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POLITY & GOVERNANCE

Ensuring Access to Free Legal Aid: Addressing Justice Inequality

Why in News?

- The Supreme Court (SC) directed Legal Services Authorities (LSAs) to enhance the accessibility of free legal aid for prison inmates.

Key SC Directions for Prison Legal Aid

1. **Strengthening Legal Services Authorities:**
 - The National Legal Services Authority (NALSA), in collaboration with state and district authorities, to ensure effective implementation of SOP-2022.
 - Periodic upgradation and monitoring of efforts.
2. **Prisoner Legal Aid Clinics (PLACs):** Conduct regular reviews of PLACs' functioning by LSAs to ensure efficiency.
3. **Data-Driven Improvements:** LSAs to maintain statistical data, analyze findings, and address any gaps.
4. **Legal Aid Defence Counsels:** Periodic inspection and audits of the performance of defence counsels.
5. **Awareness Campaigns:** Disseminate information on legal aid services in local languages through appropriate promotional tools.
6. **Effective Communication:** LSAs to interact regularly with prisoners, Jail Visiting Lawyers (JVLs), and Para Legal Volunteers (PLVs).
7. **Public Information:** High Courts to provide details of legal aid facilities on their official websites.
8. **Reporting Mechanism:** Digitize the reporting system for seamless submissions from DLSAs to SLSAs and from SLSAs to NALSA.

Free Legal Aid in India

Definition: Free legal aid ensures legal assistance to individuals unable to afford it, covering legal advice, court representation, mediation, and dispute resolution.

Constitutional Provisions

1. **Article 21:** Guarantees that life and liberty cannot be denied except by lawful procedure.
2. **Article 39-A:** Enshrines 'Equal Justice and Free Legal Aid', introduced by the 42nd Constitutional Amendment (1976).

Statutory Provisions

1. **Legal Services Authorities Act, 1987:** Created NALSA, SLSAs, and DLSAs to provide free legal aid to weaker sections.
2. **Section 341, Bhartiya Nagarik Suraksha Sanhita, 2023:** Mandates state-funded legal aid for accused unable to engage legal representation.

About NALSA

- **Established:** Under the Legal Services Authorities Act, 1987.
- **Objective:** Provide free and competent legal services to marginalized sections.
- **Functions:**
 - Formulate policies and schemes for legal aid.
 - Monitor and evaluate implementation.

- Organize **Lok Adalats** for dispute settlement.

Eligibility for Free Legal Aid

- **Women and children.**
- **Scheduled Castes (SCs) and Scheduled Tribes (STs).**
- **Industrial workers.**
- **Victims of disasters, violence, and trafficking.**
- **Persons with disabilities or psychiatric conditions.**
- **Annual income below ₹1,00,000 (State provisions may vary; SC limit: ₹5,00,000).**

Significance of Free Legal Aid

1. **Social Justice:** Empowers marginalized communities to challenge **inequality** and enforce rights.
2. **Protection of Rights:** Ensures access to **fair trials, equality before the law, and legal representation.**
3. **Strengthening Rule of Law:** Enhances public **trust and confidence** in the judicial system.
4. **Legal Awareness:** Educates citizens about their **rights** alongside providing representation.

Government Initiatives

1. **DISHA Scheme:** Strengthens **pre-litigation mechanisms.**
2. **Tele-Law:** Delivers **legal advice** via a panel of lawyers connected to SLSAs.
3. **Nyaya Bandhu Programme:** Encourages **pro bono legal services** by registered lawyers.
4. **Nyaya Mitra Programme:** Focuses on clearing **10–15 year-old cases** in courts.
5. **Lok Adalat:** Aims at **amicable dispute settlement** with no court fees.

Recent Developments

- **SARTHIE 1.0:**
 - Launched by **DoSJE and NALSA.**
 - **Aim:** Empower disadvantaged groups like SCs, transgender communities, and nomadic tribes through **awareness, legal support,** and access to welfare schemes.

Challenges

1. **Lack of Awareness:** People are unaware of legal aid services and their eligibility.
2. **Capacity Issues:** Insufficient infrastructure and resources in LSAs.
3. **Delays:** Prolonged litigation processes hinder timely aid.
4. **Quality of Representation:** Lack of competent defence counsels affects outcomes.

Way Forward

1. **Policy Enhancement:** Increase funding and simplify eligibility criteria for free legal aid.
2. **Capacity Building:** Strengthen LSAs' resources and training for better service delivery.
3. **Awareness Drives:** Campaigns like **Haq Humara Bhi Toh Hai@75** can guide prisoners and vulnerable groups.
4. **Technology Integration:** Use digital tools for easy access to legal aid services and records.
5. **Quality Assurance:** Implement performance audits for defence counsels and ensure professional standards.

Conclusion

Free legal aid is a cornerstone for ensuring **justice and equality** in India. By addressing systemic barriers and enhancing institutional capabilities, the government can bridge the gap between **legal rights** and **access to justice** for marginalized communities. Initiatives like **SARTHIE 1.0** and **Lok Adalats** demonstrate the potential of innovative solutions to achieve a more inclusive and effective justice system.

Understanding Ladakh's Demand for Inclusion in the Sixth Schedule: Rationale, Benefits, and Concerns

Context: Ladakh's Demand: Recently, climate activist Sonam Wangchuk led a protest for the inclusion of Ladakh in the Sixth Schedule of the Indian Constitution. The demand aims to provide greater autonomy to the region, especially after Ladakh was made a Union Territory under the Jammu and Kashmir Reorganization Act, 2019.

Historical Roots of Fifth and Sixth Schedules:

- **Asymmetrical Federalism:** India's federal structure allows some regions more autonomy based on their unique ethnic compositions, unlike symmetrical federations like the U.S.
- **Colonial Legacy:** The roots of the **Fifth and Sixth Schedules** stem from colonial policies that recognized the distinct nature of tribal populations. The **Government of India Act of 1935** introduced 'excluded' and 'partially excluded' areas, laying the foundation for these special provisions.

Distinctive Features of the Special Schedules:

1. Fifth Schedule:

- Applies to **Scheduled Areas** with a high tribal population.
- Establishes **Tribes Advisory Councils (TACs)** for tribal welfare.
- Governors regulate land allotment and money-lending practices in these areas.

2. Sixth Schedule:

- Provides greater autonomy to tribal areas in **Assam, Meghalaya, Mizoram, and Tripura**.
- **Autonomous District Councils (ADCs)** manage land, inheritance laws, and social customs.
- ADCs have legislative, executive, and financial powers, including taxation and resource management.

3. Northeastern States:

- Articles 371A-H safeguard local customs and practices in **Nagaland, Assam, Manipur, Sikkim, Mizoram, and Arunachal Pradesh**.

Ladakh's Demand for Sixth Schedule Inclusion:

1. Political Representation and Autonomy:

- Ladakh was separated from J&K, and without a **legislature**, it relies heavily on bureaucratic administration. The **Sixth Schedule** status is seen as a way to ensure better **political representation** and **autonomy**.

2. Lack of Local Employment:

- Despite being a Union Territory for over 4 years, there's a significant **lack of employment opportunities** for Ladakh's youth, with no **Public Service Commission**.

3. Cultural Heritage Protection:

- Ladakh's **distinct tribal cultures** (e.g., Gujjars, Bakarwals, Baltis) need protection through the Sixth Schedule to preserve their **traditional customs** and **languages**.

4. Ecological Preservation:

- **Climate activists** express concern over **industrialization** and **mining** in Ladakh's fragile **glacial ecosystem**, calling for the Sixth Schedule's protection of its **high-altitude deserts** and **alpine meadows**.

5. Domicile Policy:

- The **J&K domicile policy** changes amplify fears for Ladakh's native population, calling for **constitutional safeguards** under the Sixth Schedule.

6. Strengthening of Democratic Institutions:

- Autonomous councils under the **Sixth Schedule** could **empower local governance**, improving grassroots democracy in Ladakh.

Advantages of Sixth Schedule Inclusion:

1. **Democratic Devolution:** Sixth Schedule enables **devolution of powers** through **Autonomous District Councils (ADCs)**, allowing regions more control over their affairs.
2. **Cultural Preservation:** **Protection of local customs and languages** is ensured, as seen with the **Bodo language** in Bodoland.
3. **Protection of Tribal Land Rights:** ADCs have powers over **land, forests, and fisheries**, safeguarding tribal land rights.
4. **Financial Grants:** Sixth Schedule areas receive **enhanced funding** to boost **socio-economic development**, supporting **infrastructure and local services**.
5. **Sustainable Development:** Inclusion in the Sixth Schedule ensures **sustainable socio-economic growth** aligned with local needs.

Challenges with the Sixth Schedule:

1. **Limited Coverage:** The Sixth Schedule only covers certain **tribal areas** (e.g., **Assam, Meghalaya**), excluding other areas like **Ladakh**.
2. **Ineffective Decentralization:** There are instances of **limited decentralization** and insufficient **autonomy** within the councils.
3. **Legislative Overlap:** Laws made by **ADCs** must be approved by the **Governor**, and in case of conflict, the state legislature prevails.
4. **Financial Dependency:** **Autonomous councils** often rely on **state funding**, limiting their financial independence.
5. **Corruption and Mismanagement:** Some **councils** face challenges like **corruption and financial mismanagement**, hindering effective development.
6. **Lack of Skilled Professionals:** **Planning and development** in some councils suffer due to a lack of **skilled professionals**.
7. **Customary Laws Codification:** Failure to **codify customary laws** undermines the protection of **tribal rights**.
8. **Political Interference:** **Political interference** from state and central governments undermines the autonomy of the councils.
9. **Pending Constitutional Reforms:** The **125th Constitutional Amendment Bill**, which seeks to empower ADCs, has been delayed, hindering reforms.
10. **Non-Implementation of FRA:** **Forest Rights Act, 2006** has not been **fully implemented** in Sixth Schedule areas, affecting **tribal land rights**.

Way Forward:

1. **Elected Village Councils:** **Accountability to Gram Sabhas** must be ensured for **village councils**.
2. **Regular Elections:** Ensure **free and fair elections** to **autonomous councils**, reducing the **dominance of tribal elites**.
3. **Representation of Minorities and Women:** Ensure **adequate representation** of **women and ethnic minorities** in **autonomous councils**.
4. **Expansion of Coverage:** **Constitutional amendments** should be made to **expand the Sixth Schedule** to other **tribal areas**, like **Ladakh**.
5. **Transparency in Governance:** Enhance **transparency in funding** and the functioning of the councils for effective **socio-economic development**.

Supreme Court's Landmark Ruling on Caste Discrimination and Prison Practices

1. **Caste Discrimination in Prisons:** The Supreme Court ruled that caste-based discrimination, including caste-based segregation of labor, is a violation of human dignity. It emphasized that such practices go against the constitutional ideals of equality and justice.

2. **Emphasis on Equality:** The judgment highlighted that every individual is born equal, and no one should be stigmatized based on their caste. The Court criticized the persistence of caste-based discrimination even after 75 years of independence.
3. **Condemnation of Caste-based Classifications:** The Court rejected the classification of any social group as a “scavenger class” based on caste, invoking the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013**, ensuring that such practices are not followed in prisons.
4. **Constitutional Violations:** The Court referred to **Article 15(1)**, which prohibits discrimination based on caste, and **Article 17**, which abolishes untouchability. It emphasized that caste-based discrimination in the prison system represents the highest form of violation of these constitutional provisions.
5. **Forced Labor Based on Caste:** The Supreme Court ruled that compelling prisoners from marginalized castes to perform menial tasks like cleaning latrines is coercion, highlighting that such tasks should not be assigned based on caste but on aptitude, health, and psychological needs.
6. **Supreme Court’s Directives for Reform:**
 - **Prison Manual Revisions:** All **prison manuals** must be revised within three months to eliminate provisions that allow caste-based discrimination.
 - **Removal of Caste Columns:** **Caste references** in the registers of undertrials and convicts should be deleted from prison records.
 - **Denotified Tribes Protection:** Members of **denotified tribes** must not be arbitrarily arrested or labeled as habitual offenders without proper legal backing.
 - **Ending Caste-Based Work Segregation:** **Caste-based segregation** in work assignments, particularly those involving menial labor like cleaning latrines, must be abolished.
 - **Prison Work Assignments:** Work assignments should be based on **objective criteria** such as aptitude, health, and psychological needs rather than caste.
 - **Implementation of Anti-Manual Scavenging Act:** The **2013 Act** on manual scavenging must be enforced in prisons to prevent caste-based labor assignments.
 - **Updating Modern Prison Manual and Model Act:** The **Modern Prison Manual** and the **Model Prisons Act** must be amended within three months to remove caste-based practices and forced labor.
 - **Abolition of Caste Privileges:** Any form of **caste-based privileges** or segregation in prison barracks or other facilities must be completely abolished.

Jan Yojana Abhiyan: A Path to Inclusive Development

Why in the News?

- The **Ministry of Panchayati Raj** launched the **People’s Plan Campaign (Jan Yojana Abhiyan)** to prepare **Panchayat Development Plans (PDPs)** for the financial year 2025–26.

Key Highlights of Jan Yojana Abhiyan

Objective: To accelerate people’s participation in creating Panchayat Development Plans for holistic growth.

