

VIRTUAL DIGITAL ASSETS, INDIA'S STAND AND THE WAY AHEAD

Context

- Rulemaking is an arduous task sometimes diverging from the intent. This can be particularly challenging in the case of emerging technologies, where change is rapid and constant.
- Today, there are **calls to regulate artificial intelligence (AI) and blockchain technology**. Amidst all this, India's measured approach to regulating Virtual Digital assets is commendable.

What are VDAs (Virtual Digital Assets)?

- According to the **Income Tax Act**, 'virtual digital asset' refers to any information, code, number, or token (not being Indian currency or foreign currency) **generated through cryptographic means and blockchain technologies**.
- It can be **transferred, stored, or traded electronically** and its definition **specifically includes a non-fungible token (NFT)** or any other token of similar nature, by whatever name is called.

India's recent attempt to regulate VDAs

- India has recently **extended the anti-money laundering provisions to virtual digital assets businesses and service providers**.
- The Union Finance Ministry, in a gazette notification, extended the following activities under the Prevention of Money Laundering Act (PMLA) Act 2002:
 - Exchange between virtual digital assets and fiat currencies.
 - Exchange between one or more forms of virtual digital assets, transfer of virtual digital assets.
 - Safekeeping or administration of virtual digital assets or instruments enabling control over virtual digital assets.
 - And participation in and provision of financial services related to an issuer's offer and sale of a virtual digital asset.

Conclusion

- Spearheading the **global coordination and focusing greater oversight** on domestic virtual digital assets ecosystem simultaneously could provide India with much needed assurance to everyday users and regulators.

- Going forward, a **progressive regulatory framework** will instil the animal spirit in India's innovation economy and establish India's virtual digital assets leadership.
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INDIA-CHINA DEFENCE MINISTERS' MEET

Why in news?

- Recently, Defence Minister Rajnath Singh held discussions with China's Defence Minister General Li Shangfu.
 - China's Defence Minister is in New Delhi to attend the Shanghai Cooperation Organisation (SCO) Defence Ministers conference.
 - This is the first visit by a Chinese defence minister to India after the eastern Ladakh border standoff began in May 2020.
- Indian Defence Minister told his visiting Chinese counterpart that Beijing's **violation of existing agreements has eroded the entire basis of bilateral relations.**

Border agreements with India that were violated by China

• About

- China through its military action at Galwan in Ladakh violated three key bilateral agreements -- 1993, 1996 and 2013.
- These agreements have been central to maintaining peace and tranquillity on the disputed Line of Actual Control.
- Until the Galwan clash in 2020, not a single soldier had been killed on either side of the LAC for over four decades.
- **The 1993 agreement between India and China**
 - It declared: Neither side shall use or threaten to use force against the other by any means. No activities of either side shall overstep the line of actual control.
 - It also stated, in case personnel of one side cross the line of actual control, upon being cautioned by the other side, they shall immediately pull back to their own side of the line of actual control.
 - China has not done that either in Galwan or Pangong Tso.

- On the contrary, it has built structures and stationed its troops in a face-off like situation despite cautionary warnings.
- **1996 agreement on border disputes and maintenance of peace**
 - As per article VI of the Agreement, the two countries are not to open fire within two kilometers from the line of actual control.
 - This had been stipulated to prevent dangerous military activities and does not apply to routine firing activities in small arms firing ranges.
- This is what led to a practice, where troops on both sides, never brandished weapons at each other and at most.
- They often indulged in a physical jostle.
 - It was this agreement of 1996 which also set the rules on military exercises.
 - It makes clear that the strategic direction of the main force in an exercise shall not be towards the other side.
- The Chinese PLA carried out its summer exercises opposite Ladakh which clearly were aimed at threatening India.
- **The 2013 India-China Border Defence Cooperation Agreement**
 - Through this agreement, the two sides agree that they shall not follow or tail patrols of the other side in areas where there is no common understanding of the Line of Actual Control (LAC).
 - Here again, the violence in Galwan raises doubts whether Chinese troops followed this protocol.
 - Chinese manoeuvres of the past two weeks have had the Indian side quite worried on this count.

RISING SEA LEVELS AND ASSOCIATED THREAT

Why in news?

- The World Meteorological Organization (WMO) has found in a new report that the world's sea level is rising at an unprecedented rate.
 - The report, entitled 'State of the Global Climate 2022', was published recently.
- Along with accelerating sea-level rise, the report focused on:
 - a consistent rise in global temperatures,
 - record-breaking increases in the concentration of greenhouse gases as well as glacier loss,

- sustained drought-like conditions in East Africa,
- record rainfall in Pakistan, and unprecedented heatwaves that struck Europe and China in 2022.

How much is the sea rising?

