

DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

Date: 03-08-2024

Table of Content

Women Entrepreneurship Programme
Global Traditional Medicine Centre
India's Stand on Iran-Israel War
Legal challenges to the Great Nicobar Infrastructure Project
Palm Tree Planting in Orissa Due to Lightning
Draft notification to declare Western Ghats as Eco-sensitive
Gender Identity and Athletic Fairness

NEWS IN SHORTS

Pingali Venkayya
Woody Encroachment
Giant Radio Sources
Osmolyte - Protein Interaction Study
Policy Change for Aircraft Maintenance, Repair and Overhaul (MRO)
Kindlins
Rise in India's Seafood Exports
Axiom-4 Mission

WOMEN ENTREPRENEURSHIP PROGRAMME

Context

- The National Skill Development Corporation (NSDC) launched the Women Entrepreneurship Programme.

About

- The initiative aims to empower **25 lakh** women across India, providing them with the skills, knowledge, and resources needed to start and grow successful businesses.
- Divided into two phases, NSDC, with support from the **National Institute for Entrepreneurship and Small Business Development (NIESBUD)**, will offer free online self-learning entrepreneurship courses through the **Skill India Digital Hub (SIDH)** as part of the programme.
- In the next phase, NSDC extends incubation support to 10,000 shortlisted contestants across **100 business models**.

Challenges faced by Women Entrepreneurs in India

- Low risk taking ability:** The women in India mostly lead a protected life, are less educated, less trained and get low financial support. Thus, they are not able to bear the amount of risk that is required for running an enterprise.
- Male-Dominated Society:** Traditional Indian society is male-dominated, where women are often seen as subordinate to men. Women are restricted from pursuing entrepreneurial ventures, limiting their growth and prosperity.
- Conflict with Family commitments:** Running a business often conflicts with family responsibilities, making it challenging for women to balance both.
- Mobility Constraints:** Safety issues and societal expectations restrict their movement for business purposes.
- Access to Technology:** Women face challenges in accessing the latest technology and integrating digital solutions into their business models, putting them at a disadvantage compared to male entrepreneurs.

Government Initiatives

- MUDRA Loans:** It provides credit specifically for women entrepreneurs. It facilitates financial support for women-led businesses and startups.
- Stand-Up India Scheme:** It encourages entrepreneurship among women by providing easy access to financing. It aims to promote

self-employment and business ventures led by women.

- Trade Related Entrepreneurship Assistance and Development” (TREAD):** The scheme envisages economic empowerment of such women through trade related training, information and counseling extension activities related to trades, products, services etc.
 - Under the scheme, there is a provision for the Government of India to grant up to **30%** of the loan/ credit maximum up to **Rs. 30.00 lakh** as appraised by lending institutions/ banks.

National Skill Development Corporation (NSDC)

- NSDC was established in **2008**, as a not-for-profit public limited company under section 25 of the Companies Act, 1956 (now **section 8 of the Companies Act, 2013**).
- It is a Public Private Partnership (PPP) enterprise working under the **Ministry of Skill Development & Entrepreneurship (MSDE)**, Government of India.
- NSDC aims to **promote skill development by catalyzing creation of large, quality and for-profit vocational** institutions.

Source: PIB

GLOBAL TRADITIONAL MEDICINE CENTRE

Context

- Recently, **India** has pledged USD 85 million over the next decade to support the **WHO Global Traditional Medicine Centre** to strengthen the evidence base for traditional medicine and promote its integration into health systems worldwide.

Traditional Medicine in India

- India has a rich heritage of traditional medicine that includes **Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa Rigpa, and Homeopathy**.
- Practices**
 - Ayurveda and Yoga** are practised widely across the country.
 - The Siddha system** is followed predominantly in **Tamil Nadu and Kerala**.
 - The Sowa-Rigpa system** is practised mainly in **Leh-Ladakh and Himalayan regions** such as Sikkim, Arunachal Pradesh, Darjeeling, Lahaul & Spiti.

- These systems have been **integrated into the national healthcare system** with institutionalised education and research councils.
- **WHO describes traditional medicine** as the total sum of the **knowledge, skills and practises indigenous** and different cultures have used over time to maintain health and prevent, diagnose and treat physical and mental illness.

Efforts Made by India

- **India** has established a **separate Ministry of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy)** to promote holistic health and well-being.
 - ♦ It oversees the growth and development of traditional Indian medicines and Homoeopathy with the objective of making accessible, safe, effective, and quality medicines available to the public.
- **Digital Initiatives and Portals**
 - ♦ **AMAR Portal:** Catalogues Ayush manuscripts, with digitised content available.
 - ♦ **SAHI Portal:** Displays medico-historical artefacts.
 - ♦ **e-Books of Ayush:** Digital versions of classical textbooks.
 - ♦ **NAMASTE Portal:** Morbidity statistics from hospitals.
 - ♦ **Ayush Research Portal:** Indexes published Ayush research articles.
- **Collections and Publications**
 - ♦ **Manuscripts and Library:** Over 500 physical manuscripts, rare books from the 15th century AD.
 - ♦ **Journal:** Publishes the Journal of Indian Medical Heritage.

