

24 November, 2023

Investor Resilience and Reconciliation Application (IRRA)

Context: Various stock exchanges in India have launched Investor Resilience and Reconciliation Application (IRRA) for investor security.

➤ IRRA Platform Overview:

- The Investor Resilience and Reconciliation Application (IRRA) is a **collaborative initiative** developed by major stock exchanges in India, **including BSE, NSE, NCDEX, MCX, and MSE.**
- Launched by SEBI Chairperson Madhabi Puri Buch, the platform is **designed to address risks for investors during technical glitches** or disruptions at the trading member's end.

➤ Purpose and Need:

- IRRA aims to reduce risks faced by investors due to technical glitches at **both the primary and disaster recovery sites** of trading members.
- It provides investors with the **opportunity to close open positions and cancel pending orders** during disruptions, ensuring accessibility even when the trading member's site is inaccessible.

➤ Functionality of IRRA:

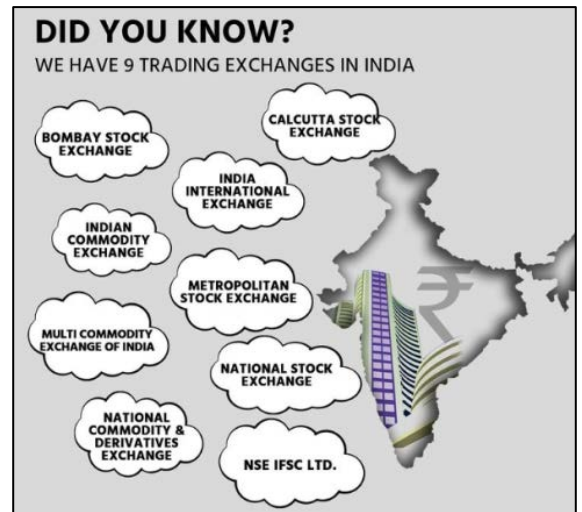
- The platform is **not for initiating fresh positions**; its primary purpose is to **facilitate the cancellation** of pending orders.
- IRRA can be **invoked by trading members or stock exchanges** in the event of technical glitches impacting their ability to serve clients across exchanges.
- Once invoked, **the platform downloads trades, sends notifications to investors, and enables them to manage orders** and positions across all segments and exchanges.

➤ Investor Access to IRRA:

- Investors can **access IRRA through a secure login using their Unique Client Code (UCC) or PAN number.**
- Authorization is facilitated through a **one-time password (OTP)** sent to registered mobile numbers and email IDs.
- The platform is **available over a new Internet-based Trading (IBT) web URL and mobile application**, distinct from the investor's usual platform.

➤ Migration Process:

- **Trading members can request migration** to the IRRA platform by **informing stock exchanges via email** before the market session or at least 2.5 hours before the scheduled market closure.
- Efforts to restore primary and disaster recovery sites are required before requesting migration.
- **Reverse migration is allowed based on the trading member's request and confirmation from all exchanges**, with only one reverse migration permitted during a trading day.



International Space Station

Context: The International Space Station (ISS) commemorates a significant milestone as it marks 25 years since its inception.

- The ISS, a pinnacle of international scientific and engineering collaboration, **celebrates its 25th anniversary.**
- It stands as the **most extensive structure ever placed in space**, serving as a laboratory for new technologies and a platform for diverse research.

➤ Technical Details:

- The ISS orbits at an average **altitude of 400 kilometres** above Earth, completing a **circle around the globe every 90 minutes at a speed of about 28,000 kph.**
- In one day, the station travels a distance equivalent to going from Earth to the moon and back.
- The ISS is **visible from Earth without a telescope** and can **rival the brightness of Venus**, appearing as a bright moving light across the night sky.

➤ Construction and Collaboration:

- Built by **five space agencies**, the United States' **NASA**, Russia's **Roscosmos**, Japan's **JAXA**, Europe's **ESA**, and Canada's **CSA**, the ISS is valued at USD 100 billion and remains operational today.