- As per the report, released by the WMO, the rate of **global mean sea-level [GSML]** rise has **doubled** between the first decade of the satellite record and the last.
- Since the 1990s, scientists have been measuring sea-level rise using satellite altimeters.
- These instruments send radar pulses to the sea surface and measure the time they take to get back and the change in their intensity.
- The higher the sea level, the faster and stronger the return signal.
- While the rate of sea-level rise was 2.27 mm/year in 1993-2002, it shot up to 4.62 mm/year in 2013-2022.

What causes accelerated sea-level rise?

- **Primarily due to Global warming**
 - Accelerated sea-level rise is primarily caused by global warming, which is driven by the increasing concentrations of greenhouse gases.
 - These gases trap heat from the sun and warm the Earth's surface.
 - This leads to a wide range of climate impacts, including:
 - melting glaciers and ice sheets,
 - **thermal expansion** of the ocean water, and
 - changes in ocean currents and circulation patterns.
 - According the report of WMO, Ocean warming – the phenomenon of rising mean ocean temperatures – contributed 55% in accelerated sea-level rise.
- **Melting of land-based ice**
 - Melting of land-based ice, particularly the Greenland and Antarctic ice sheets, is a significant contributor to sea-level rise.
 - The report also says that the earth's ice cover, known as the cryosphere, has thinned.
 - The cryosphere includes:
 - the Arctic and Antarctic regions (called “sea ice”), glaciers,
 - the ice sheets of Greenland and Antarctica (area of ice on land covering more than 50,000 km²),

- seasonal snow cover, and
- permafrost (mass of land that remains below 0° C for at least two straight years).
- As these ice sheets melt, they discharge vast amounts of water into the ocean, leading to a rise in sea level.
- According to the report, in 2005-2019, loss of glaciers and ice sheets contributed 36% to the GSML rise.
- **Earth's gravitational and rotational fields**
 - Additionally, changes in the Earth's gravitational and rotational fields can also affect sea level regionally.
- **Human activities**
 - Human activities, such as burning fossil fuels and deforestation, are the primary drivers of global warming, and thus the main cause of accelerated sea-level rise.

SUKHNA WILDLIFE SANCTUARY

The recent judgment of the Supreme Court modifying its June 2022 order related to the eco-sensitive zone (ESZ) will help the Haryana and Punjab Forest departments, which are firm to declare only 100 metres as ESZ of the Sukhna Wildlife Sanctuary.



Why in the news?

- The Union Territory of Chandigarh Forest and Wildlife Department has declared its 2.0 to 2.75 km area as ESZ of the sanctuary, it expects a similar area of ESZ from **Haryana and Punjab**.
- Although the two states have only **agreed to declare merely 100 metres** of their area as ESZ, their proposals are pending before the Ministry of Environment, Forest and Climate Change (MoEFCC).
- Supreme Court ruled that each national park and wildlife sanctuary must have an **eco-sensitive zone (ESZ) of a minimum of 1 km**, measured from the demarcated boundary of such protected forest.

About Sukhna wildlife sanctuary

- It is located in the **Chandigarh Union Territory**.
- It forms the part of Sukhna Lake catchment area falling in **Shivalik hills**.
- **Fauna:** Sambar deer, Barking deer, and wild boar, as well as several species of birds, reptiles, and amphibians.
- **Flora:** The sanctuary is characterized by a mix of forests, grasslands, and wetlands, with the Sukhna Lake forming an important part of the ecosystem.

Key Facts about Shivalik Hills

- It is also called Siwalik Range or **Outer Himalayas**.
- It extends for more than 1,000 miles (1,600 km).
- It has an **average elevation of 3,000 to 4,000 feet** (900 to 1,200 metres).
- It rises abruptly from the plain of the Indus and Ganges (Ganga) rivers (south) and parallels the main range of the Himalayas (north), from which it is separated by valleys.

WHAT ARE SEAMOUNTS?

Recently, in an astonishing discovery, scientists have reported finding 19,325 new seamounts after poring through new high-resolution data.



About Seamounts:

- It is an **underwater mountain formed through volcanic activity**.
- These are recognised as hotspots for marine life. Like volcanoes on land, seamounts can be **active, extinct or dormant volcanoes**.
- These are formed **near mid-ocean ridges**, where the earth's tectonic plates are moving apart, allowing molten rock to rise to the seafloor.
- The planet's two most-studied mid-ocean ridges are **the Mid-Atlantic Ridge** and the **East Pacific Rise**.
- Some seamounts have also been found near **intraplate hotspots** – regions of heavy volcanic activity within a plate – and oceanic island chains with a volcanic and seismic activity called island arcs.
- **Significance of seamounts**

- They provide information about the **mantle's composition** and how tectonic plates evolve.
- Oceanographers also study seamounts to **understand their influence on how water circulates** and absorbs heat and carbon dioxide.
- Seamounts are home to diverse biological communities. They are good places for life because **they can cause localised ocean upwelling** – the process by which nutrient-rich water from deep within the ocean moves up to the surface.