Launch and Implementation:

- **Launched:** As ‘Sabki Yojana Sabka Vikas’ on **2nd October 2018**.
- **Implementation:** Across **three tiers of Panchayats** with active involvement of:
 - **Elected Representatives**
 - **Government Frontline Workers**
 - **Community-Based Organizations (CBOs)** like **Self Help Groups (SHGs)**
 - **Other stakeholders.**

Components of the Campaign

1. **Structured Meetings:** Organized **Ward Sabhas, Mahila Sabhas, Gram Sabhas, Block Sabhas, and District Sabhas** for PDP preparation.

2. **Thematic Approach:** Based on the **localization of Sustainable Development Goals (SDGs)** using a **Whole of Government and Society approach**.
3. **Panchayat Development Index (PDI):** A multi-domain index to assess the **holistic development and performance** of Panchayats.
4. **Inclusive Participation:** Involves **youth** and the **elderly (75+ years)** for guidance in planning.
5. **Collaboration with Unnat Bharat Abhiyan (UBA):** Involving **15,000+ students** from **Higher Education Institutions (HEIs)** to assist in planning.
6. **Digital Transparency:** Approved plans to be published on the **e-Gram Swaraj portal** for accessibility.

Constitutional Provisions

1. **Article 40 (DPSP):** Calls for organizing **Village Panchayats** as **self-governance units**.
2. **73rd & 74th Constitutional Amendments:** Gave constitutional legitimacy to **Local Self-Government structures**.
3. **Article 243G:** Recognizes Panchayats as **self-governing institutions** responsible for preparing development plans for **economic and social justice**, based on the **Eleventh Schedule's 29 subjects**.

Role of People's Participation

What is People's Participation?

It refers to the **direct involvement** of all stakeholders in **decision-making processes** that influence their lives.

Significance in Development Planning:

1. **Improves Efficiency:**
 - Enhances **acceptability** and ensures **fair benefit distribution** while mobilizing local resources.
 - *Example:* **MGNREGA** involves **Gram Sabhas** for monitoring and auditing projects.
2. **Encourages Inclusivity:**
 - Empowers citizens with a sense of **ownership** in planning and decision-making.
 - *Example:* **MyGov Saathi 2.0** promotes active citizen involvement in governance.
3. **Promotes Self-Reliance:**
 - Breaks dependency barriers, builds awareness, and fosters **self-confidence**.
 - *Example:* **Self-Help Groups (SHGs)** under NRLM improve livelihoods.
4. **Wider Coverage:**
 - Brings marginalized groups into the decision-making fold.
 - *Example:* **Swachh Bharat Abhiyan** mobilized volunteers for widespread participation.
5. **Ensures Sustainability:**
 - Strengthens local capabilities and creates long-term solutions.
 - *Example:* **Joint Forest Management (JFM)** empowers communities in forest conservation.
6. **Improved Planning:**
 - Reflects local needs and knowledge in project design.
 - Active community input reduces mismatches in development objectives.

Challenges

- **Bureaucratic Hurdles:** Lengthy procedures limit timely participation.
- **Inadequate Funding:** Scarcity of resources hampers efficient planning.
- **Capacity Deficit:** Lack of awareness and training affects quality involvement.

Way Forward

1. **Policy Integration:** Incorporate **participatory planning** into government policies and frameworks.
2. **Strengthening Local Governance:** Streamline processes to make **Local Self-Governments** more efficient.

3. **Technological Support:** Use tools like **participatory GIS (Geographic Information Systems)** for enhanced engagement.
4. **Community Training:** Focus on building awareness among vulnerable groups like **women and marginalized communities**.
5. **Behavioral Change:** Encourage sustained participation through **attitude shifts and empowerment**.

Conclusion

The **Jan Yojana Abhiyan** demonstrates a **community-driven approach** to achieving **holistic and sustainable development**. By bridging gaps between policy and practice, this initiative emphasizes the **power of grassroots participation** in governance. Strengthening the framework and addressing challenges can ensure its success, setting an example for future developmental programs.

The Right to Information (RTI) Act: Empowering Citizens for Transparent Governance

Why in the News?

- As the **Right to Information (RTI) Act, 2005** nears its **20th anniversary in 2025**, it is essential to evaluate its **achievements, challenges, and future potential**.

Key Highlights of the RTI Act, 2005

Background and Enactment:

- Enacted in **June 2005**, and implemented in **October 2005**.
- Provides citizens the **right to secure access** to information under the control of **Public Authorities (PAs)**.
- Coordinating Agency: **Department of Personnel and Training** under the Ministry of Personnel, Public Grievances, and Pensions (MoPPG&P).

Historical Context:

- Recognized as a **human right** in the **Universal Declaration of Human Rights** and various international covenants.
- Replaced the **Freedom of Information Act, 2002**, to enhance transparency and accountability.
- **Landmark Case:** *Raj Narayan vs Uttar Pradesh Government*—Supreme Court identified RTI as a **fundamental right** under **Article 19**.

Key Provisions

1. Institutional Framework:

- **Central and State Information Commissions** oversee implementation and address appeals.
- **Public Information Officers (PIOs)** handle requests within public authorities.

2. Scope of Rights:

- Citizens can request **information** from **public authorities**.
- Obligates authorities (Section 4) to maintain **records** and **proactively disclose information**.

3. Applicability:

- Covers all government bodies, institutions, and entities **substantially funded by the government**, including **NGOs**.

4. Exemptions (Section 8):

- Includes information on **national security, personal privacy**, and specific organizations like **RAW and CERT-In**.

5. Jurisdiction:

- Excludes lower courts but allows writ petitions in **Supreme Court** and **High Courts**.

6. Other Key Features:

- **Time Frame:** 30 days for general cases, 48 hours for life or liberty-related matters.
- **Penalties:** Applicable for delayed or incorrect responses.
- **Appeals:** Citizens can escalate denials to Information Commissions.

Amendments and Recent Developments

1. **RTI (Amendment) Act, 2019:** Centralized control over **terms of service** of Information Commissioners (ICs), raising concerns about independence.
2. **Digital Personal Data Protection (DPDP) Act, 2023:** Exempted **personal information** from disclosure under Section 8(1)(j).

Significance of RTI

1. **Citizen Empowerment:** Enables **active participation** in democracy by providing access to government information.
2. **Transparency:** Proactive disclosures foster trust and reduce bureaucratic opacity.
3. **Accountability:**
 - Ensures public authorities justify their actions.
 - *Example:* Exposed corruption in the **Adarsh Housing Society Scam**.
4. **Policy Effectiveness:** Unveils discrepancies in schemes like **MGNREGA** for better implementation.

Challenges

Functional Issues:

- **Vacancies:** As of 2024, 7 out of 29 Information Commissions were defunct; 9 lacked Chief Information Commissioners.
- **Delays:** Some commissions take over a year to resolve cases.
- **Backlogs:** Over **4 lakh appeals** and complaints pending.
- **Gender Disparity:** Only **9% of commissioners** since 2005 have been women.

Structural Issues:

- **Exemptions:** Ambiguity in applying national security or privacy clauses.
- **Excluded Entities:** Funds like **PM CARES** are not classified as public authorities.
- **Amendments:** Dilution of autonomy via the 2019 amendment.

Procedural Issues:

- **Bureaucratic Resistance:** Reluctance to disclose information.
- **Non-Compliance:** Political parties argue they are not public authorities.
- **Awareness Gap:** Limited understanding of rights under the RTI Act.

Way Forward

Recommendations of the 2nd ARC:

1. **National Coordination Committee (NCC):** A platform to monitor RTI implementation and evaluate its impact.
2. **Awareness Drives:** Entrust campaigns to credible organizations to spread awareness at the state level.
3. **Staff Recruitment:** Employ adequate personnel in public authorities to handle RTI queries effectively.
4. **Improved Record-Keeping:** Use experts for efficient record maintenance to simplify information retrieval.

Other Measures:

- Introduce a chapter on **RTI Whistleblower Protection**.
- Provide **rigorous training** for PIOs and officials.
- Digitize records for easy access.
- Implement safety mechanisms for **RTI activists**.

Conclusion

The **RTI Act, 2005**, is a **cornerstone of democracy** that empowers citizens, promotes transparency, and holds authorities accountable. Addressing **challenges** like delays, backlogs, and exemptions while strengthening implementation mechanisms is essential to uphold its spirit and ensure its relevance in the future.

Supreme Court Upholds Section 6A of Citizenship Act: A Milestone in Assam Accord

Why in the News?

- The **Supreme Court (SC)** upheld the validity of **Section 6A** of the Citizenship Act, affirming its legislative competence and relevance to the **Assam Accord**.

Key Highlights of Section 6A

1. Special Provision under Citizenship Act, 1985:

- Introduced to implement the **Assam Accord**, signed between the **central government** and **Assam Movement leaders**.
- Granted **citizenship** to individuals who migrated from **East Pakistan (Bangladesh)** to Assam between:
 - **January 1, 1966**, and
 - **March 24, 1971**, after a **10-year residency** post detection as foreigners.

2. Background of Assam Accord:

- Aimed to address the influx of migrants into Assam during and after the **Bangladesh Liberation War**.
- Seeks to balance **demographic stability** with **humanitarian concerns**.

Supreme Court Judgment Highlights

1. **Legislative Competence:** Parliament enacted Section 6A under **Article 246** and **Entry 17 of the Union List**, which pertains to **Citizenship, Naturalization, and Aliens**.
2. **Equality under Article 14:** The provision does not violate the principle of **equality** because the migration issue in Assam was distinct from the rest of India.
3. **Cultural Protection under Article 29(1):** No substantial evidence to suggest that migrants adversely impacted the **cultural rights** of Assamese communities.
4. **Reasonableness of Cutoff Date (24 March 1971):**
 - Cutoff date deemed logical as it aligns with **Operation Searchlight**, launched by Pakistan on **26 March 1971**, marking the start of the **Bangladeshi nationalist movement**.
 - Migrants post this date were classified as **war migrants**, not partition migrants.

Impact of the Ruling

- **Reaffirms the Assam Accord's Objectives:** Provides legal validation to provisions aimed at safeguarding **demographic and cultural balance**.
- **Sets a Judicial Precedent:** Strengthens Parliament's legislative authority in matters concerning **citizenship** and **naturalization**.

- **Cultural Harmony:** Acknowledges the unique sociopolitical circumstances of Assam without compromising on **national unity**.

Universal Postal Union (UPU): Commemorating a Global Legacy

Why in the News?

- **India Post** released commemorative stamps to mark:
 - **150th anniversary** of the **Universal Postal Union (UPU)**.
 - **170 years** of its own formation.

About Universal Postal Union (UPU)

1. **Foundation:**
 - Established as the **General Postal Union** through the **Treaty of Bern** on **October 9, 1874**.
 - Renamed **Universal Postal Union** in 1878.
2. **Historical Significance:** Second oldest international organization, following the **International Telecommunication Union (ITU)**(1865).
3. **Role:**
 - Specialized UN agency promoting cooperation between postal services globally.
 - Ensures smooth operation of the **international postal system**.
4. **Key Facts:**
 - **HQ:** Bern, Switzerland.
 - **Members:** 192 countries, including **India** as a founding member.
 - **World Post Day:** Celebrated annually on **October 9**, commemorating UPU's foundation.

Significance of India Post

1. **World's Largest Postal Network:**
 - Celebrates **170 years** of service.
 - Provides essential communication and financial services to rural and urban populations.
2. **Global Contribution:** Active participant in **UPU initiatives**, showcasing India's commitment to **international cooperation**.

Supreme Court's Landmark Ruling on State Taxation of Industrial Alcohol

1. **Historical Restrictions:** A 1990 Supreme Court ruling in the *Synthetics & Chemicals Ltd vs State of Uttar Pradesh* case had previously restricted states from taxing industrial alcohol, limiting their revenue potential from this source.
2. **Revenue Needs Post-GST:** After the implementation of GST, which centralized revenue collection, states have been seeking additional sources of income. Industrial alcohol, which is vital in industries such as biofuels, sanitizers, and food production, represents an untapped revenue stream for states.
3. **Constitutional Ambiguity:** The case revolved around whether industrial alcohol qualifies as "intoxicating liquor" under the State List in the Seventh Schedule of the Indian Constitution, which grants states the authority to tax intoxicating liquors. This led to legal ambiguity regarding states' ability to tax industrial alcohol.
4. **Recent Judicial Ruling on "Intoxicating Liquor":**
 - The Supreme Court recently allowed states to tax industrial alcohol, overturning the 1990 decision.
 - Chief Justice DY Chandrachud emphasized a broad interpretation of the term "intoxicating liquor," allowing industrial alcohol to be included if it has intoxicating properties.
 - Justice B V Nagarathna dissented, arguing that industrial alcohol, primarily used in non-consumable industries such as biofuels and sanitizers, should not be classified as intoxicating liquor.
5. **Impact of the Ruling:** This decision is a significant boost for state revenues, especially in the wake of the GST regime, where states have been seeking alternative sources of income to compensate for reduced autonomy in tax collection.

INTERNATIONAL RELATIONS

India-China Agreement on Line of Actual Control (LAC): A Path Toward De-escalation

Why in the News?

- India and China have agreed to **disengage and resume patrolling** in the **Depsang Plains** and **Demchok** areas along the **Line of Actual Control (LAC)**, restoring the situation to its pre-May 2020 status.