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- **Constructed piece by piece**, the ISS consists of **modules**, connecting nodes, exterior trusses for structural support, and solar panels for power.
- The **first module, Russia's Zarya, launched in 1998**, and the station reached its **full six-person crew size in 2009**.

➤ **Scientific Contributions:**

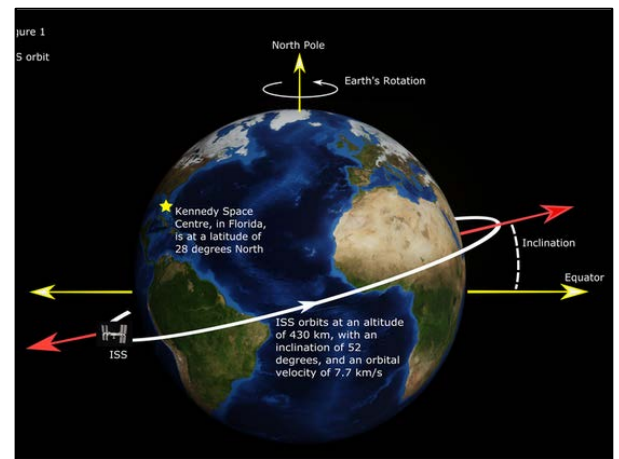
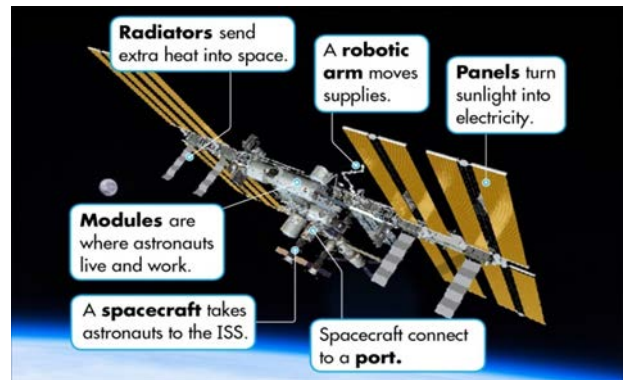
- The ISS serves as a vital scientific platform, with **astronauts conducting experiments** that have led to breakthroughs benefiting life on Earth.
- Research spans medical fields, including **Alzheimer's, Parkinson's, cancer, asthma, and heart disease**.
- **Microgravity conditions** on the ISS provide insights into **human health, drug development, water purification, and food production**.

➤ **Operational Details:**

- The ISS is continuously inhabited and passes **over our heads 16 times every 24 hours**, traveling through 16 sunrises and sunsets.
- It offers sleeping quarters, bathrooms, a gym, and a 360-degree view bay window for astronauts.
- With a **length of 109 meters**, it is comparable to a full-length American football field and twice the length of an Olympic swimming pool.

➤ **Future Plans:**

- The **ISS was to be operational till at least 2020**, with **NASA requesting an extension until 2024**.
- Plans for the post-ISS era include uncertainties due to geopolitical events, with countries like the US, Europe, Japan, China, India, and the UAE expressing varied commitments and ambitions.
- NASA's Artemis program focuses on lunar exploration, while the **European Space Agency (ESA) works on a new space station called Starlab**.



Antarctic Oscillation

Context: INCOIS found that the Antarctic Oscillation (also known as **Southern Annular Mode (SAM)**), a crucial climate pattern, significantly influences sea conditions in the Indian Ocean.