Key Points

- **Financial Support:** India's 10-year contribution aims to bolster the **WHO's efforts in traditional medicine research, policy development, and public use**. The funding will provide crucial data and evidence related to traditional medicine practices, products, and policies.
- **Global Collaboration:** By integrating traditional practices and knowledge, we can reach

marginalised populations and work toward health for all.

- **Shared Vision:** The donor agreement aligns with the vision of India and WHO together, aiming to develop the **WHO Global Traditional Medicine Centre in Jamnagar, India**, as a hub for advancing traditional medicine systems globally.
- **Areas of Focus:** The WHO Global Traditional Medicine Centre focuses on five interconnected areas:
 - ♦ Research and Evidence;
 - ♦ Primary Health Care and Universal Health Coverage;
 - ♦ Indigenous Knowledges and Biodiversity;
 - ♦ Digital Health Applications;
 - ♦ Biennial WHO Global Traditional Medicine Summit and Collaborations;

Efforts by WHO

- It has established the **WHO Global Centre for Traditional Medicine in India** to harness their potential through modern science and technology.
- **WHO Collaborating Centre:** In India, there are **approximately 58 WHO Collaborating Centres** spanning various disciplines of biomedicine and allied sciences.
 - ♦ The **National Institute of Indian Medical Heritage (NIIMH), Hyderabad** ranks as the **third WHO Collaborating Centre** in the domain of Traditional Medicine, following the **Institute for Teaching & Research in Ayurveda, Jamnagar**, and the **Morarji Desai National Institute of Yoga (MDNIY), New Delhi**.

Source: PTI

INDIA'S STAND ON IRAN-ISRAEL WAR

Context

- India's **silence on rising tensions** between **Iran and Israel** over the killing of Hamas leader Ismail Haniyeh reflects its **"dilemma"** in trying to **balance ties with both countries**.

About

- Palestinian militant group Hamas political leader, Ismail Haniyeh, was killed in an Israeli strike in Iran, where he had been attending the inauguration of the country's new president.
- **Timeline of the Iran-Israel Conflict**

IRAN AND ISRAEL: A LONG HISTORY OF SHADOW WARS

1979: Iran's pro-Israel leader Mohammed Reza Shah swept from power in Islamic Revolution, new regime considers Israel an enemy.

1982: Israel invades Lebanon, Iran's Revolutionary Guards set up Hezbollah.

1983: Hezbollah uses suicide bombings to expel Western, Israeli forces. Israel later withdraws from much of Lebanon.

2002: Israel urges tough action against Tehran after revelation that Iran has secret uranium enrichment programme.

2006: Israel fights Hezbollah in a month-long war in Lebanon, unable to crush them.

2009: Iran Supreme Leader Ayatollah Ali Khamenei calls Israel 'a dangerous and fatal cancer'.

2018: Benjamin Netanyahu hails US President Donald Trump's withdrawal from Iran's nuclear deal.

2020: Israel welcomes US assassination of General Qassem Soleimani.

2022: US President Joe



(Above) The Iron Dome system in action in central Israel; (and) celebrations in Tehran after Iran's airstrike. AP, Reuters

Biden and Israeli Prime Minister Yair Lapid sign a joint pledge to deny Iran nuclear arms.

2024: Suspected Israeli air strike on Iranian embassy in Damascus kills two IRGC commanders.

corridor, which has **strategic as well as economic benefits**.

- ♦ **Chabahar in Iran** is another strategic economic project, which acts as a gateway to Afghanistan and Central Asia — since Pakistan denies land transit to Indian goods.
- ♦ Any conflict in the region, and the implementation of any US sanctions will also impact India's plans for Chabahar port.
- In addition, the **India-Israel-UAE-US I2U2 initiative** and plans to connect Indian cargo routes through the International North South Transport Corridor (INSTC) to Russia **could be affected**.
- **Defence Relations with Israel:** India has a very deep strategic relationship with Israel, especially in the context of **defence and security partnership**.