Key Highlights of the Agreement

- Return to Patrolling:** Indian and Chinese soldiers will **resume patrolling** as practiced before the border tensions of May 2020.
- Progress on Previous Disengagements:** Other friction points in **Galwan, Hot Springs, Gogra, and north and south banks of Pangong Tso** had seen **disengagement** earlier.
- Strategic Importance of Depsang Plains:**
 - Located **30 km southeast** of the **Daulat Beg Oldie (DBO)** post near the **Karakoram Pass**, the plains offer a flat terrain suitable for military operations.
 - Comparable in significance to the **Spanggur Gap** near Chushul.
- Three-Step Process:**
 - The agreement is the **first step** toward:
 - Disengagement**
 - De-escalation**
 - De-induction** of troops.

Understanding the India-China Border Dispute

- LAC Overview:**
 - The **3,488 km-long border** lacks a clear demarcation and is **disputed** in various sectors.
 - Originated post the **1962 India-China War**.
- Key Sectors:**
 - Western Sector (Ladakh):**
 - Dispute arises from differing interpretations of the **Johnson Line** (British India) and **McDonald Line** (China).
 - Includes **Aksai Chin**, controlled by China but claimed by India.
 - Middle Sector (Uttarakhand, Himachal Pradesh):**
 - Relatively **uncontroversial**, with broad agreements despite no formal boundary demarcation.
 - Eastern Sector (Arunachal Pradesh, Sikkim):**
 - China rejects the McMahon Line**, claiming Arunachal Pradesh as part of **Tibet Autonomous Region**.

2020 Standoff and Its Impacts

- Incidents:**
 - Began with incursions by Chinese troops near **Pangong Tso**, followed by clashes at **Galwan** and **Naku La**.
 - The **Galwan Valley clash** in June 2020 led to the deaths of 20 Indian soldiers, marking the deadliest incident since 1962.
- Military Buildup:** Both sides deployed thousands of troops and enhanced infrastructure along the LAC.
- Infrastructure Race:** India expedited the development of strategic roads, bridges, and airbases to counter China's advances.

Challenges in India-China Relations

- Economic Concerns:**
 - India's **trade deficit** with China stood at approximately **\$85 billion (2022-23)**.
 - Heavy reliance on Chinese imports for **pharmaceutical APIs** and **electronics**.
- China-Pakistan Nexus:**
 - China-Pakistan Economic Corridor (CPEC)**, passing through **PoK**, compromises India's sovereignty.
 - China's support for **Pakistan's military** and **state-sponsored terrorism** raises security concerns.
- Strategic Developments Near LAC:**
 - Construction of a **400-meter bridge** near **Pangong Tso** enhances China's troop mobility.
- String of Pearls:**
 - China's **dual-use infrastructure** in neighboring countries like **Sri Lanka, Pakistan, and Myanmar** raises fears of encirclement.
- Water Security:**
 - Control over **Tibetan rivers** provides China with potential leverage against India in the northeast.

Strategic and Ideological Factors

- China's Assertiveness:** India's **rejection of BRI** and growing influence in the **Global South** challenge China's dominance.
- Geopolitical Dynamics:** India's participation in **QUAD** with the **U.S., Japan, and Australia** is perceived as a counterbalance to China.
- Grey Zone Warfare:** **Salami slicing** tactics used by China in territorial disputes highlight unconventional approaches to power projection.

Way Forward

- Incremental Peace Process:** Disengagement, followed by de-escalation, and eventual normalization of ties along the border.
- Confidence-Building Measures (CBMs):** Strengthen mechanisms like the **Working Mechanism for Consultation and Coordination (WMCC)**.
- Infrastructure Parity:** Continue rapid development of **border infrastructure** to ensure strategic advantage.
- Leveraging Global Platforms:** Use forums like the **UN, QUAD, and BRICS** to raise concerns about China's actions.

Conclusion

The India-China border agreement is a **crucial step toward restoring peace** along the LAC. However, sustained progress requires both nations to address **broader strategic concerns** and ensure **peace and tranquility** remain a foundation for bilateral ties. As two rising powers with global ambitions, their relationship will shape the future of regional and global stability.

India-ASEAN Relations: A Pillar of Regional Cooperation

Why in the News?

- Prime Minister of India** attended the **21st ASEAN-India Summit** held in **Vientiane, Lao PDR**, emphasizing India's commitment to strengthening ties with ASEAN.

About ASEAN

- Overview:**

- An inter-governmental organization aimed at fostering **political, economic, and regional stability in Southeast Asia.**
- Founded in **1967 in Bangkok** with the signing of the **ASEAN Declaration** by five countries: **Indonesia, Malaysia, Philippines, Singapore, and Thailand.**
- 2. Current Members:**
 - 10 countries (refer to the map for details).
 - **Headquarters:** Jakarta, Indonesia.
- 3. Institutional Mechanism:**
 - **ASEAN Summit:** Annual meeting for regional issues and policy directions.
 - **ASEAN Secretariat:** Facilitates activities and agreements.
 - **ASEAN Regional Forum (ARF):** Platform for political and security dialogue, joined by India in 1996.
 - **Decision Making:** Based on **consultation and consensus.**
- 4. Recent Initiative:**
 - **ASEAN Future Forum** (proposed in 2023 by Vietnam): A common platform for ASEAN and partner nations, with India as a founding member.

Key Developments at the 21st ASEAN-India Summit

- 1. 10-Point Plan:**
 - Aligns with the theme **Enhancing Connectivity and Resilience.**
 - Covers **tourism, trade, digital transformation, education, green initiatives, and disaster resilience.**
- 2. ASEAN-India Comprehensive Strategic Partnership:**
 - Review of the **ASEAN-India Trade in Goods Agreement (AITIGA)** to simplify processes and enhance trade.
 - **ASEAN-India Fund for Digital Future** to support joint digital activities.
- 3. Digital Transformation:**
 - Collaboration on **Digital Public Infrastructure (DPI), cross-border payment systems, and cybersecurity.**
 - Welcomed the **1st ASEAN-India Track 1 Cyber Policy Dialogue.**
- 4. New Plan of Action (2026–2030):** A roadmap for future collaboration focusing on shared goals and growth.

Importance of ASEAN for India

- 1. Economic Partnership:**
 - **ASEAN is India's 4th largest trading partner, accounting for 11% of India's global trade.**
 - **Bilateral trade (2023-24):** \$122.67 billion, with a trade deficit of \$43.57 billion.
- 2. Strategic Convergence:**
 - **ASEAN Centrality** aligns with India's **Act East Policy** and **Indo-Pacific Strategy.**
 - Enhances stability in the eastern neighborhood, especially in Myanmar.
- 3. Maritime and Security Cooperation:**
 - Securing **critical sea lanes** like the **Malacca Strait** is vital for India's trade and energy needs.
 - Counters China's growing influence in the region.
- 4. Connectivity with Northeast India:**
 - Projects like the **Kaladan Multi-Modal Transport Project** position the Northeast as a hub for regional trade.
- 5. Tourism and Education:**
 - Strong people-to-people connections through tourism and educational exchanges strengthen cultural ties.

Significance of ASEAN in the Indo-Pacific

- 1. Geopolitical Centrality:** Southeast Asia serves as a **gateway to Asia-Pacific and Indian Ocean regions**, pivotal for global trade and security.
- 2. Rules-Based Order:** Promotes peace, security, and prosperity by supporting a **rules-based security architecture.**
- 3. Balancing Major Powers:** Acts as a buffer in the **U.S.-China power rivalry.**
- 4. Connectivity Initiatives:** Complements the **Master Plan on ASEAN Connectivity (MPAC) 2025.**

Challenges in India-ASEAN Relations

1. **Economic Concerns:** India's withdrawal from the **Regional Comprehensive Economic Partnership (RCEP)** created disappointment among ASEAN members.
2. **Trade Imbalances:** India's trade deficit with ASEAN has grown significantly, from \$9.66 billion in 2016-17 to \$43.57 billion in 2022-23.
3. **Chinese Influence:** ASEAN nations' increasing dependence on China's **Belt and Road Initiative (BRI)** undermines India's role.
4. **Connectivity Issues:** Delayed infrastructure projects like the **India-Myanmar-Thailand Trilateral Highway** hamper progress.

Comparative Analysis with Other Multilateral Organizations

1. **QUAD:**
 - ASEAN perceives **QUAD** as a potential threat to its central role in the **Indo-Pacific**.
 - Competes with ASEAN's platforms like the **ASEAN Regional Forum (ARF)**.
2. **SAARC:** ASEAN demonstrates more robust regional trade and cooperation compared to SAARC.
3. **BIMSTEC:** Acts as a bridge between **South Asia** and **Southeast Asia**, complementing India-ASEAN collaboration.

Way Forward

1. **Economic and Trade Relations:** Strengthen the **ASEAN-India Free Trade Agreement (FTA)** to address trade imbalances and enhance cooperation.
2. **Maritime Collaboration:** Deepen maritime security ties to safeguard trade routes and counterbalance China.
3. **Boost Connectivity:** Expedite infrastructure projects like the **Trilateral Highway** and explore extensions to other ASEAN countries.
4. **Cultural Diplomacy:** Leverage people-to-people ties through tourism, educational exchanges, and soft diplomacy.
5. **Strategic Initiatives:** Launch an **Indo-Pacific Maritime Partnership** with ASEAN nations for mutual security and prosperity.

Conclusion

India's engagement with ASEAN is a cornerstone of its **Act East Policy** and **Indo-Pacific Vision**. Strengthening economic, cultural, and strategic ties while addressing shared challenges can unlock the full potential of this dynamic partnership and ensure long-term regional stability and prosperity.

India-Maldives Relations: Strengthening a Strategic Partnership

Why in the News?

- The President of the **Maldives** made his first state visit to **India** after winning the presidential elections, reflecting the strategic importance of India-Maldives ties.

Key Outcomes of the Visit

1. **Comprehensive Economic and Maritime Security Partnership:**
 - Agreed to promote regional **economic growth** and **maritime security**.
2. **Development Cooperation:**
 - Commitment to the timely completion of the **Greater Male Connectivity Project**.
 - **Runway inauguration** at Hanimadhoo International Airport.
 - **India's support** for a new commercial port at **Thilafushi**.
3. **Trade and Economic Cooperation:**

- Initiation of talks for a **Bilateral Free Trade Agreement**.
- Agreement to **settle trade transactions in local currencies** to reduce dependency on foreign exchange.
- 4. **Digital and Financial Initiatives:**
 - Launch of **RuPay card** in the Maldives to simplify payments for Indian tourists.
- 5. **Health Cooperation:**
 - Recognition of **Indian pharmacopoeia** and the establishment of **Jan Aushadhi Kendras** across the Maldives.
- 6. **Currency Swap Agreement (CSA):**
 - Signed under the **SAARC Currency Swap Framework 2024–27** to help Maldives manage **foreign exchange reserves**.

Significance of Maldives for India

1. **Geopolitical Importance:**
 - Central to India's **Neighbourhood First Policy** and **SAGAR (Security and Growth for All in the Region)** initiative.
 - Strategic proximity to key shipping lanes in the Indian Ocean.
2. **Strategic Location:**
 - Acts as a "toll gate" between **Indian Ocean chokepoints** such as the **Strait of Hormuz** and **Strait of Malacca**.
 - Supports **freedom of navigation, regional stability**, and India's interests in the Indian Ocean Region (IOR).
3. **Economic Ties:**
 - India is the Maldives' largest trade partner (2023 trade reached ~\$1 billion).
 - Major **Sea Lines of Communication (SLOCs)**, handling **50% of India's trade** and **80% of energy imports**, pass near the Maldives.
4. **Security Cooperation:**
 - Essential for countering China's **String of Pearls** strategy in the Indian Ocean.
 - First line of defense against **terrorism, piracy, and drug trafficking**.
5. **Diaspora and Tourism:**
 - Indian expatriates contribute to **healthcare** and **education** sectors.
 - Maldives is a popular **tourist destination** for Indians, enhancing people-to-people connections.

Challenges in Bilateral Relations

1. **China's Strategic Influence:**
 - Rising Chinese investments under the **Belt and Road Initiative (BRI)** raise concerns.
 - Example: Construction of the **Sinamale Bridge** and military assistance agreements.
2. **Radicalization:** Increased influence of **Islamic fundamentalists** and **jihadi groups** like ISIS, which poses security risks for India.
3. **Anti-India Sentiments:** Campaigns such as **India Out**, demanding the withdrawal of Indian military presence.
4. **Lack of Transparency:** Local media objections to Indian-funded projects, such as the **UTF Harbour Project**, speculating misuse for Indian naval purposes.
5. **Dependency on China:** Maldives struggles with **Chinese debt**, limiting its autonomy in foreign relations.

Way Forward

1. **Speeding Up Development Projects:** Timely completion of projects like the **Greater Male Connectivity Project** to offer a credible alternative to Chinese initiatives.
2. **Enhanced Financial Assistance:** Economic support to counter China's **debt-trap diplomacy**.
3. **Security Cooperation:** Strengthen **joint security exercises, anti-terrorism measures, and intelligence sharing**.
4. **Soft Diplomacy:** Promote **cultural ties** through films, music, and people-to-people exchanges to build goodwill and counter anti-India propaganda.

5. **Adherence to the Gujral Doctrine:** Focus on non-reciprocal benefits for immediate neighbors, fostering trust and cooperation.

Conclusion

India-Maldives relations are pivotal for ensuring **regional stability**, safeguarding the **Indian Ocean Region**, and countering **Chinese influence**. Strengthening development, economic, and security cooperation will not only benefit both nations but also reinforce India's **role as a regional leader** committed to sustainable and inclusive growth.

India-Canada Relations: Navigating Diplomatic Challenges

Why in the News?