- The AAO, also known as the SAM, is a **low-frequency mode of atmospheric variability in the southern hemisphere**.
- It is characterized by a **belt of strong westerly winds or low pressure surrounding Antarctica**, which **shifts north or south** as part of its variability.
- **Climate Driver for Australia:**
 - The AAO/SAM acts as a **climate driver for Australia**, significantly influencing the country's weather patterns.
 - It is associated with **storms and cold fronts that move from west to east**, bringing **precipitation to southern Australia**.
- **Phases and Impacts:**
 - Both **positive and negative SAM events typically last for about ten days to two weeks**, with the timeframe between them being random.
 - **Negative SAM events are more common in cool months**, while **positive SAM events are more prolonged in warmer months**.
 - Winds associated with SAM **cause oceanic upwelling, impacting Antarctic ice shelf basal melt** and potentially destabilizing parts of the Antarctic ice sheet.
- **Positive Phase:**
 - **Intensification and contraction of the westerly wind belt** towards Antarctica characterize the positive phase.
 - In winter, it **increases rainfall in southeastern Australia** and **reduces rain in the southwest**, with effects on snowfall in alpine areas.

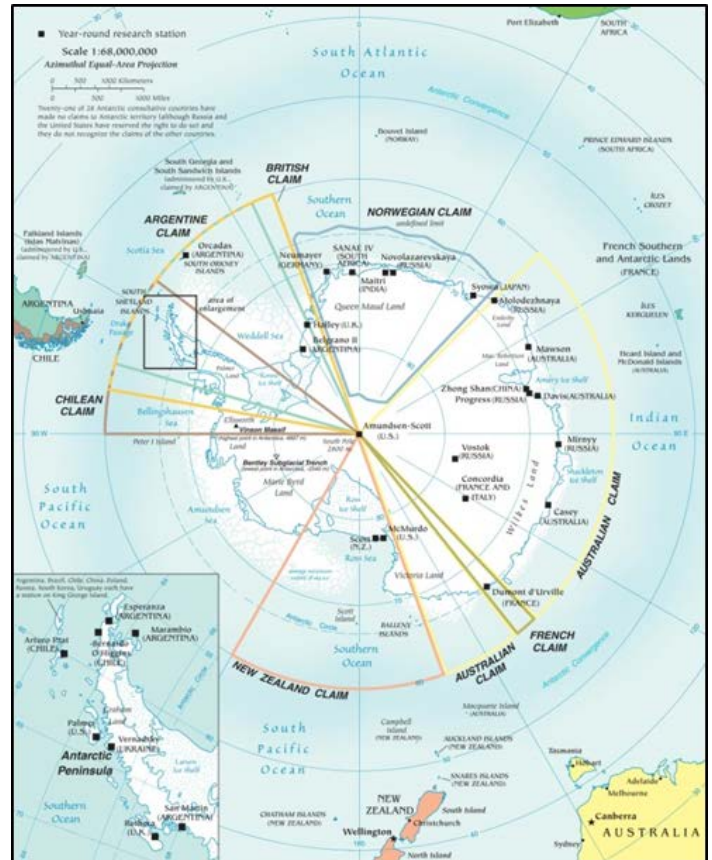
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- In **spring and summer**, it **reduces extreme heat** chances and increases humid onshore flows, resulting in wetter conditions.
- **Negative Phase:**
 - The negative phase involves **the belt moving towards the equator**, **reducing rainfall in the southeast** and **increasing the possibility of spring heatwaves**.
 - **Winters become wetter in the south and southwest**, with more snowfall in alpine areas, but drier in the east due to less moist onshore flows.
- **Research and Historical Trends:**
 - Research indicates that the **SAM is currently in its most extreme positive phase in at least the last 1000 years**.
 - Recent **positive trends** are attributed to increasing **greenhouse gas levels and later stratospheric ozone depletion**, as observed in reconstructions using temperature-sensitive ice core and tree growth records.
- **Significance of its study**
 - The study contributes to **improved accuracy in wave predictions**.
 - It facilitates the **identification of fair-weather windows** at sea.
 - Beneficiaries include the **fishing community and stakeholders** in the blue economy.
 - Sectors like **shipping, maritime boards, and the oil industry** stand to gain from enhanced predictions.
 - The research is particularly valuable for **optimizing multi-million dollar operations conducted at sea**.