India's Neutral Stand

- **Maintaining a Balanced Stand:** India's stakes in the bilateral relationships with both Israel and Iran are huge, India will expect both the countries to avoid military actions that will trigger a dangerous and wider war in the region.
- **Based on the Complex Regional Politics:** Interstate and intra-state conflicts in the Middle East are deep and pervasive, and India will have to forever balance its engagement with key regional actors — Egypt, Iran, Israel, Qatar, Turkey, Saudi Arabia, and the United Arab Emirates — whose orientation and interests are different and often in conflict.
- ♦ India's call for de-escalation between Israel and Iran is about **recognising the complexity of the region's politics**.
- **Non- Ideological Engagement:** The non-ideological engagement with the region is a necessary complement to India's expanding interests in the Middle East.
 - ♦ India's interests in the region are no longer limited to oil imports and labour exports.
 - ♦ The Gulf Arab states — especially Saudi Arabia and the United Arab Emirates — have emerged as major economic and political partners for India.

India's Stake in the Region's Stability



- **Threat to Indian Community:** There are about 18,000 Indians in Israel and about 5,000-10,000 Indians in Iran, about 90 lakh people are living and working in the Gulf and West Asia region.
 - ♦ Any conflict that expands will end up posing a **risk to the Indian community that is based in the region**.
- **Energy Security:** The West Asia region contributes to India's **80 percent of oil supplies**, which a potential conflict will impact.
 - ♦ India has been able to minimise the impact of oil prices due to the Russia-Ukraine war by buying Russian oil at discounted prices, but this **conflict will have an adverse impact on energy prices**.
- **Investment and Strategic Importance:** India has invested in a strategic relationship with major Arab countries, Iran, and Israel.
 - ♦ India sees the region as its extended neighbourhood, and it has been pushing for the **India-Middle-East-Europe Economic**

Way Ahead

- India has strategic ties with both Iran and Israel — and for decades, it has been able to balance between the two sides. But if the conflict widens, it would be difficult for it to maintain an ambivalent position.
 - ♦ In the context of such deep ties with both Israel and Iran, India has difficulty in choosing sides.

- India's position that there should be "immediate de-escalation" and "step back from violence" and "return to the path of diplomacy" is, therefore, **crucial to its national interest.**

Source: TH

LEGAL CHALLENGES TO THE GREAT NICOBAR INFRASTRUCTURE PROJECT

In News

- Recently, conclusions of a high-powered committee (HPC) formed by NGT in 2023 to revisit the Great Nicobar project's green clearance were submitted to NGT's Kolkata bench .

Do you know ?

- Great Nicobar Island is the southernmost tip of India, part of the Andaman and Nicobar archipelago.
- **Area:** 910 sq km and it **receives around 3,500 mm of annual rainfall.**
- **Terrain:** Hilly with lush rainforests, mangroves, and Pandan forests along the coast.
- **Flora and Fauna:** Hosts endangered and endemic species such as the giant leatherback turtle, Nicobar megapode, Great Nicobar crane, Nicobar crab-eating macaque, and Nicobar tree shrew.
- **Tribal Communities:**
 - ♦ **Shompen:** About 250 individuals, live in interior forests, predominantly hunter-gatherers, classified as a Particularly Vulnerable Tribal Group.
 - ♦ **Nicobarese:** Engage in farming and fishing.

Great Nicobar infrastructure project : Overview

- In March 2021, NITI Aayog unveiled a 72,000 crore plan called '**Holistic Development of Great Nicobar Island at Andaman and Nicobar Islands**'.
- It will be implemented by the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO), a government undertaking.
- It has a budget of Rs 72,000 crore

Components of the Plan

- **International Transshipment Terminal:** To boost cargo transshipment and regional/global maritime participation.

- **International Airport:** To support maritime services, attract international and national visitors, and promote sustainable tourism.
- **Power Plant:** To support the island's energy needs.
- **Township:** To accommodate the growing population and infrastructure needs.

Legal Challenges

- Environmental activists and the Conservation Action Trust (CAT) challenged the project's environmental and Coastal Regulation Zone (CRZ) clearances, citing **irreversible damage to biodiversity**, inadequate environmental impact studies, and issues with the clearance process.
- They also raised concerns about the impact on **Shompens and Nicobarese tribal communities** and alleged conflicts of interest in the clearance process.
- The project will cover 166 sq km, including the felling of 130.75 sq km of forests.
- **Pending NGT Petitions:** Two new petitions were filed ,one for excluding parts of the project from ecologically sensitive coastal areas, citing violations of the 2019 ICRZ notification.
 - ♦ Another for contempt of NGT's April 2023 order, alleging that the Ministry of Environment, Forests & Climate Change (MoEFCC) did not comply with the HPC formation or provide necessary details.