- Diplomatic tensions escalated as India ordered the **expulsion of six Canadian diplomats** and recalled its **High Commissioner to Canada** amidst allegations by Canada regarding Indian officials' involvement in a sensitive investigative matter.

Key Issues in the Fallout

1. **Khalistani Extremism:**
 - Persistent support for **Sikh separatist groups** in Canada undermines India's sovereignty.
 - Example: **Unofficial referendum in 2023** for an independent Sikh state drew criticism from India.
2. **Security Concerns:** India's repeated **extradition requests** for terrorists and organized crime leaders in Canada remain unaddressed.
3. **Vote Bank Politics:** The **Sikh community**, especially in provinces like **Ontario** and **British Columbia**, constitutes a critical vote bank in Canada.
4. **Stalled Agreements:** The **Comprehensive Economic Partnership Agreement (CEPA)** and **Foreign Investment Promotion and Protection Agreement (FIPA)** have seen little progress.

About Vienna Convention on Diplomatic Relations (1961)

- **Significance:**
 - Establishes rules for diplomatic relations and guarantees **immunity** for foreign government officials.
 - India acceded in 1965 and ratified it through the **Diplomatic Relations Act (1972)**.
- **Diplomatic Immunity:** Protects foreign officials from jurisdiction under local courts for **official and personal activities**.

Significance of India-Canada Relations

1. **Strategic and Security Cooperation:**
 - Both nations support a **rules-based order** in the Indo-Pacific.
 - Canada's Indo-Pacific strategy positions India as a **key partner** to counterbalance China's influence.
2. **Economic and Trade Ties:**
 - Bilateral trade in goods reached **\$9.36 billion (2023)**, with a service trade value of **\$9.99 billion**.
 - Canada is a significant investor in India, with over **\$75 billion** invested by Canadian Pension Funds.
3. **Diaspora Connect:**
 - Canada hosts **1.8 million Indian-origin residents**, accounting for 3% of its population.
 - Over **230,000 Indian students** are studying in Canada (2023).
4. **Civil Nuclear Cooperation:**
 - The **Nuclear Cooperation Agreement (2010)** facilitates joint initiatives in nuclear energy.
5. **Defence Partnership:**
 - An MoU between **DRDO** and the Canadian Commercial Corporation (CCC) supports defence technology development.

Challenges in the Relationship

1. **China's Strategic Role:** Canada's association with the **Five Eye Alliance** complicates Indo-Canada relations amidst China's growing global influence.
2. **Radicalization and Anti-India Sentiments:**
 - Rising **radical Islamist activities** in Canada threaten regional security.
 - Anti-India campaigns like **India Out** call for the withdrawal of Indian troops and infrastructure projects.
3. **Immigration and Visa Issues:** Recent tensions could disrupt **visa services, student migration, and travel plans** for both countries.

Probable Impacts of the Fallout

1. **Strategic Cooperation:** Potential decline in **defence, security, and nuclear energy collaborations**, especially under frameworks like the **Five Eye Alliance**.
2. **Economic and Trade Delays:** Strain on **CEPA, FIPA, and EPTA** agreements, disrupting bilateral economic ties.
3. **Diaspora Concerns:** Indian expatriates and students may face growing insecurity and strained cultural ties.
4. **Geopolitical Ramifications:** Diminished cooperation in countering **China's assertiveness** in the Indo-Pacific.

Steps to Strengthen the Relationship

1. **Constructive Diplomacy:** Initiate high-level bilateral talks to address mutual concerns while maintaining diplomatic decorum.
2. **Security Cooperation:** Strengthen counter-terrorism efforts under the **Framework for Cooperation on Countering Terrorism (2018)**.
3. **Economic Collaboration:** Revive trade agreement negotiations to boost **bilateral investments** and economic growth.
4. **Engaging the Diaspora:** Leverage the Indian community in Canada to foster **cultural diplomacy** and build goodwill.
5. **Strategic Alignment:** Focus on **shared goals** in the Indo-Pacific, emphasizing **freedom of navigation** and a **rules-based order**.

Conclusion

The India-Canada relationship, while historically strong, faces critical challenges due to **Khalistani extremism, diplomatic disputes, and geopolitical differences**. A proactive and collaborative approach to address these issues is essential to rebuild trust and strengthen this vital partnership in the long term.

16th BRICS Summit: Expanding Horizons for Global South

Why in the News?

- The **16th BRICS Summit**, and the first with **expanded BRICS membership**, was held in **Kazan, Russia**, adopting the **Kazan Declaration** to strengthen multilateralism for global development and security.

About the Summit

1. **Adoption of Kazan Declaration:**
 - Focused on **just global development** and **multilateralism**.
 - Emphasized **economic resilience, security cooperation, and sustainable development**.
2. **Support for Brazil's Chairship:** Pledged full support for Brazil's **17th BRICS Summit in 2025**.

About BRICS

1. **Genesis:**

- Coined by British economist **Jim O'Neill** in 2001 to represent the emerging economies: **Brazil, Russia, India, and China**.
 - Formed as a formal grouping during the **G8 Outreach Summit (2006)**.
 - **South Africa** joined in 2010, transforming BRIC into BRICS.
2. **Expanded Membership:**
- **BRICS+** added **Egypt, Ethiopia, Iran, Saudi Arabia, and the UAE**, increasing representation to:
 - **45% of the world's population**.
 - **37.3% of global GDP**, surpassing the **EU (14.5%)** and **G7 (29.3%)**.
3. **Key Pillars of Cooperation:**
- **Political and Security Cooperation:** Addressing global governance reforms.
 - **Economic and Financial Collaboration:** Promoting alternative financial systems.
 - **Cultural and People-to-People Cooperation:** Enhancing soft diplomacy.

Key Initiatives of BRICS

Economic and Financial Cooperation:

1. **New Development Bank (NDB):**
 - Established in 2014 with headquarters in **Shanghai, China**.
 - Focuses on **infrastructure development** in BRICS and other developing nations.
2. **Contingent Reserve Arrangement (CRA):** Provides **short-term liquidity** support during balance-of-payments crises.
3. **BRICS Pay:** A blockchain-based **cross-border payment system** to reduce dependence on Western systems like SWIFT.
4. **Grain Exchange:** Proposed by Russia to ensure a **fair agricultural trading system** within BRICS.
5. **BRICS Clear Depository:** A **payment settlement infrastructure** for cross-border trade.

Voice for Global South:

1. **BRICS+ Dialogue:** Includes emerging economies and developing nations to foster South-South cooperation.
2. **New Partner Country Category:** Added 13 nations, including **Cuba, Turkey, and Vietnam**, for broader collaboration.

Security Cooperation:

1. **BRICS Rapid Information Security Channel:** Facilitates exchange of information on **cyber threats** among central banks.
2. **Counter-Terrorism:** Advocated for the adoption of the **Comprehensive Convention on International Terrorism (CCIT)**.

Science and Technology:

1. **Remote Sensing Satellite Constellation:** Joint space technology initiative for enhanced data sharing.
2. **Vaccine R&D Center:** Promotes collaborative research to prevent pandemics.

Relevance of BRICS in the Contemporary World

1. **Energy Security:** Expanded BRICS, with members like **Iran, Saudi Arabia, and UAE**, accounts for **44% of global crude oil production**.
2. **Platform for the Global South:** Amplifies the concerns of developing nations on issues like **climate change and terrorism**.
3. **Multilateral Reform:** Pushes for reforms in global institutions like the **UNSC and WTO**.
4. **Neutral Platform for Dialogue:** Enables India to engage with rivals like China amid bilateral tensions.

Challenges Facing BRICS

1. **Economic Underperformance:** Intra-BRICS trade is only **2.2% of global trade**, hindered by geographical separation and Chinese dominance.
2. **Limited Financial Impact:** NDB lacks the capacity to rival institutions like the **IMF and World Bank**.
3. **Geopolitical Rivalries:** Conflicts between members (e.g., **India-China, Saudi Arabia-Iran**) impede cohesion.
4. **Economic Slumps:** China faces **economic slowdown**, Russia is impacted by the ongoing **Ukraine conflict**, and South Africa struggles with **high unemployment**.
5. **Perception of Anti-West Bias:** Viewed as opposing Western systems, potentially limiting cooperation on shared challenges.

Way Forward

1. **Clear Vision:** Develop a long-term agenda to align member interests and create a **permanent BRICS secretariat**.
2. **Membership Criteria:** Define clear standards for future expansion to maintain cohesion.
3. **Enhancing Institutional Capacity:** Strengthen initiatives like **NDB and BRICS Pay** for greater global influence.
4. **Balance Chinese Influence:** India must leverage its relations with **Russia and BRICS+ members** to counterbalance China.

Conclusion

The 16th BRICS Summit highlights the grouping's evolving role in global governance. With expanded membership and a renewed focus on economic collaboration, security, and South-South cooperation, BRICS has the potential to reshape global dynamics. However, overcoming **internal rivalries, economic challenges, and structural gaps** will be crucial to its success.

India-UAE Bilateral Investment Treaty (BIT): Strengthening Economic Ties

Why in the News?

- The **India-UAE Bilateral Investment Treaty (BIT)**, signed in **February 2024**, came into effect on **31st August 2024**, replacing the **Bilateral Investment Promotion and Protection Agreement (BIPPA)** that expired in **September 2024**.

Key Features of India-UAE BIT

1. **Investor-State Dispute Settlement (ISDS):** Arbitration available only after **exhaustion of local remedies** for three years.
2. **Closed Asset-Based Investment Definition:** Covers **portfolio investments** to ensure a focused approach.
3. **Minimum Standards of Treatment:** Prohibits denial of justice or breaches of due process in investment-related matters.
4. **Investment Protection:** Safeguards against **expropriation** and ensures transparency, compensation for losses, and smooth transfers.

Significance of the BIT

1. **Boosts Investor Confidence:**
 - Assures **non-discrimination** and adherence to international standards of treatment.
 - Establishes an **independent arbitration forum** for dispute resolution.
2. **Strengthens Economic Ties:** UAE is the **7th largest source of FDI** for India, with **\$19 billion (3% of total FDI)** invested from **April 2000 to June 2024**.
3. **Enhanced Energy and Trade Relations:** UAE is India's **3rd largest trading partner** and a major supplier of **crude oil, LNG, and LPG**.

- Facilitates collaboration in **renewable energy projects**.

Committee of Ten (C-10) Group: Advocating African Voices in Global Financial Governance

Why in the News?

- The **Indian External Affairs Minister** participated in the **first-ever Joint Ministerial Meeting** of the **C-10** and **L.69** groupings, reinforcing India's commitment to multilateralism and equitable global governance.

About the C-10 Group

1. **Genesis:** Established in **2008**, the **Committee of Ten (C-10)** was created to represent African nations in global financial governance discussions.
2. **Membership:** Comprises **10 members**:
 - **Countries:** Algeria, Botswana, Cameroon, Egypt, Kenya, Nigeria, South Africa, Tanzania.
 - **Institutions:** Central Bank of West African States (**CBWAS**) and Central Bank of Central African States (**CBCAS**).
3. **Mandate:**
 - **Enhance African participation** in governance of **International Financial Institutions (IFIs)** like the **World Bank** and **IMF**.
 - Advocate for **policy reforms** ensuring equitable financial practices that support African economic growth.

About the L.69 Group

1. **Overview:**
 - The **L.69 Group** is a coalition of developing nations from **Africa, Latin America, the Caribbean, the Pacific Islands, and Asia**.
 - India is an active member, working alongside these nations to advance the interests of the **Global South**.
2. **Objective:** Advocate for reforms in **global governance structures**, particularly the **United Nations Security Council (UNSC)**, to reflect the realities of the 21st century.

Significance of C-10 and L.69 Collaboration

1. **Global Financial Governance:** Joint efforts to demand **greater representation** for African and other developing nations in key global financial bodies like the **IMF, World Bank, and WTO**.
2. **United Front for Reform:** Strengthens the collective voice of the **Global South** in advocating for **multilateral reforms** that address the inequities in global decision-making.
3. **India's Role:** India's active participation underscores its leadership in fostering **South-South cooperation** and supporting Africa's **economic aspirations**.

Conclusion

The **C-10 and L.69 partnership** represents a concerted effort to reshape global governance in a manner that is more inclusive and reflective of contemporary realities. India's involvement aligns with its vision of a **fair and equitable international order**, strengthening ties with Africa and other Global South nations while pushing for reforms in **financial and multilateral institutions**.

UK Hands Sovereignty of Chagos Islands to Mauritius: A Milestone in Decolonization

Why in the News?

- The UK and Mauritius reached a **historic political agreement** to transfer sovereignty of the **Chagos Archipelago** to Mauritius, marking the resolution of a long-standing colonial dispute.
- The agreement is still pending the **finalization of a treaty**.

About Chagos Archipelago

1. Geographical Context:

- A group of islands located **500 km south of Maldives** in the **Indian Ocean Region (IOR)**.
- Includes the **Diego Garcia atoll**, a critical strategic location.

2. Historical Background:

- **18th Century:** Initially uninhabited, the islands were colonized by France.
- **1814:** France ceded the islands to Britain.
- **1965:** UK created the **British Indian Ocean Territory (BIOT)**, detaching Chagos from Mauritius three years before Mauritius' independence.
- **1976:** Some BIOT islands were handed over to Seychelles.

- #### 3. Current Status:
- Diego Garcia hosts a **US-UK military base**, which will remain operational despite the sovereignty transfer.