NEWS IN BETWEEN THE LINES

Nugu Wildlife Sanctuary



Recently, the National Tiger Conservation Authority (NTCA) put forth a recommendation to designate the Nugu Wildlife Sanctuary as a core critical tiger habitat.

About Nugu Wildlife Sanctuary:

- The Nugu Wildlife Sanctuary is located to north of Bandipur National Park in Mysore District of Karnataka.
- It is constructed along the Nugu River, a tributary of the Cauvery.
- It was declared a Wildlife Sanctuary in 1974.
- It has been declared as an eco-sensitive zone by the Ministry of Environment, Forests and Climate Change.

Flora: The sanctuary hosts diverse flora, comprising medicinal and commercially valuable trees like Emblica officinalis, Santalum album, and Dendrocalamus strictus.

Fauna: The sanctuary boasts a diverse wildlife population including elephant, leopard, jungle cat, wild pig, spotted deer, sambar deer, barking deer, mouse deer, jackal, hare, common mongoose, common otter, small Indian civet, common palm civet and porcupine.

Significance: It has been recognized as a crucial wildlife corridor, especially for endangered species like tigers. Nugu Wildlife Sanctuary holds importance within the larger ecological network of the Nilgiri Biosphere Reserve.

Kolkali



Recently, Kolkali dance was performed in Kerala in the remembrance of St. Thomas' arrival in India.

About Kolkali Dance:

- Kolkali folk art originates from North Malabar, Kerala, known as Kolattam in Tamil Nadu and Kolamu in Andhra Pradesh.
- It draws inspiration from Kalaripayattu, the traditional martial art of Kerala and Tamil Nadu.
- It involves performers wielding sticks, creating rhythmic patterns while moving in circles.
- The dance synchronizes stick strikes with escalating music, altering the circle's size dynamically.
- It is traditionally associated with the paddy harvest season, often performed during this agricultural period.
- This folk art is predominantly performed in the North Malabar region of Kerala but also known and practiced in Tamil Nadu and Andhra Pradesh under different names.

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Ringtail Possum



The Ringtail Possum, a key part of Australia's biodiversity, has recently faced increasing threats due to habitat loss, climate change and rising temperatures.

About Ringtail Possum:

- The common ringtail possum is a marsupial native to Australia.
- It is found in forests, woodlands and leafy gardens in eastern New South Wales.
- It is small marsupials with prehensile tails, large eyes and fur adapted for camouflage.
- It uses a soft, high-pitched twittering chirrup or a chattering alarm call and make harsh grunts when fighting.
- It primarily folivorous, feeding on eucalyptus leaves, flowers, and occasionally fruits.
- It is a nocturnal creature with social tendencies, living in family groups or small colonies and building communal nests called dreys.

IUCN Status: It is critically endangered.

Noa-Dihing Music Frog



Recently, the scientists have discovered a new species of 'music frog' in Arunachal, based on morphological, molecular and acoustic evidence.

About Noa-Dihing Music Frog:

- The species is named after the Noa-Dihing River, a tributary of the Brahmaputra River.
- The frog belongs to the genus Nidirana, marking the first instance of this species found in India.
- It is known to inhabit in various environments such as swamps, ponds and paddy fields.
- It is identified by a pale cream-colored line along the mid-body, irregular spots on eyelids, 'rounded' snouts and bony protrusions on its backs.
- It is recognized for its unique call pattern, that is why it is called by the name of 'Music Frogs'.
- This discovery confirms the first-ever sighting of the Nidirana genus in India, previously known in regions including Japan, Taiwan, China, Vietnam, Laos and Thailand.

Pneumonia



Recently, the World Health Organization (WHO) has requested additional information from China regarding a concerning increase in illnesses and clusters of pneumonia in children.