NGT's Actions

- The National Green Tribunal (NGT) revisited the project's green clearance in response to the appeals.
- A high-powered committee (HPC) was formed to re-evaluate the project, concluding that the transshipment port does not fall within the prohibited Island Coastal Regulation Zone-IA (ICRZ-IA).
 - ♦ The ICRZ-IA areas comprise ecologically sensitive areas such as mangroves, corals and coral reefs, sand dunes, mudflats, marine parks, wildlife habitats, salt marshes, turtle nesting grounds and bird nesting grounds among others.
- The NGT's special bench did not find grounds to interfere with the forest clearance but acknowledged deficiencies in coral conservation and port location.

Calcutta High Court Case

- CAT filed a writ petition before the Kolkata High Court over the April 2023 order of the NGT special bench. The writ prayed to quash the statutory clearances.

- ♦ CAT said the NGT special bench did not have jurisdiction in the case dealing with challenges against forest clearance.
- ♦ It has argued that the case should have been dealt with by the eastern zone, rather than a special bench.

Conclusion

- Apart from economic factors, the project has been linked to India's strategic interests in the Indian Ocean.
- In recent years, as the Chinese People's Liberation Army Navy has expanded its footprint across the region, India has had concerns about the build-up of its maritime forces at the Indo-Pacific choke points such as the Malacca Strait.
- Therefore, it can be concluded that the project is important for the island but there needs to be a thorough impartial review of the proposed project.

Source: IE

PALM TREE PLANTING IN ORISSA DUE TO LIGHTNING

Context

- In July, the **Odisha government** approved a proposal to **plant 19 lakh palm trees** to ward against the **problem of deaths due to lightning strikes**.

About

- A total of 3,790 people have lost their lives to lightning strikes in the last 11 years, due to the increased frequency of lightning strikes.
- Lightning was declared a **state-specific disaster in Odisha in 2015**.
- Odisha is an eastern coastal state situated in the tropical zone, with its hot, dry climate presenting the perfect blend of conditions for lightning strikes.

What is Lightning?

- Scientifically, lightning is a **rapid and massive discharge of electricity** in the atmosphere some of which is directed towards earth.
- It is a **giant spark of electricity** in the atmosphere **between clouds, the air, or the ground**.
- The thunderclouds possess **millions of volts of electrical charge** and different polarity within the cloud itself.
- **In the early stages of development, air acts as an insulator** between the positive and negative

charges in the cloud and between the cloud and the ground.

- When the opposite charge builds up enough, this **insulating capacity of air breaks down** and there is a rapid discharge of electricity known as lightning.
- Lightning **can occur between opposite charges** within the thunderstorm cloud (intra-cloud lightning) or between opposite charges in the cloud and on the ground (cloud-to-ground lightning).

Atmospheric Conditions

- The atmospheric conditions are quite conducive for formation of severe thunderstorms **in the pre-monsoon season**.
- There are sensitive weather pockets which enhance the ferocity of these storms.
 - ♦ **Bihar, Jharkhand and Odisha** and the Indo-Gangetic plains of north India including Rajasthan and Uttar Pradesh are vulnerable to fatal lightning strikes.
 - ♦ Hilly areas both in the north and northeast are prone to this calamity.

Trends

- Long-term (1998–2014) Tropical Rainfall Measuring Mission (TRMM) satellite-based lightning observations depict the most frequent lightning occurrences along the **Himalayan foothills, the Indo-Gangetic plains and coastal regions**, while the intensity of these lightning strikes is found to be strongest along the **coastal regions and in the Bay of Bengal**.
- The highest number of cloud-to-lightning (CG) strikes occur in **eastern and central India** according to the Annual Lightning Report 2023-2024.

Factors Responsible for Increased Incidents of Lightning in India

- **Geographic and Climatic Conditions:** Regions with high humidity, such as the eastern states and coastal areas, are more prone to thunderstorms and lightning.
 - ♦ The topography, including the Himalayas and the Western Ghats, also influences the frequency of lightning.
- **Monsoon Dynamics:** The monsoon season, with its intense rainfall and convective activity, is a major driver of lightning in India.
 - ♦ The convergence of moist air masses and the rising of warm, moist air during the monsoon season often lead to the formation of thunderstorms and lightning.

- **Urbanization and Industrialization:** Rapid urbanization and industrialization increase the number of artificial heat sources and aerosols in the atmosphere.
 - ♦ These enhance convection and contribute to more frequent thunderstorms, thus increasing lightning incidents.
- **Climate Change:** Changes in global climate patterns are influencing local weather phenomena.
 - ♦ Increased temperatures and changes in humidity levels alter storm dynamics, potentially leading to more frequent and intense lightning events.
- **Agricultural Practices:** The burning of agricultural residues and deforestation can contribute to the accumulation of particulates in the atmosphere.
 - ♦ These particulates affect cloud formation and increase the likelihood of thunderstorms and lightning.