Significance of the Treaty

1. Addressing Colonial Legacy:

- Ends the dispute over the **last British colony in Africa**, contributing to the broader goal of **decolonization**.
- Represents a step toward justice for Mauritius, which has long claimed the Chagos Archipelago.

- #### 2. Regional Security Dynamics:
- Mauritius may use the sovereignty to balance relations with **major powers**, particularly in the **IOR**.

- #### 3. Strategic Importance of Diego Garcia:
- The military base plays a vital role in monitoring the **Malacca Strait**, ensuring **global trade security** and maintaining a US presence in the region.

- #### 4. Compliance with International Law:
- The handover aligns with:

- **2019 International Court of Justice (ICJ) Judgment** affirming Mauritius' claim.
- **2019 UNGA Resolution** calling for decolonization of the islands.

- #### 5. India's Support:
- India voted in favor of Mauritius' claim at the **UNGA**, consistent with its stance on **decolonization** and **sovereignty**.

Implications for India

- Strategic Interests:** India views Mauritius as a close ally in the IOR, where strategic collaboration is key for **regional security** and **economic stability**.
- Alignment with Decolonization Goals:** Strengthens India's global standing as a proponent of **sovereignty** and **territorial integrity**.

3. **Regional Stability:** Promotes stability in the IOR by resolving a significant colonial-era dispute.

Conclusion

The transfer of sovereignty of the Chagos Archipelago to Mauritius is a **landmark in decolonization efforts**, reaffirming international law and addressing historical injustices. While ensuring the continuation of strategic operations at Diego Garcia, this development also highlights the importance of balancing regional dynamics and global security in the **Indian Ocean Region**.

BRICS Plus Grouping: Significance, Challenges, and the Way Forward

Key Outcomes of the 16th BRICS Summit (2024)

1. **Kazan Declaration:** Focus on **equitable global governance** and peaceful resolutions of conflicts through dialogue.
2. **BRICS Pay:** Introduction of an **alternative payment system** to SWIFT, aiming to reduce reliance on Western financial systems.
3. **BRICS Grain Exchange:** Establishment of a **Grain Exchange** to enhance **food security** and agricultural cooperation among BRICS nations.
4. **Cross-Border Payment System:** Exploration of a **BRICS Cross-Border Payment System** to integrate member economies.
5. **Political and Security Cooperation:** Advocacy for **reforms in global institutions** like the UN and IMF to ensure **equitable representation** for developing countries.

Evolution of BRICS as a Multilateral Grouping

1. **BRIC Coined:**
 - o **2001:** Economist **Jim O'Neill** coined the term BRIC to describe emerging economies poised to dominate global growth.
2. **First Informal Meeting:**
 - o **2006:** BRIC nations held their first informal meeting at the **G8 Outreach Summit**.
3. **Inaugural BRIC Summit:**
 - o **2009:** The first formal BRIC summit in **Yekaterinburg, Russia**, focused on **global governance** and **economic cooperation**.
4. **South Africa Joins:**
 - o **2010:** South Africa joined the BRIC, rebranding it to **BRICS**.
5. **New Development Bank (NDB):**
 - o **2014:** Launch of NDB with \$100 billion capital for development finance.
6. **BRICS+ Expansion:**
 - o **2023:** BRICS expanded to BRICS+ with the inclusion of **Saudi Arabia, Iran, Egypt, Ethiopia, Argentina, and UAE**.

TOI How many countries are members in BRICS?

BRICS Plus now consists of **10 emerging economies**, representing **45.29%** of the global population and generating nearly **27%** of the world's GDP.

Original BRICS (5):

-  **Brazil**
-  **Russia**
-  **India**
-  **China**
-  **South Africa**

New members (as of 2024):

-  **Iran**
-  **Saudi Arabia**
-  **United Arab Emirates**
-  **Egypt**
-  **Ethiopia**

Significance of BRICS as a Grouping

1. **Promoting Multipolar Global Order:** BRICS pushes for a **multipolar world** with political and economic parity, representing **41%** of the world's population and **28%** of global GDP.

2. **Counter to Western Hegemony:** Acts as an alternative to groups like the **G7**, offering a platform for emerging economies to challenge Western dominance.
3. **Representation of the Global South:** BRICS provides the **Global South** with a platform to voice concerns on international issues, with the latest inclusion of Egypt, Ethiopia, and Argentina.
4. **Alternative to Bretton Woods Institutions:** **NDB**, **Contingency Reserve Agreement**, and **BRICS Pay** represent developing economies' priorities, offering an alternative to Western-dominated institutions like the **World Bank** and **IMF**.
5. **Economic Decoupling from the West:** BRICS seeks to reduce dependence on the **US dollar** by encouraging trade in **local currencies**.
6. **Alternative Oil Trade Platform:** BRICS+ includes **oil-producing giants** (Saudi Arabia, Russia, China, UAE, Brazil, Iran) and can offer an alternative to **OPEC+**.
7. **Enhanced Cooperation for SDGs:** BRICS is focused on reducing **poverty**, alleviating **hunger**, and achieving the **UN Sustainable Development Goals (SDGs)**.

Challenges Faced by BRICS

1. **Chinese Push for Favorable Expansion:** **China's push** to include countries like **Belarus** is seen as an attempt to dominate the bloc, which **India** opposes.
2. **Nature of Grouping:** BRICS faces a dilemma between being a **financial cooperation group** or evolving into a **larger geopolitical coalition** with more member countries.
3. **Political Disagreements:** Member nations often disagree on **key issues**, such as **UNSC reforms** and **Russia-Ukraine war**, with **China** and **India** on opposing sides.
4. **Economic Disparities:** **BRICS economies** vary significantly in size, with **China** and **India** leading, and countries like **Brazil** and **Russia** struggling economically.
5. **Chinese Dominance:** **China's economic power** within BRICS (38% of total BRICS exports) has led to **economic nationalism** in other countries.
6. **Failure to Implement Reforms:** BRICS has struggled to **reform the IMF and World Bank** and has not succeeded in **de-dollarization** of global trade.
7. **Lack of Consensus on Key Issues:** The group has failed to reach a consensus on issues like the **Russia-Ukraine war**, with **China** leaning toward **Russia**, and **India** following a **Non-Alignment** approach.

Way Forward for BRICS

1. **Rule-Based Order:** BRICS-Plus should be based on a **rule-based order**, avoiding the rise of **economic hegemony** or **anti-Western agendas**.
2. **Reducing RIC Dominance:** **Russia, India, and China (RIC)** dominate BRICS, so efforts should be made to make the grouping more **pan-continental** and inclusive.
3. **Clear Expansion Criteria:** A **clear and transparent process** for admitting new members should be defined to maintain the integrity and coherence of the group.
4. **Containing Chinese Influence:** **India** should develop strategies to **balance China's dominance**, ensuring equitable power distribution within BRICS.
5. **Permanent Secretariat:** The establishment of a **permanent secretariat** would ensure smoother functioning and enhanced cooperation within BRICS.

ECONOMY

2024 Nobel Prize in Economics: Recognizing the Role of Institutions in Prosperity

Why in the News?

- The **2024 Nobel Prize in Economics** was awarded to **Daron Acemoglu, Simon Johnson, and James A. Robinson** for their groundbreaking research on **how institutions shape prosperity**.

Key Highlights of the Research

1. **Colonial Impact on Prosperity:** Demonstrated how colonial systems caused a "reversal of fortunes" where some of the world's **poorest regions became richest** and vice versa.
2. **Types of Institutions:**
 - **Extractive Institutions:**
 - Focused on exploitation, offering no long-term incentives for growth.
 - Example: High risks of confiscation led to poor investment and development outcomes.
 - **Inclusive Institutions:**
 - Fostered secure property rights, rule of law, and incentives for innovation and growth.
 - Example: The divided city of **Nogales** demonstrates this.
 - **Nogales, USA:** Secure property rights, political freedom, better economic conditions.
 - **Nogales, Mexico:** Corruption and poor governance lead to low prosperity.
3. **Institutional Traps:**
 - Explained how societies stuck in extractive institutions struggle to progress.
 - Highlighted that **reforms** can break this cycle, paving the way for democracy, better governance, and poverty reduction.

Role of Institutions in Shaping Prosperity

1. **Resource Allocation and Property Rights:** Secure property rights encourage efficient resource allocation.
 - Example: **Article 300A** ensures no deprivation of property except by authority of law.
2. **Incentives for Investment:** Inclusive institutions promote entrepreneurship and competition.
 - Example: **National Innovation Foundation** supports grassroots innovations.
3. **Sustainability:** Strong institutions ensure sustainable resource management and environmental protection.
 - Examples: **Article 48A, National Green Tribunal (NGT)**.
4. **Regulations and Governance:** Effective regulation fosters competition and innovation.
 - Example: **Competition Commission of India (CCI)** promotes fair competition.
 - Governance mechanisms like **Article 14** ensure equality before law.
5. **Conflict Resolution and Political Stability:** Mechanisms like **Lok Adalats** and **National Legal Services Authority (NALSA)** reduce disputes, promoting stability and growth.

India's Efforts to Build Strong Institutions

Economic Institutions:

1. **Nationalization of Banks (1969):** Directed credit to key sectors like agriculture and small industries.
2. **Liberalization (1991):** Reforms reduced barriers to trade and investment, boosting economic growth.
3. **Enforcement Directorate (ED):** Strengthens transparency by tackling economic crimes like money laundering.

Political Institutions:

1. **Democratic Framework:** Regular elections and a multiparty system ensure accountability.
2. **Decentralization: 73rd and 74th Amendments** empowered local governments for grassroots governance.
3. **Anti-Corruption Measures:** Bodies like **Lokpal** and **CAG** enhance government accountability.
4. **Grievance Redressal:** Fast-track courts and digital reforms improve the judicial system's efficiency.

About the Nobel Prize in Economics

1. **Established:**
 - Introduced in **1968** by **Sveriges Riksbank (Sweden's Central Bank)**.
 - Not part of the original Nobel Prizes created in **1895**.
2. **First Award:** Given to **Ragnar Frisch** and **Jan Tinbergen** in **1969**.
3. **Indian Laureate:** **Amartya Sen** (1998) for his contributions to **welfare economics** and **social choice theory**.
4. **Prize Components:** A medal, a personal diploma, and **10 million Swedish Kronor**.

Scaling of India's Small Companies

Why in the News?

- A recent study highlighted the **rise of the Multi-Plant Phenomenon** in India's manufacturing sector, underlining challenges in scaling up operations effectively.

About Multi-Plant Phenomenon

1. **Definition:** Refers to firms distributing their workforce across **multiple small plants** in the same state rather than scaling a **single large plant**.
2. **Key Findings:**
 - Accounts for **25.16% of total employment** in all plants and **35.48% in large plants**.
 - Indicates structural challenges in scaling up manufacturing operations.
3. **Comparison with Related Concepts:**
 - **Dwarf Firms:**
 - Remain small over time, contributing minimally to productivity and job creation.
 - **Missing Middle:** A low proportion of **mid-sized firms** compared to many small and a few large firms in the Indian manufacturing landscape.

Challenges Faced by Indian Firms in Scaling Up

1. **Regulatory Framework:** **Labour laws** exempt smaller firms from compliance, incentivizing them to stay small.
 - Example: **Industrial Disputes Act (IDA), 1947** requires firms with over 100 employees to obtain government approval before retrenchment.
2. **Risk Diversification:** Multiple plants mitigate risks such as legal, regulatory, and political uncertainties.
3. **Labour Relations:** Allows flexibility in handling labor disputes and reallocating workforce across plants.
4. **Economic Fragmentation:** Highly fragmented markets and the dominance of informal sectors encourage smaller plants.
5. **Land Acquisition:** Difficulty in acquiring large, contiguous land parcels for scaling up operations.
6. **Management Practices:** A reliance on family-managed businesses hinders **professional management** and operational efficiency.

Implications of Firms and Plants Remaining Small

1. **Low Productivity:**
 - Larger plants benefit from **economies of scale**, unlike smaller and multi-plants.

- **Dwarf firms** contribute only **8% to productivity**, despite constituting over half of organized firms.
- 2. **Impact on Exports:** Reduced productivity hampers India's **export competitiveness**.
- 3. **Job Creation:** Small firms create fewer **permanent jobs**, affecting job quality and stability.
- 4. **Economic Growth:** Smaller plants generate lower revenues and hinder India's transition to an **industrialized economy**.

Government Initiatives to Promote Large Firms

1. **Production Linked Incentive (PLI) Schemes:** Encourages scaling up in key sectors to enhance global competitiveness.
2. **National Industrial Corridor Development Programme:** Develops **futuristic industrial cities** with shared infrastructure and facilities.
3. **RAMP Scheme:** Supports scaling up of MSMEs through targeted assistance.
4. **Labour Law Codification:** **29 laws merged into 4 labor codes**, simplifying compliance and improving the ease of doing business.

Way Forward

1. **Time-Bound Incentives:** Introduce **sunset clauses** on size-based incentives to avoid permanent distortions.
2. **Professional Management:** Promote management training programs and encourage firms to adopt professional practices.
3. **Access to Capital:** Redirect credit flow to high-employment sectors through revised **Priority Sector Lending (PSL)** guidelines.
4. **Industrial Clusters:** Develop clusters offering shared infrastructure, market linkages, and access to technology, finance, and talent.

Conclusion

Addressing the **multi-plant phenomenon** and structural issues like **dwarfism** and the **missing middle** is critical for India's manufacturing growth. By scaling up small firms and enhancing productivity through **policy reforms, professional management, and industrial clusters**, India can unlock its potential for **job creation, export growth, and economic transformation**.

