'Bharat Organics' brand of National Cooperative Organics Ltd (NCOL).
• 6 products under the 'Bharat Organics' brand were tur dal, chana dal, sugar, rajma, basmati rice, and Sonamasoori rice.
• About 50% of profits from the sale of organic products through NCOL will be transferred directly to member farmers.

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