Way Ahead

- While Odisha has adopted an early warning system to forecast lightning strikes and disseminates the message through media and social media, critics have pointed out that exact predictions of lightning strikes cannot be done.
- Widespread public awareness of the do's and don'ts around a lightning strike is needed to educate residents in rural areas.

Source: IE

DRAFT NOTIFICATION TO DECLARE WESTERN GHATS AS ECO-SENSITIVE

Context

- The Central government issued the sixth iteration of a draft notification, declaring 56,825.7 sq km of the Western Ghats an ecologically sensitive area (ESA).

About

- The ESAs are proposed across six states i.e. **Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu, and Kerala.**
- The notification has been reissued after the previous draft, notified in **2022**, lapsed; the Centre and these six states have not arrived at a consensus on the extent of ESA to be demarcated in the ecological hotspot.

Key features of the draft

- **A complete ban on mining, quarrying, and sand mining** is suggested in the draft notification.
- The notification also proposes to **phase out the**

existing mines within five years “from the date of issue of the final notification or on the expiry of the existing mining lease, whichever is earlier”.

- All new and expansion projects of building and construction with built-up areas of **20,000 square meters** and above, and all new and expansion townships and area development projects with an area of **50 hectares** and above or with built-up areas of **1,50,000 square meters** and above, shall be prohibited.
- There shall be **no restriction on the repair, extension, or renovation of existing residential houses** in the Eco-sensitive Area as per prevailing laws and regulations

Western Ghat

- The Western Ghats are a **1,600-km** long mountain chain along the west coast of India running from the river Tapi in the north to Kanyakumari in the south.
- **It covers six states** — Gujarat, Maharashtra, Goa, Tamil Nadu, Karnataka and Kerala. About 60 percent of the mountain range is in Karnataka.
- **Significance:** These Ghats are home to high mountain forests, which moderate the tropical climate of the region. They are home to 325 globally threatened flora, fauna, bird, amphibian, reptile and fish species.
- Western Ghats were accorded the **World Heritage Status by UNESCO** in **2012**.

Madhav Gadgil committee report

- **Ecologically Sensitive Zones:** The report recommended classifying 64 percent of the Western Ghats into Ecologically Sensitive Zones called ESZ 1, ESZ 2 and ESZ 3.
 - ♦ It also recommended designating the entire region as an Ecologically Sensitive Area (ESA).
- Almost all developmental activities like mining, construction of thermal power plants, and dams were to stop along with the decommissioning of similar projects that have completed their shelf life in ESZ 1.
- **Western Ghats Ecology Authority:** Under the **Environment (Protection) Act, 1986**, a professional body to manage the ecology of the region and to ensure its sustainable development was recommended by the committee.

- **Ban on growing single commercial crops:** Crops like tea, coffee, cardamom, rubber, banana and pineapple, which have led to “fragmentation of forest, soil erosion, degradation of river ecosystems and toxic contamination of the environment” should be curtailed.
- **Community participation:** The panel had urged the Ministry of Environment and Forests to take critical steps to involve citizens, including proactive and sympathetic implementation of the provisions of the Community Forest Resources of the **Forest Rights Act**.

Kasturirangan committee report

- In 2012, the government constituted a High-Level Working Group on Western Ghats under **K Kasturirangan**.
- The Kasturirangan report notified only **37 percent** of the area as an ecologically sensitive area.
- It also split the Western Ghats into cultural (human settlements) and natural (non-human settlements) regions. It was suggested that cultural lands be designated as an ecologically sensitive area (ESA).
- **It also consisted of red, orange and green categories.** The **red list** entailed a ban on mining, stone quarrying, thermal plans and certain construction and township projects.
- **The orange category** had activities that would be regulated and taken up with appropriate permissions, while the **green category** allowed all agricultural and horticultural activities and commercial activities.

Source: IE

GENDER IDENTITY AND ATHLETIC FAIRNESS

Context

- Recently, in a swift 46 seconds, **Algeria’s Imane Khelif** secured victory over **Italy’s Angela Carini** during their boxing match at the **2024 Paris Olympics** highlighted the controversy over **gender identity and athletic fairness**.

About the Controversy and Accusations

- Khelif found herself at the receiving end of a barrage of abuse. Many labelled her a **‘biological man’** who had an **‘unfair advantage’** over

Carini. Some even mistakenly identified her as a **transgender woman**.

- However, fast-forward to the Paris Olympics, and both Khelif and Lin are back in the ring. It was because the **sole determinant for eligibility is the gender** stated in an **athlete’s passport**.
 - ♦ **Khelif’s passport identifies her as female**, and thus she was allowed to compete.

Backstory

- In 2023, both Khelif and Chinese Taipei boxer Lin Yu-ting were banned from competing in the International Boxing Association’s (IBA’s) World Championship in New Delhi after failing a **‘gender eligibility’ test**.
- The specifics of this test remain confidential, but it resulted in their exclusion from the championship.
- The IBA cited that they did not meet the eligibility criteria to compete within the female category.