Poverty in India: Current Trends and Pathways for Reduction

Why in the News?

- The World Bank's report, '**Poverty, Prosperity, and Planet: Pathways out of the Polycrisis**,' offers the first post-pandemic assessment of global progress toward poverty reduction and prosperity.

Current Status of Poverty in India (As per NITI Aayog)

1. **Decline in Poverty:**
 - Poverty Headcount Ratio dropped from **29.17% (2013-14)** to **11.28% (2022-23)**.
 - **24.82 crore Indians** exited multidimensional poverty over the last 9 years.
2. **Reduction in Regional Disparities:** Poorer states like **Uttar Pradesh, Bihar, Madhya Pradesh, Odisha, and Rajasthan** recorded the fastest poverty reduction.
3. **SDG Alignment:** India is on track to achieve **SDG Target 1.2** (halving multidimensional poverty) well before **2030**.

Key Findings from the World Bank Report

1. **Global Poverty Stagnation:**
 - Poverty reduction has nearly **stalled** in the last five years due to the **polycrisis**.

- **Polycrisis:** A convergence of slow economic growth, fragility, climate risks, and uncertainty.
2. **Failure to Meet Targets:** Extreme poverty projected to be **7.3% by 2030**, more than double the **World Bank target of 3%**.
 3. **India's Progress:** Significant reduction in extreme poverty from **431 million (1990)** to **129 million (2024)**.

History of Poverty Estimation in India

1. **Pre-Independence:**
 - **Dadabhai Naoroji's** book *Poverty and the Un-British Rule in India* highlighted British exploitation.
 - **Bombay Plan (1944):** Focused on economic revival.
2. **Post-Independence:**
 - **VM Dandekar and N Rath (1971):** Proposed linking poverty to calorie consumption.
 - **Tendulkar Committee (2009):** Shifted focus from calorie norms to comprehensive consumption metrics.
 - **Rangarajan Committee (2014):** Recommended separate rural and urban poverty lines.

Factors Contributing to Poverty in India

1. **Historical Exploitation:**
 - British colonial policies led to **deindustrialization** and **wealth drain**.
2. **Low Agricultural Productivity:**
 - Reliance on **traditional farming** methods and fragmented land holdings.
3. **Population Explosion:**
 - Rapid growth exerts pressure on **resources and services**.
4. **Economic Inequality:**
 - **Top 10% of Indians own 77% of national wealth** (Oxfam).
5. **Social Inequalities:**
 - **Caste-based exclusion** and **gender disparities** hinder economic participation.
6. **Geographical Disparities:**
 - Vulnerability to **natural disasters** worsens poverty in certain regions.

Key Terminologies

1. **Absolute Poverty:** Severe deprivation of basic human needs like food and shelter.
2. **Relative Poverty:** Defined in relation to societal economic standards.
3. **Poverty Rate/Headcount Ratio:** Percentage of the population living below the poverty line.
4. **Intensity of Poverty:** Measures how far below the poverty line individuals are.
5. **Multidimensional Poverty Index (MPI):** Captures poverty across multiple dimensions, including health, education, and living standards.

Government Initiatives to Address Poverty

- **Affordable Healthcare:** Ayushman Bharat Yojana, PM Bharatiya Janaushadhi Pariyojana.
- **Social Security and Empowerment:** PM Matru Vandana Yojana, PM Garib Kalyan Anna Yojana.
- **Financial Inclusion:** PM Jan Dhan Yojana, PM Shram Yogi Maandhan Yojana.
- **Employment and Skilling:** MGNREGA, PM Kaushal Vikas Yojana.
- **Entrepreneurship:** PM MUDRA Yojana, PM SVANidhi.

Way Forward

1. **Employment-Intensive Growth:**
 - Focus on creating better jobs and increasing government revenues for expanded social spending.
 - **Second Green Revolution:** Especially in **eastern India**.

2. **Technology-Driven Targeting:** Use of **JAM Trinity (Jan Dhan, Aadhaar, Mobile)** to reduce errors in welfare delivery.
3. **Amartya Sen's Capability Approach:** Invest in **education, skills, and health** to empower citizens and reduce poverty.
4. **Focus on Urban Poverty:** Enhance slum dwellers' capabilities to foster **entrepreneurship and inclusion**.

Conclusion

India's significant progress in reducing poverty demonstrates the effectiveness of targeted policies and initiatives. However, achieving **sustainable poverty reduction** will require addressing **economic inequality, regional disparities**, and empowering marginalized populations through **inclusive development strategies**.

World Bank's Business-Ready (B-Ready) Index: A New Era in Business Climate Assessment

Why in the News?

- The **World Bank** launched the **B-Ready Index**, replacing the discontinued **Ease of Doing Business (EoDB)** rankings to assess the global business and investment climate.

Key Highlights of the B-Ready Index

1. **Launch Details:**
 - **Three-year rollout** phase (2024–2026).
 - Currently covers **50 economies**, aiming to expand to **180 economies** by 2026.
 - Complements India's **2024 Business Reform Action Plan rankings**.
2. **Objective:**
 - To foster **private investment**, create **jobs**, and enhance **productivity**.
 - Focuses on **inclusive and sustainable economic development**.
3. **Core Areas of Focus:**
 - **Reform Advocacy:** Sharing benchmarks and facilitating dialogue among stakeholders.
 - **Policy Guidance:** Providing tailored recommendations for regulatory reforms.
 - **Analysis and Research:** Offering data to support private sector development studies.

Analytical Framework

1. **Lifecycle Approach:** Evaluates businesses through stages of **opening, operating/expanding, and closing/reorganizing**.
2. **Key Business Areas (10 Topics):** **Business entry, location, utilities, labor, financial services, trade, taxation, dispute resolution, market competition, and insolvency**.
3. **Cross-Cutting Themes:**
 - **Digital Adoption:** Examines integration of digital tools.
 - **Environmental Sustainability:** Evaluates the impact of business regulations on the environment.
 - **Gender:** Assesses the gendered impact of business regulations.
4. **Three Pillars for Each Topic:**
 - **Regulatory Framework:** Evaluates laws and regulations.
 - **Public Services:** Measures infrastructure and support facilities.
 - **Operational Efficiency:** Assesses ease of compliance.

Comparison: EoDB vs. B-Ready

Aspect	Ease of Doing Business (EoDB)	B-Ready Index
Focus	SMEs	Private sector development
Scope	Burden of regulations	Regulatory burden and quality
Framework	10 indicators	10 topics, 3 pillars, 3 themes
Data Collection	Expert consultations (de jure or de facto)	Combines expert insights and firm surveys
Geographical Coverage	191 economies (1–2 cities each)	Aims for broader and localized coverage

Significance of the B-Ready Index for India

- Boosting Competitiveness:** Helps identify areas for improving **business environment** to attract **foreign investment**.
- E-Commerce Facilitation:** Supports India's goal of **\$200 billion in e-commerce exports by 2030**.
- Data-Driven Policy Reforms:** Provides actionable insights to streamline **trade, compliance,** and regulatory frameworks.
- Encouraging Innovation:** Promotes digitalization and sustainability to drive **business innovation**.
- Inclusivity:** Emphasizes gender equality, supporting India's vision for **inclusive growth**.
- Progress Monitoring:** Regular updates enable tracking of reforms and strategic adjustments.
- Transparency and Data Integrity:** Ensures credibility through robust **data gathering** and promotes transparency by publishing guidelines.

Challenges in Implementation

- Data Availability:** Ensuring reliable and comprehensive data collection across all regions.
- Policy Resistance:** Overcoming resistance to regulatory reforms from vested interests.
- Capacity Building:** Training local governments to implement reforms effectively.
- Monitoring and Evaluation:** Establishing systems to track progress and assess impacts accurately.

Way Forward

- Enhancing Governance:** Build institutional capacity to implement and monitor effective policies.
- Stakeholder Engagement:** Foster collaboration among businesses, civil society, and policymakers.
- Capacity Building:** Equip local governments with the necessary skills and resources.
- Promoting Inclusivity:** Ensure reforms cater to diverse stakeholders, especially **SMEs and women entrepreneurs**.

Global Innovation Index 2024 and Social Entrepreneurship

Why in the News?

- The **Global Innovation Index (GII) 2024**, developed by the **World Intellectual Property Organization (WIPO)**, Cornell University, and INSEAD Business School, was recently released. The focus this year is on **social entrepreneurship**.

Key Findings of GII 2024

- Theme: Unlocking the Promise of Social Entrepreneurship.**
- Criteria for Innovation Measurement:** Institutions, human capital and research, infrastructure, credit and investment, knowledge creation and diffusion, and creative outputs.
- Global Rankings: Top 3 Nations:** Switzerland, Sweden, and the US, followed by Singapore.
- India's Performance:**
 - Ranked **39th among 133 nations**, improving by one position from **40th in 2023** with a score of **38.3**.
 - Retains top rank among **lower-middle-income economies** and the **Central & Southern Asia region** in:
 - Knowledge and technology outputs.
 - Creative outputs.

- Institutions.
- Business sophistication.
- **Key Innovation Clusters:** Bengaluru, Delhi, Chennai, and Mumbai ranked among the **top 100 global S&T clusters**.

Social Entrepreneurship and Enterprises

1. **Definition: Social entrepreneurship** merges **economic wealth generation** with solving societal challenges like poverty, sustainability, and inequality.
2. **Comparison with Traditional Companies:**

Aspect	Traditional Companies	Social Enterprises
Mission	Profit generation with secondary social benefits.	Addressing societal issues as a core mission.
Innovation Goal	Market advantage over competitors.	Inclusive problem-solving with community input.
Use of Surplus	Economic gain for stakeholders.	Reinvestment in social causes.
Future Focus	Adapting to market needs for profit.	Building inclusive markets for social equity.

Significance of Social Entrepreneurship

1. **Economic Growth:**
 - Globally, **11 million social enterprises** contribute **\$2 trillion** to global GDP.
 - India's **social enterprise market** is estimated to be worth **\$8 billion** by 2025.
2. **Policy Influence:** Social entrepreneurs actively influence **policy reforms**.
 - Example: Ethiopian policymakers worked with **Tebita Ambulance** to establish emergency medical standards.
3. **Sustainable Development:** Drives progress towards **Sustainable Development Goals (SDGs)**.
 - Example: **SELCO India** provides sustainable energy solutions to underserved communities.
4. **Social Transformation:** Empowers vulnerable populations and addresses **rising economic inequality**.
5. **Corporate Integration:** Transforms **Corporate Social Responsibility (CSR)** into **Corporate Social Innovation**, fostering inclusivity.

Challenges Faced by Social Enterprises

- **Financing:** Limited access to capital.
- **Regulatory Restrictions:** Complex compliance requirements.
- **Awareness:** Low public awareness about the potential of social enterprises.
- **Scalability:** Difficulty in expanding operations while maintaining impact.

India's Initiatives for Social Entrepreneurship

1. **Innovation and Entrepreneurship:**
 - **Atal Innovation Mission (AIM):** Promotes grassroots innovation.
 - **ASPIRE:** Supports rural industries and entrepreneurship.
2. **CSR Mandates:** Companies Act, 2013 mandates CSR initiatives for eligible companies.
3. **Social Stock Exchange (SSE):** Enhances visibility and access to funding for social enterprises.
4. **Social Impact Bonds:** Innovative funding mechanisms like **Green Bonds**, **Skill Impact Bonds**, and **Sustainability Bonds**.
5. **Tech-Driven Solutions:** **NASSCOM Foundation's Social Innovation Programme:** Encourages tech-based solutions for inclusion.

Way Forward

1. **Strengthening Policies:** Develop comprehensive frameworks to support social enterprises.
2. **Enhancing Infrastructure:** Create incubation centers and provide mentorship for budding social entrepreneurs.
3. **Financial Support:** Facilitate access to funding through innovative financing tools.

4. **Awareness and Education:** Conduct campaigns to promote the concept and significance of social entrepreneurship.
5. **Inclusivity and Sustainability:** Ensure diverse participation and align efforts with global sustainability goals.

Conclusion

The **Global Innovation Index 2024** underscores the transformative potential of **social entrepreneurship**. By merging business acumen with social impact, these enterprises can address global challenges, drive **economic growth**, and promote **sustainable development**. With the right policies and investments, nations like India can leverage social entrepreneurship to create lasting and inclusive progress.

Commitment to Reducing Inequality (CRI) Index 2024

Why in the News?

- The **CRI Index 2024**, published by **Oxfam** and **Development Finance International**, assesses the efforts of **164 countries** to reduce inequality, aligning with **SDG 10's** goal of reducing inequality within and among countries.

Key Highlights of CRI 2024

1. Parameters of Assessment:

- **Public Services Spending:** Expenditure on education, health, and social protection.
- **Progressive Taxation:** Tax policies targeting wealth and income disparities.
- **Labour Rights and Wages:** Policies ensuring fair wages and labor protections.

2. Rankings:

- **Top Performers:** Norway, Canada, and Australia.
- **Worst Performers:** South Sudan, Nigeria, and other low-income nations.
- **India's Position:** Ranked **127th**, trailing behind **Nepal (115)** and **Sri Lanka (118)**.

3. Rising Inequality:

- The gap between the **Global North** and **Global South** is widening, driven by:
 - **Food price inflation** and hunger.
 - Doubling of billionaires in the last decade.
- **Key Drivers:** Conflicts, debt crises, and climate shocks have constrained public spending in many low- and middle-income countries.
- **Impact:**
 - 84% of countries reduced spending on **education, health, or social protection**.