About Pneumonia:

- Pneumonia is an acute respiratory infection impacting the lungs, primarily caused by Streptococcus pneumoniae bacteria.
- It is caused by bacteria, viruses or fungi in the air, posing a risk to those with weakened immune systems, especially children, including newborns and undernourished individuals.
- It is highly contagious through coughing, sneezing or exposure to infected fluids.
- Significant global impact, with over half of childhood pneumonia deaths occurring in countries like India, Nigeria, Pakistan, Ethiopia and the Democratic Republic of Congo.
- India aims to reduce pneumonia-related child deaths to less than three per 1,000 live births by 2025.
- India launched an Integrated Action Plan for Prevention and Control of Pneumonia and Diarrhoea (IAPPD) in 2014 for collaborative efforts targeting under-five deaths.
- WHO and UNICEF collaborated on the Global Action Plan for Pneumonia and Diarrhoea (GAPPD), focusing on integrated approaches to combat these diseases.

Infrared Spectrometer



Recently, an infrared spectrometer (Enfys) has been developed by Aberystwyth University and collaborators, built in Wales, aims to lead the search for life on Mars by the decade's close.

About Infrared Spectrometer:

- Enfys, translating to "rainbow" in Welsh, is an infrared spectrometer developed at Aberystwyth University in Wales.
- Enfys is designed to be installed on the European Space Agency's Rosalind Franklin rover slated for the 2028 Mars mission.
- Its primary role is to collaborate with the rover's camera systems, identifying rocks suitable for drilling.
- It aims to analyze the mineral composition of rocks, seeking potential evidence related to past life on Mars.
- Enfys replaces a Russian instrument, offering technological upgrades and ensuring continuity in mineral analysis capabilities.
- It focuses on detecting specific minerals, particularly clay minerals, known for preserving organic matter.

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Place in News

Mozambique

Recently, INS Sumedha reached Maputo, Mozambique, continuing its Extended Operational Deployment across Africa.

Mozambique (Capital:Maputo)

Location: Mozambique is the world's 35th-largest country, located on the southeast coast of Africa.

Boundaries: Mozambique is bordered by the Indian Ocean to the east and shares boundaries with Tanzania, Malawi, Zambia to the north, Zimbabwe to the west and South Africa and Swaziland to the south.

Physical Features:

Mozambique encompasses the Tropic of Capricorn traversing through it, prominent rivers such as Zambezi, Ruvuma and Maputo, alongside Mount Binga as its highest peak.

Mineral Wealth:

Mozambique is known for its substantial mineral reserves including gold, emeralds, copper, iron ore and natural gas.



Personality in News

M. Fathima Beevi

M. Fathima Beevi (30 April 1927 – 23 November 2023)

Justice M. Fathima Beevi was born at Pathanamthitta in Kerala.

Contributions:

- Fathima Beevi served as a member of the National Human Rights Commission.
- She served as Tamil Nadu's Governor from 1997 to 2001.
- She engaged in academia as the Chancellor of Madras University and held positions in commissions.



Achievements:

- M. Fathima Beevi made history as India's first female Supreme Court Justice in 1989.
- She holds the distinction of being the first Muslim woman to ascend to a position in India's higher judiciary.

Awards and Honors:

- Fathima Beevi received the Mahila Shiromani Award and Bharat Jyoti Award for her societal contributions.
- she was honoured with Kerala Prabha Award, the second-highest honour given by the Government of Kerala

POINTS TO PONDER

- ❖ Which Baltic countries are part of the Nordic-Baltic Eight (NB8)?- **Estonia, Latvia and Lithuania**
- ❖ Which international agreement recently aims to address issues related to tropical timber? - **International Tropical Timber Agreement (ITTA)**
- ❖ Under which ministry does the Karmayogi Prarambh programme operate? - **Ministry of Personnel, Public Grievances and Pensions**
- ❖ Which ministry does Central Council for Research in Ayurveda Sciences (CCRAS) operate under? - **Ministry of AYUSH**
- ❖ Under which Act are Child Care Institutions (CCIs) recognized in India? - **Juvenile Justice (Care and Protection of Children) Act (JJ Act), 2015**

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