Gender Identity

- It refers to **an individual’s deeply felt sense** of their own gender, which may or **may not align with the sex** they were assigned at birth.
- It transcends the **binary framework of male and female**, recognising that human experiences of gender are diverse and fluid.

Ancient Wisdom and Modern Challenges

- **Hindu Tradition and Gender Equality:** Contrary to some extremist narratives, ancient Hindu scriptures actually uphold principles of gender equality and universality.
 - ♦ The 5000-year-old tradition recognizes the existence of eleven genders.
- **UN Human Rights Office:** UN’s work includes advocating for the rights of transgender and gender-diverse individuals. Trans persons often face violations when their official documents don’t match their gender identity.

Key Terms

- **Biological Man:** Traditionally, it refers to an **individual assigned male at birth** based on physical characteristics (genitals, chromosomes, etc.).
 - ♦ However, recently **Chief Justice of India** emphasised that the **concept of a man or woman** isn’t solely based on genitals. It’s more nuanced and not an absolute determination.

- **Transgender Woman:** It is someone whose **gender identity does not align with the sex they were assigned at birth.**
 - ♦ For example, if someone was assigned male at birth but identifies and lives as a woman, they are a transgender woman.
 - ♦ It's essential to recognise that gender identity goes beyond biology and encompasses personal experiences and self-understanding.

Larger Debate

- Gender eligibility in women's sports has long been a contentious issue.
- Modern sports segregate athletes **based on sex**, recognising that men, on average, possess certain physiological advantages over women.
- However, the **participation of trans women and women** with 'masculine' biological characteristics (such as higher testosterone levels) continues to spark debate.

Perspectives Involved

- The inclusion of transgender athletes in women's sports has sparked heated debates worldwide.
- On one side, there's a call for **greater inclusivity and recognition of gender identity**. On the other, concerns about **fairness and safety** arise.

Advantages and Fairness

- **Physiological Differences:** Sports scientist Ross Tucker points out that physiological differences established during puberty can create significant performance advantages between men and women.
 - ♦ These differences include muscle mass, aerobic capacity, and bone density.

Safety and Inclusion

- **Balancing Priorities:** For sports governing bodies, the challenge lies in balancing transgender inclusion, fairness, and safety.
 - ♦ Sometimes, these priorities cannot coexist within a single competitive model.
- **Human Rights Consideration:** Dr. Seema Patel, a lawyer, argues that factors beyond physiology must be considered.
 - ♦ Human rights, dignity, and respect for gender identity play a crucial role in shaping policies.

Conclusion

- The conversation around transgender inclusion in sports is ongoing. It forces us to confront societal

norms, scientific understanding, and the evolving landscape of gender identity.

- Striking the right balance between fairness, safety, and inclusivity remains a challenge.

Source: IE

NEWS IN SHORTS

PINGALI VENKAYYA

In News

- The Prime Minister, Shri Narendra Modi has paid tributes to Pingali Venkayya on his birth anniversary and remembered his efforts in giving the Tricolour to the nation.

About Pingali Venkayya

- **Background:** Pingali Venkayya, born on August 2, 1876, in Krishna district, Andhra Pradesh.
- **Career :** He Served in the British Army during the Anglo Boer War in South Africa, where he met Mahatma Gandhi.
 - ♦ He Formed a lasting association with Gandhi, which extended over 50 years.
- **Flag Design and Adoption :** He initially presented flag designs to Gandhi in Vijayawada in 1921.
 - ♦ The design evolved from saffron and green to include white and a spinning wheel.
 - ♦ The Indian National Congress officially adopted his flag design in 1931.
- **Posthumous Recognition:** A stamp was issued in his honour in 2009.
 - ♦ Recommended for Bharat Ratna by Andhra Pradesh government in 2014.
 - ♦ In 2015, AIR Vijayawada was renamed after Venkayya and a statue was unveiled.

Source: PIB

WOODY ENCROACHMENT

Context

- Scientists of the Universities of Witwatersrand, and Oxford reported that **more trees in open ecosystems** like **savannahs and grasslands** have substantially **reduced the number of native grassland birds.**

Open Ecosystems

- Grasslands and savannahs are biodiverse habitats in **tropical and temperate regions throughout the world.**

- They cover **nearly 40%** of the earth's total landmass, and are home to many **endemic and at-risk species of plants and animals**.
- **Activities threatening them** include the conversion of grasslands, intensive agriculture, loss due to erosion, large-scale development projects, overgrazing.