Recommendations to Reduce Inequality

1. National Inequality Reduction Plans (NIRPs):

- Implement **realistic and timebound plans** to reduce inequality.
- Include **regular monitoring and reporting** mechanisms.

2. Health and Education Budgets:

- Allocate at least **15% of public expenditure to health**.
- Ensure **20% of public expenditure is devoted to education**.

3. Progressive Taxation:

- Increase taxes on the **richest 1%** to redistribute wealth and reduce disparities.

India's Measures to Address Inequality

1. Job Creation:

- **MGNREGA:** Provides guaranteed rural employment to reduce income disparities.

2. Financial Inclusion:

- **PM Jan Dhan Yojana:** Ensures access to banking services for marginalized populations.

3. Education and Skilling:

- **Right to Education Act, 2009:** Mandates free and compulsory education for children aged 6–14.
- **Skill India Mission:** Promotes vocational training and upskilling.

4. Entrepreneurial Support:

- **Startup India:** Encourages entrepreneurship and supports small businesses.

Conclusion

The **CRI Index 2024** highlights the urgent need for nations, including India, to strengthen efforts to reduce inequality. While India has undertaken significant initiatives such as **MGNREGA**, **PM Jan Dhan Yojana**, and **Right to Education**, more focused policies, including **progressive taxation** and increased spending on **health and education**, are essential to bridge the gap and promote **inclusive growth**.

All India Rural Financial Inclusion Survey 2021-22

Why in the News?

- NABARD released the **Second All India Rural Financial Inclusion Survey (NAFIS) 2021-22**, providing insights into the economic and financial conditions of the rural population since 2016-17.

About NAFIS

1. **Launched:** Initiated in **2016-17** as a national-level survey to evaluate the **livelihood and financial inclusion** status of the rural population.
2. **Purpose:** Provides a comprehensive understanding of rural households' **economic conditions, financial inclusion, and livelihood opportunities**.
3. **Focus Areas:** Covers **financial inclusion metrics** such as loans, insurance, and pensions.

Key Highlights of the Survey

1. **Income Growth:** Average monthly income of rural households increased by **57.6%**.
2. **Consumption Patterns:** Share of food in consumption declined from **51% to 47%**, indicating a diversification in expenditure.
3. **Landholding:** Average landholding size declined from **1.08 hectares to 0.74 hectares**.
4. **Financial Literacy:** Respondents with **good financial literacy** increased from **33.9% to 51.3%**.
5. **Institutional Borrowing:** Agricultural households borrowing from **institutional sources** rose from **60.5% to 75.5%**.
6. **Kisan Credit Card (KCC):** Found to be an **effective tool** for financial inclusion in the rural farming sector.

Factors Contributing to Rising Rural Income

1. **Government Support:**
 - Programs like **MGNREGA:**
 - 5.6 crore households availed employment under the scheme in January 2023, providing **income security**.
 - **Direct Benefit Transfers (DBT):** Enhanced cash flow for rural households through subsidies and schemes.
2. **Increased Female Labour Force Participation:**
 - **Rural female labour force participation rate** rose from **19.7% (2018-19)** to **27.7% (2020-21)**, as highlighted in the **Economic Survey 2022-23**.

About NABARD

1. **Establishment:** Formed in **1982** under the **National Bank for Agriculture and Rural Development Act**, based on the recommendations of the **B. Sivaraman Committee**.

2. **Mandate:** Promote **sustainable and equitable agriculture** and **rural development**.
3. **Key Functions:**
 - Credit planning for agriculture.
 - Development of rural infrastructure.
 - Supporting financial inclusion initiatives.

NAFINDEX: Financial Inclusion Metric

1. **Purpose:** Developed using data from **NAFIS 2016-17**, the index measures **state-wise financial inclusion**.
2. **Dimensions:**
 - **Traditional banking products** (e.g., savings accounts, credit).
 - **Modern banking products** (e.g., mobile banking, digital payments).
 - **Payment systems** (e.g., UPI, Aadhaar-linked payments).

Significance of Findings

1. **Improved Financial Inclusion:** Rise in institutional borrowing and financial literacy reflects enhanced **access to financial services**.
2. **Economic Diversification:** Reduced reliance on food consumption indicates **better income allocation** toward non-food needs like education and health.
3. **Increased Productivity:** Supportive government schemes and financial tools like **KCC** contribute to **higher productivity** and **income generation** in rural areas.

Way Forward

1. **Focus on Financial Literacy:** Strengthen literacy programs to increase awareness about **modern financial products** and schemes.
2. **Enhance Rural Infrastructure:** Improve access to **banking services** and **digital payment systems** in remote areas.
3. **Encourage Inclusive Growth:** Implement targeted schemes to address **landholding disparities** and provide support for **smallholder farmers**.
4. **Monitor and Scale Effective Programs:** Evaluate and scale successful initiatives like **KCC** and **MGNREGA** to ensure **sustained growth** in rural incomes.

Conclusion

The **Second NAFIS** underscores India's progress in improving rural incomes and financial inclusion. However, sustained efforts in enhancing **infrastructure**, **financial literacy**, and **inclusive growth** are crucial for addressing the challenges of **land fragmentation**, **income disparity**, and **economic vulnerability**.

Government Notifies Offshore Areas Operating Right Rules, 2024

Why in the News?

- The government notified the **Offshore Areas Operating Right Rules, 2024** under the **Offshore Areas Mineral (Development and Regulation) Act, 2002**, to regulate exploration and production of minerals in specified offshore regions.
- This move aligns with the planned **first-ever offshore mineral auction** of 10 blocks, including **sand, lime mud, and polymetallic nodules**.

Key Highlights of the Rules

1. **Applicability:** Covers all **minerals in offshore areas** except:
 - **Mineral oils and hydrocarbons.**

- Specified **atomic minerals**.
- 2. **Lease Surrender:**
 - Allows surrender of leases after **10 years** if production operations are deemed **uneconomic**.
- 3. **Priority Access:**
 - **Government and government-owned companies** will receive priority for operating rights in **reserved offshore zones**.

Offshore Mining and Its Significance

What is Offshore Mining?

- Also called **deep-sea mining**, it involves retrieving **mineral deposits** from the **deep seabed**, typically below **200 meters** depth.

Significance:

1. **Meeting Mineral Demand:**
 - Addresses the rising demand for metals amidst **depleting terrestrial deposits**.
 - Reduces dependence on **mineral imports**, strengthening self-reliance.
2. **Strategic Resource Access:** Offshore areas host valuable resources like **polymetallic nodules**, **cobalt-rich crusts**, and **phosphorites**.
3. **Economic Growth:** Unlocks a new frontier for economic activities and **job creation**.

Challenges in Offshore Mining

1. **Environmental Impact:**
 - **Biodiversity loss** due to habitat destruction, underwater noise, and pollution.
 - Risk of disrupting marine ecosystems and species.
2. **Impact on Coastal Communities:** Potential harm to **fish populations**, threatening the livelihoods of **fishing communities**.
3. **Technological Deficit:** Inadequate **R&D** and lack of advanced technology for **deep-sea mining operations**.
4. **Regulatory Framework:** Need for strong **regulatory oversight** to ensure sustainable and responsible mining.

Government Initiatives for Offshore Mining

1. **Deep Ocean Mission:** Focused on exploration of **marine resources** and development of technologies for **sustainable ocean activities**.
2. **MATSYA 6000:** India's first manned deep-sea submersible under the **Samudrayaan Mission** for exploration up to **6,000 meters** depth.
3. **Blue Economy Framework:** Emphasizes sustainable use of **ocean resources** for economic growth, improved livelihoods, and ocean health.
4. **International Collaboration:** Partnerships with organizations like **International Seabed Authority (ISA)** for offshore resource exploration and regulation.

Way Forward

1. **Environmental Safeguards:** Develop strict **environmental protocols** and monitoring mechanisms to minimize ecological damage.
2. **Technology Development:** Invest in **R&D** for advanced mining technologies to enhance safety and efficiency.
3. **Community Engagement:** Include **fishing communities** and stakeholders in planning and decision-making to mitigate livelihood impacts.
4. **Comprehensive Regulation:** Establish robust frameworks for **sustainable and ethical mining practices**.
5. **Capacity Building:** Train professionals and encourage public-private partnerships to boost the offshore mining sector.

Conclusion

The **Offshore Areas Operating Right Rules, 2024**, mark a significant step in unlocking the potential of India's **deep-sea mineral resources**. By addressing challenges and ensuring **sustainable practices**, the initiative can help meet growing mineral demands while safeguarding the environment and local livelihoods.

National Electricity Plan (Transmission)

Why in the News?

- The **Union Ministry of Power** launched the **National Electricity Plan (NEP) (Transmission)**, developed by the **Central Electricity Authority (CEA)** under the **Electricity Act 2003**.

Key Highlights of NEP (Transmission)

1. **Capacity Expansion Goals:**
 - **500 GW of Renewable Energy Installed Capacity** to be transmitted by **2030**.
 - Over **600 GW transmission capacity** to be achieved by **2032**.
 - Peak demand target of **458 GW by 2032**.
 - Transmission network to expand from **4.85 lakh ckm (2024)** to **6.48 lakh ckm by 2032**.
2. **Inter-Regional Connectivity:**
 - **Inter-regional transmission capacity** to increase from **119 GW (current)** to **168 GW by 2032**.
3. **Integration of Renewable Energy:**
 - **10 GW offshore wind farms**.
 - **47 GW battery energy storage systems**.
 - **30 GW pumped storage plants**.
 - Support for **Green Hydrogen** and **Green Ammonia** manufacturing hubs in coastal areas.
4. **Cross-Border Interconnections:**
 - Plans for interconnections with **Nepal, Bhutan, Myanmar, Bangladesh, Sri Lanka**, and potential links with **Saudi Arabia** and the **UAE**.
5. **Innovative Elements:**
 - Adoption of **advanced technologies** for integrating renewable energy and enhancing system efficiency.

Significance of NEP (Transmission)

1. **Sustainable Energy Transition:** Facilitates India's **energy transition goals** by integrating large-scale **renewable energy projects**.
2. **Meeting Growing Demand:** Supports India's expanding **power consumption needs**, ensuring reliable and efficient energy delivery.
3. **Energy Export Potential:** Cross-border connections enhance India's role as an **energy hub** for neighboring countries.
4. **Boost to Green Economy:** Supports emerging industries like **Green Hydrogen** and **Green Ammonia**, fostering economic growth.
5. **Technological Advancement:** Incorporation of **battery energy storage** and **offshore wind farms** aligns with global best practices.

Challenges in India's Transmission System

1. **High Transmission Losses:** Losses during electricity transfer remain a significant issue.
2. **Integration with Renewables:** Variability in renewable energy sources poses challenges in grid stability and management.
3. **Obsolete Technology:** Dependence on outdated infrastructure limits efficiency.
4. **Regulatory Imbalance:** Greater focus on **generation** over transmission by regulators.

5. **Cybersecurity Concerns:** Increased digitization raises risks of cyber threats to the transmission network.

Structure and Functions of Central Electricity Authority (CEA)

1. **Role:** Apex body responsible for planning and coordinating India's electricity systems.
2. **Functions:**
 - Formulation of National Electricity Plans.
 - Technical standards and safety regulations.
 - Monitoring grid performance and compliance.

Way Forward

1. **Upgrading Technology:** Replace outdated systems with **smart grids** and **advanced monitoring systems**.
2. **Enhanced Renewable Integration:** Invest in **grid storage solutions** and adaptive technologies for managing renewable energy variability.
3. **Policy Support:** Introduce policies to balance focus between generation and transmission.
4. **Cross-Border Cooperation:** Strengthen international energy trade and collaboration.
5. **Cybersecurity Measures:** Develop robust frameworks to protect transmission networks from cyber threats.

Conclusion

The **National Electricity Plan (Transmission)** is a cornerstone in India's journey towards achieving **energy security, sustainable development, and economic growth**. By addressing existing challenges and embracing innovation, the plan aims to create a **resilient and efficient energy transmission system**, enabling India to meet its renewable energy and industrial development goals effectively.

Central Silk Board (CSB)

Why in the News?

- **Platinum Jubilee** of the **Central Silk Board (CSB)** was celebrated recently, marking **75 years** of its establishment.

About Central Silk Board

1. **Establishment:** **Statutory body** set up in **1948** through an **Act of Parliament**.
2. **Ministry:** Functions under the **Ministry of Textiles**.
3. **Mandate:**
 - **Advisory Role:** Provide guidance to the government on matters related to **sericulture** and the **silk industry**.
 - **Standardization:** Ensure quality and standardization in various silk **production processes**.
4. **Headquarters:** Located in **Bengaluru**, Karnataka.

About Silk Production in India

1. **Global Standing:** India is the **2nd largest silk producer** globally, contributing **42%** of the world's silk production (2023).
2. **Major Producing States:**
 - **Karnataka:** Accounts for **32%** of total silk production.
 - Followed by **Andhra Pradesh** and other states.
3. **Types of Silk Produced:**
 - **Mulberry Silk:** The primary variety contributing the most to India's silk production.
 - **Eri Silk:** Known for its natural and sustainable qualities.
 - **Tasar Silk:** Wild silk, often produced in forested areas.
 - **Muga Silk:** Exclusive to Assam, known for its golden sheen.