Key Facts about the Mid-Atlantic Ridge

- It is **the largest geological** feature on the planet.
- It is a mostly underwater mountain range in the Atlantic Ocean.
- It is about 3 km in height above the ocean floor and 1000 to 1500 km wide, has numerous transform faults and an axial rift valley along its length.
- It separates the **North American Plate** from the **Eurasian Plate** in the North Atlantic and the **South American Plate** from the **African Plate in the South Atlantic**

DEDICATED COMMAND CYBER OPERATIONS FOR THE INDIAN ARMY

Why in News?

- The Indian Army will now raise dedicated specialized agencies in each of its six operational or regional commands across the country to handle the cyberspace domain.

Background (Context):

- Between April 17 and April 23, the **Army Commanders Conference** was held.
- The conference saw deliberations over wide-ranging Strategic, Training, Human Resource Development, and Administrative aspects and took key decisions in shaping the Army for the future.
- A number of welfare measures and initiatives were decided to be implemented for troops as well as veterans during the conference.
- One of these measures is the Command Cyber Operations and Support Wings.

About Command Cyber Operations and Support Wings (CCOSW):

- The Indian Army is rapidly migrating towards internet centricity, which entails an increased reliance on modern communication systems at all levels.
- The CCOSWs will assist the Indian Army's formations in taking up cyberspace security challenges posed by the growing warfare capabilities of adversaries.

Need & Significance of the CCOSW:

- This is an urgent necessity in the backdrop of China developing a wide array of cyberweapons to degrade or destroy an adversary's military assets and strategic networks even before the actual conventional war kicks off.
- China also regularly engages in malicious cyber activities as well as exploits cyberspace for its "grey zone warfare".
 - Grey zone warfare basically revolves around exploitation of the operational space between peace and war to change the status quo or coerce an adversary.
- The Army believes the CCOSWs will help to safeguard its networks and increase the preparedness levels in this fifth dimension of warfare after land, sea, air and space.
- This step will lead to an overall strengthening of the cyber-security posture of the force for both conventional operations as well as grey zone warfare.

ANJI KHAD BRIDGE

All 96 cables on the first cable-stayed bridge in India, the Anji Khad bridge, have been fully installed in a record time of 11 months.



About Anji Khad Bridge:

- It is an **under-construction rail bridge in Jammu & Kashmir** on the Indian Railways **Jammu – Baramulla rail line**.
- It will connect the **Union Territory of Kashmir with the rest of the country** by train.
- It is **constructed over the Anji River**, a tributary of the Chenab River **between Katra and Reasi**.
- Anji Khad Bridge **will be the first cable-stayed railway bridge in the country**.
- It is an **asymmetrical cable-stayed bridge balanced on the axis of a central pylon**.

- The **total length** of the structure is **25 metres**.
- It stands at a **height of 331 meters** above the river bed.
- The bridge **has a single-line railway track** and a 3.75-metre-wide service road.
- The project is being executed by **Konkan Railway Corporation Limited (KRCL)** and **Hindustan Construction Company**.

INS TARKASH

INS Tarkash from the Indian Navy recently reached Port Sudan to help in the evacuation of stranded Indians as part of “Operation Kaveri”.



About INS Tarkash:

- It is a state-of-the-art **stealth frigate of the Indian Navy** equipped with a **versatile range of weapons**.
- Tarkash belongs to the **Talwar class of guided missile frigates**. These are modified Krivak III class frigates **built by Russia**.
- It was built by the Yantar shipyard in Kaliningrad, Russia.
- It was commissioned into Indian Navy service on 9 November 2012 at Kaliningrad and **joined the Western Naval Command on 27 December 2012**.
- **Features:**
 - It has a **length of 124.8 m**, a beam of 15.2 m, and a draught of 4.2 m (13 ft 9 in).
 - **Top Speed: 32 knots** (59 km/h; 37 mph).
 - It has been **equipped with a weapon sensor** that enables it to address threats in all dimensions.
 - It **uses stealth technologies and a special hull design** to ensure a reduced radar cross-section.
 - It can **board one Ka-28 Helix-A antisubmarine helicopter** or one Ka-31 Helix-B airborne early warning helicopter,
 - It is also **equipped with BrahMos missiles** instead of the Klub-N missiles, which makes it different from the earlier flight of Talwar-class ships.

Key Facts about “Operation Kaveri”:



CROSS & CLIMB ROHTAK



- It is a **rescue operation** being carried out by the **Indian Government** to bring back **Indian citizens stranded in Sudan**.
 - According to the official data, the number of Indians in Sudan is around 4,000.
 - **Why the need for evacuation?** Sudan has been witnessing **deadly fighting between the country's army and a paramilitary group**, the paramilitary Rapid Support Forces (RSF), that has reportedly **left several hundred's dead**.
 - **Cause of fighting?** It was **triggered by disagreement over an internationally backed plan to form a new civilian government** four years after the fall of autocrat Omar al-Bashir and two years after the military coup. Both sides accuse the other of thwarting the transition.
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