Woody Encroachment

- The **increase of tree and shrub cover** is called **woody encroachment** — and it is widespread across most ecosystems.
 - ♦ Woody encroachment entails the conversion of open habitats to habitats with greater tree cover and/or shrub density.
- **The end result** is the **homogenisation of an ecosystem**, meaning a diverse, multi-layered ecosystem turns into a **uniform layer of woody plants**.
- **Concerns:** There has been a big **decline in grassland birds** due to woody encroachment.
 - ♦ It brought down the **population of grassland specialist rodents** in the **Banni grasslands** of Kutch.
 - ♦ In the Banni grasslands, the **spread of the invasive species Prosopis juliflora** — which the Gujarat Forest Department planted from 1961 to combat desertification and provide firewood to communities — have since then transformed swaths of the grasslands into a Prosopis woodland.
 - ♦ **In the Shola grasslands**, eucalyptus plantations have run amok, whereas the Malabar silk-cotton tree has been running riot in the **wet terai grasslands of the Himalaya**.
- **Way Ahead:** Studies should be conducted to study and develop more evidence of their impact.
 - ♦ There is also a need for long-term ecological monitoring in open ecosystems because they provide valuable fine-scale information.

Source: TH

GIANT RADIO SOURCES

Context

- A team led by Indian radio astronomers have reported the **discovery of 34 new giant radio sources (GRSs)** using the giant metrewave radio telescope (GMRT).

About

- Giant radio sources are massive structures in the universe that **emit huge amounts of radio waves**.

- They are often associated with **active galactic nuclei** and are typically found in the **central regions of large galaxies**.
- Giant radio sources can **span millions of light-years**. They are some of the **largest structures known in the universe**, much larger than most galaxies.
- **Cygnus A:** One of the most well-known giant radio sources, located about 700 million light-years away.
- **3C 295:** Another prominent example, noted for its large and complex radio structure.
- **Significance:** Studying giant radio sources helps astronomers understand the processes of galaxy formation and evolution, the role of supermassive black holes, and the interactions between galaxies and their environments.

Source: IE

OSMOLYTE - PROTEIN INTERACTION STUDY

Context

- A recent study shows that Small molecules called osmolytes help proteins maintain their structure and function under stressful conditions.

Osmolytes

- **Osmolytes** are small molecules that help **cells survive stress by stabilizing proteins** and **preventing them from misfolding**.
 - ♦ Misfolded proteins can't perform their functions properly, leading to diseases.
- **Osmolytes** are crucial in maintaining the stability of protein structures, making them potential targets for new drugs.

About the study

- Researchers used a technique called **covalent magnetic tweezers** to observe how individual protein molecules fold and unfold under different conditions and interact with osmolytes.
- They focused on a protein called **Protein L** and tested its interaction with two osmolytes-- **Trimethylamine N-oxide (TMAO) and trehalose**.
- It could aid in the development of treatments for diseases like Alzheimer's and Parkinson's.

Source: PIB

POLICY CHANGE FOR AIRCRAFT MAINTENANCE, REPAIR AND OVERHAUL (MRO)

Context

- The Government has announced a uniform rate of **5% Integrated Goods and Services Tax (IGST)** for imports of Parts components, testing equipment, tools and tool-kits of aircraft.

About

- The **Directorate General of Civil Aviation (DGCA)** is the regulatory body in India that oversees Aircraft Maintenance, Repair, and Overhaul (MRO) activities.
- The Government has taken several **steps to facilitate setting up of aircraft Maintenance, Repair and Overhaul (MRO)** services in India through various policy, regulatory and other incentives which include;
 - The period for export of goods imported for repairs has been extended from **six months to one year**. Also, the time-limit for re-import of goods for repairs under warranty has been extended from **three to five years**;
 - New MRO Guidelines announced in 2021, **abolish royalties** and build in transparency and certainty in land allotments for MROs in AAI airports;
 - GST on MRO has been reduced from **18% to 5%** with full Input Tax Credit from 1st April, 2020;
 - Transactions sub-contracted by foreign original equipment manufacturers (OEMs)/ MRO to domestic MRO are treated as **'exports' with zero-rated GST** from 1st April, 2020;
 - Exempted Customs Duty** on tools and tool kits;
 - 100% Foreign Direct Investment** permitted via automatic route for MRO.

Source: PIB

KINDLINS

Context

- A recent study has shed light on the crucial role of Kindlins in various types of cancers.

About the Kindlins

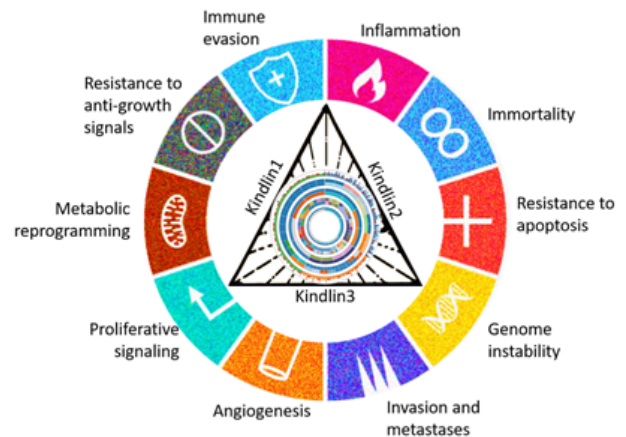
- These are a **group of adapter proteins** found within the cells of vertebrates that act as molecular conductors, transferring mechanical cues from the extracellular environment to biochemical

signals inside the cell.

- Their significance lies in the fact that they are **central to multiple signalling pathways**, making them **potential targets for innovative cancer therapies**.
- These are like backstage coordinators in a complex theatre production. They physically interact with structural proteins, receptors, and transcription factors, triggering a cascade of chemical signals within the cell.
- When Kindlins experience structural disruptions due to **mutations** (often induced by chemical carcinogens like nicotine or UV rays), it can disturb the delicate balance— known as **homeostasis**—required for the body to function correctly.

Key Findings of Study

Kindlin 1 (a member of the Kindlin family) was found to regulate the immunemicroenvironment in breast cancer.



- Kindlin 2**, another member, plays a role in cancer-specific metabolic regulation, including processes like the TCA cycle and glycolysis.
 - It influences Hippo signalling, which guides cancer cells' migration and invasion.

Mechanochemical Signalling and Cancer

- The study employed structural and functional genomic tools to explore how Kindlins impact mechanochemical signalling in cancer.
- The results highlighted their involvement in **tumour progression, metastasis**, and a fascinating process called **epithelial-mesenchymal transition (EMT)**.
 - EMT involves cells transitioning from tightly packed, organised epithelial cells (like skin cells) to more flexible mesenchymal cells (similar to those found in muscles).

Implications and Future Directions

- Targeted Therapies and Personalised Medicine:** By understanding Kindlins' role, scientists can

design targeted therapies that address multiple aspects of cancer simultaneously.

- **4000-Year-Old War Against Cancer:** This study brings closer to innovative strategies in our ongoing fight with cancer.

Source: PIB

RISE IN INDIA'S SEAFOOD EXPORTS

Context

- India's seafood exports have increased from Rs. 46,662.85 Crore in 2019-20 to Rs. 61043.68 Crore in 2023-24 registering a growth of 30.81%.

About

- India is the **third-largest** fish and aquaculture-producing country. It accounts for **7.96%** of the total global fish production. The industry employs more than **28 million** people in India.
- India mainly exports frozen shrimps, fish, cuttlefish, squids, dried items, and live and chilled items.
 - ♦ Out of these, **frozen shrimp is the largest exported marine product** contributing to more than **40%** of the total quantity and about **67.22%** of the total export value.

Government Initiatives

- **Marine Products Export Development Authority (MPEDA):** It is a statutory organization that provides assistance for upgrading the infrastructure facilities for value addition, and providing technical assistance for aquaculture production meant for exports.
- **The reduction in import duties** on various ingredients /inputs for manufacture of prawn and shrimp feed/fish feed announced in **Budget 2024-25** will make Indian seafood-based value-added products more competitive in international markets.

- The Government has also increased the **Remission of Duties and Taxes on Export Products (RoDTEP)** from **2.5% to 3.1%** for various seafood products.
- **Pradhan Mantri Matsya Sampada Yojana (PMMSY):** It was implemented to bring the Blue Revolution through sustainable and responsible development of the fisheries sector in India for a period of five years, from FY 2020-21 to FY 2024-25.

Source: PIB

AXIOM-4 MISSION

In News

India has shortlisted two astronaut-designates for the upcoming Axiom-4 mission to the International Space Station.

- Indian astronauts Group Captain Shubhanshu Shukla and Group Captain Prasanth Balakrishnan Nair have been shortlisted to go to the U.S. to train for the upcoming Axiom-4 mission to the International Space Station (ISS).

Axiom-4 mission

- **NASA and Axiom Space** have signed an order for **Axiom Mission 4 (Ax-4)**, a private astronaut mission to the **International Space Station (ISS)**, with a target launch date no earlier than August 2024 from Kennedy Space Center, Florida.
- It is the fourth private astronaut mission to the International Space Station.
- **Purpose :** It is part of NASA's effort to **transition low Earth orbit (LEO) operations** from primarily government-sponsored to commercial, with NASA aiming to become one of many customers in the LEO marketplace.
 - ♦ NASA's goal is to develop a commercial LEO marketplace while focusing on deep space missions like Artemis to the Moon and Mars.

Source:TH