Significance of Silk Industry in India

- Economic Contribution:**
 - Significant contributor to India's **textile exports**.
 - Employs millions, especially in rural areas.
- Cultural Heritage:** Integral to India's **tradition and culture**, with silk sarees like **Kanjeevaram, Banarasi, and Assam Silk** renowned worldwide.
- Employment Generation:** Provides **livelihood** to **over 9 million people**, especially in the **sericulture and handloom sectors**.
- Global Export Potential:** High demand for Indian silk products in markets like **USA, Europe, and Japan**.

Challenges in Silk Industry

- Climate Sensitivity:** Silk production is heavily dependent on favorable **climatic conditions**.
- Pest Management:** High susceptibility of silk crops to pests and diseases.
- Global Competition:** Intense competition from **China**, the largest silk producer.
- Infrastructure Gaps:** Inadequate infrastructure for **post-harvest management and value addition**.
- Quality Standards:** Need for better adherence to **global quality standards**.

Government Initiatives

- Silk Samagra Yojana:** A comprehensive scheme by CSB to promote the **sericulture sector**, focusing on **R&D**, capacity building, and market development.
- Integrated Scheme for Development of Silk Industry (ISDSI):** Promotes **employment**, increases production, and improves quality.
- Research & Development:** Investment in **advanced technologies** for pest management, disease resistance, and hybrid silk varieties.
- Skill Development:** Training programs for farmers and workers in modern **sericulture techniques**.

Way Forward

- Innovation and R&D:** Develop **high-yielding, pest-resistant varieties** of silk.
- Global Marketing:** Enhance branding and marketing of **Indian silk** in international markets.
- Sustainability:** Focus on **eco-friendly and organic silk** production practices.
- Support to Farmers:** Increase financial assistance and subsidies for sericulture farmers.
- Public-Private Partnerships:** Collaborate with private players to boost infrastructure and supply chain.

AGRICULTURE

National Mission on Edible Oils – Oilseeds (NMEO-Oilseeds)

Why in the News?

- The Union Cabinet approved the **National Mission on Edible Oils – Oilseeds (NMEO-Oilseeds)** for a seven-year period from **2024-25 to 2030-31**.

About NMEO-Oilseeds

Targets for 2030-31:

1. **Oilseed Production:** Increase primary oilseed production from **39 million tonnes (2022-23)** to **69.7 million tonnes**.
2. **Edible Oil Production:** Enhance domestic edible oil production to **25.45 million tonnes**, meeting **72% of projected domestic requirements** (combined with NMEO-Oil Palm).
3. **Cultivation Expansion:** Add **40 lakh hectares** of oilseed cultivation by utilizing fallow lands, promoting intercropping, and crop diversification.

Focus Areas:

- Increasing production of key oilseed crops like: **Rapeseed-Mustard, Groundnut, Soybean, Sunflower, and Sesame**.
- Enhancing oil extraction efficiency from secondary sources: **Cottonseed, Rice Bran, and Tree-Borne Oils**.

Key Features:

1. **SATHI Portal:** Online seed planning and authentication system for states to coordinate with seed agencies, cooperatives, and FPOs.
2. **Value Chain Clusters:**
 - Development of **600 clusters** across **347 districts**, covering over **10 lakh hectares annually**.
 - Support for high-quality seeds, training in Good Agricultural Practices (GAP), and advisory on weather and pest management.
3. **Advanced Technologies:**
 - Promotion of **high-yielding, high-oil content seed varieties**.
 - Use of **genome editing** for seed improvement.
4. **Infrastructure Development:** Establishment of **65 seed hubs** and **50 seed storage units**.
5. **Awareness Campaigns:** Information, Education, and Communication (IEC) initiatives to promote dietary guidelines for edible oils.
6. **Support for Post-Harvest Units:** Assistance to FPOs, cooperatives, and industries for upgrading post-harvest infrastructure.

Need for Self-Sufficiency in Edible Oils

1. **Significance of Oilseeds:** Second-largest crop category in India, cultivated across diverse agro-ecological zones.
2. **Rising Demand:** Increasing **urbanization** and consumption of **processed foods**.
3. **Import Dependency:** **57% of domestic edible oil demand** is met through imports.

Challenges in Achieving Self-Sufficiency

1. **Low Yield per Hectare:** India lags behind due to limited use of **genetically modified (GM)** varieties.
2. **Rainfed Cultivation:** **76% of oilseed cultivation** is dependent on rain, making it vulnerable to climatic shocks.
3. **Geographic Concentration:** Oilseed production is concentrated in specific states.
 - Example: **83.4% of groundnut production** comes from Gujarat, Rajasthan, Tamil Nadu, Andhra Pradesh, and Karnataka.
4. **Demand-Supply Gap:** High import reliance for palm and sunflower oil.
5. **Fragmented Post-Harvest Infrastructure:** Limited access to advanced storage and processing units.

Government Initiatives

1. **Key Programs:**
 - **NFSM-Oilseeds & Oil Palm (2018-19):** Focus on seed production, technology transfer, and equipment support.
 - **NMEO-Oil Palm (2021-22):** Expand oil palm cultivation to **10 lakh hectares by 2025-26**.
 - **PM-AASHA:** Ensures farmers receive **Minimum Support Price (MSP)** for oilseeds.
 - **RKVY-RAFTAAR:** Supports crop production activities, including oilseeds.
2. **Supportive Measures:**
 - **MSP for seven key oilseeds.**
 - **Import Duties:** Imposition of a **20% duty** on edible oil imports to protect domestic producers.
 - **Budget 2024 Focus:** Research, modern farming techniques, and improved market linkages for self-sufficiency.
3. **Historical Initiatives:**
 - **Yellow Revolution (1986–1987):** Boosted production of mustard and sesame seeds.

Way Forward

1. **Enhanced Infrastructure:** Expand seed hubs, storage facilities, and oil processing units.
2. **Technology Adoption:** Promote **genome editing** and **GM technologies** for higher yields.
3. **Policy Interventions:** Strengthen subsidies for farmers and ensure timely availability of seeds and fertilizers.
4. **Public-Private Partnerships:** Foster collaboration for value chain development.
5. **Research Investments:** Focus on resilient crop varieties to withstand climatic and pest challenges.

Conclusion

The NMEO-Oilseeds mission is a transformative step toward achieving **Atmanirbhar Bharat** in edible oils. By enhancing oilseed productivity, promoting innovative farming methods, and supporting value chain development, India can reduce its import dependence, boost farmer incomes, and ensure sustainable growth in the agriculture sector.

National Agriculture Code (NAC)

Why in the News?

- The **Bureau of Indian Standards (BIS)** is developing the **National Agriculture Code (NAC)**, similar to the **National Building Code** and the **National Electrical Code**, to standardize agricultural practices.

About National Agriculture Code (NAC)

1. **Structure:**
 - **Two Parts:**
 - **Part 1:** General principles applicable to **all crops**.
 - **Part 2:** Crop-specific standards for **paddy, wheat, oilseeds, and pulses**.

2. Coverage:

- Encompasses **entire agriculture processes** and **post-harvest operations**:
 - **Crop Selection**: Guidelines for selecting suitable crops based on agro-climatic conditions.
 - **Land Preparation**: Best practices for soil treatment and preparation.
 - **Sowing/Transplanting**: Techniques for seed sowing and plant transplantation.
 - Other operations like irrigation, pest management, harvesting, and storage.

Objectives of NAC

1. **Comprehensive National Standard**: Create a uniform **agricultural code** tailored to **agro-climatic zones** and **crop types**.
2. **Guidance for Farmers**: Serve as a comprehensive manual for the **farming community** to aid **effective decision-making**.
3. **Integration of Modern Practices**: Address **horizontal aspects** such as:
 - **SMART Farming**: Promoting precision agriculture using digital tools.
 - **Sustainability**: Ensuring eco-friendly practices.
 - **Climate Adaptability**: Guidelines to manage climate variability.
4. **Post-Harvest Operations**: Establish standards for **harvesting, storage, and transportation** to reduce losses.

Significance of NAC

1. **Standardized Practices**: Promotes **uniformity** in farming methods across the country, improving **efficiency** and **productivity**.
2. **Sustainability**: Encourages **sustainable farming** practices to conserve resources and protect the environment.
3. **Technological Adoption**: Facilitates the adoption of **modern technologies** and **best practices** in agriculture.
4. **Climate Resilience**: Helps farmers adapt to **climate change** by offering region-specific recommendations.
5. **Enhanced Quality**: Ensures consistent **quality standards** for agricultural produce, improving marketability and export potential.

Way Forward

1. **Stakeholder Engagement**: Involve **farmers, agronomists, scientists, and industry players** in developing the NAC.
2. **Pilot Testing**: Test the NAC in **different agro-climatic zones** before nationwide implementation.
3. **Capacity Building**: Train farmers and agricultural officers to adopt the standards effectively.
4. **Digital Integration**: Create **online platforms** to disseminate NAC guidelines and updates.
5. **Periodic Updates**: Regularly update the code to incorporate advancements in **technology** and **climate research**.

Conclusion

The **National Agriculture Code (NAC)** aims to revolutionize Indian agriculture by establishing standardized practices for improved productivity, sustainability, and resilience. By addressing **regional needs** and integrating **modern farming methods**, NAC will serve as a crucial tool for India's **agricultural modernization** and **climate adaptability**.

Union Cabinet Approves Merger of Agricultural Schemes to Enhance Efficiency

1. **Cabinet Approval**: The **Union Cabinet** approved the **merger of Centrally Sponsored Schemes (CSS)** under the Ministry of Agriculture and Farmers Welfare into two main umbrella schemes:
 - **Pradhan Mantri Rashtriya Krishi Vikas Yojana (PM-RKVY)**
 - **Krishonnati Yojana (KY)**
2. **Pradhan Mantri Rashtriya Krishi Vikas Yojana (PM-RKVY)**:

- **Objective:** Promote **sustainable agriculture** through flexible and state-specific initiatives.
- **Schemes Under PM-RKVY:**
 - **Soil Health Management**
 - **Rainfed Area Development**
 - **Agro-Forestry**
 - **Paramparagat Krishi Vikas Yojana**
 - **Agricultural Mechanization**, including **Crop Residue Management**
 - **Per Drop More Crop**
 - **Crop Diversification Programme**
 - **RKVY DPR Component**
 - **Accelerator Fund for Agri Startups**
- 3. **Krishonnati Yojana (KY):**
 - **Objective:** Ensure **food security** and **agricultural self-sufficiency** through comprehensive programs.
 - **Modified Components:**
 - **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)** modified with a **Detailed Project Report (MOVCDNER-DPR)** component for region-specific flexibility.
- 4. **Mission Mode Initiatives:**
 - Several schemes have been elevated to **mission mode:**
 - **National Mission for Edible Oil-Oil Palm (NMEO-OP)**
 - **Clean Plant Program**
 - **Digital Agriculture**
 - **National Mission for Edible Oil-Oil Seeds (NMEO-OS)**
- 5. **Objectives of Rationalization:**
 - **Avoid Duplication:** Ensures convergence and eliminates overlapping schemes.
 - **Reallocation of Funds:** States can now reallocate funds within PM-RKVY based on specific local needs.
 - **Comprehensive Agricultural Plans:** States are encouraged to prepare comprehensive plans that enhance production, productivity, **climate resilience**, and **value chain development**.
 - **Address Emerging Challenges:** Focuses on challenges like **nutrition security**, **sustainability**, and **private sector participation**.
 - **Approval Streamlining:** States will submit **Annual Action Plans (AAP)** for state-wide approval, instead of individual scheme approvals.

DEFENCE & SECURITY

AI and Defence

Why in the News?

- The **Evaluating Trustworthy Artificial Intelligence (ETAI) Framework and Guidelines for the Indian Armed Forces** were launched by the **Chief of Defence Staff**.

About ETAI Framework

1. **Purpose:** Risk-based assessment framework to ensure integration of **reliable AI technologies** into critical defence operations.
2. **Principles:**
 - **Reliability & Robustness:** Ensures AI systems perform as intended under diverse conditions.
 - **Safety & Security:** Prioritizes operational safety and protection against cyber threats.
 - **Transparency:** Promotes clarity in AI decision-making processes.
 - **Fairness:** Prevents biases in AI-driven actions.
 - **Privacy:** Safeguards sensitive data from misuse.
3. **Guidelines:** Define **implementation measures** for the principles to ensure trustworthiness in AI deployments.

Role of AI in Defence

Applications:

1. **Supporting Functions:**
 - **Surveillance and Reconnaissance:** AI-driven systems analyze vast data for actionable insights.
 - **Enhanced Command and Control (C2):** Improves decision-making with real-time data integration.
2. **Offensive Functions:**
 - **Autonomous Weapons:** Includes loitering munitions and drone swarms for precise strikes.
 - **AI-Driven Cyber Defence:** Detects and mitigates cyber threats, including malware attacks.
3. **Training and Simulations:**
 - AI enhances **combat simulation** and educational modules for training military personnel.
4. **Predictive Analysis:**
 - Predicts potential crimes, tracks adversaries, and identifies vulnerabilities.

Significance of AI in Defence

1. **Precision and Efficiency:** AI improves **target recognition** and minimizes collateral damage, e.g., **Shahed-136 drones** in Ukraine war.
2. **Autonomy:** Enables **autonomous operations**, reducing human risk in hazardous environments.
3. **Real-Time Data Analysis:** Facilitates quick decision-making with massive data processing.
4. **Cybersecurity:** Protects against cyberattacks and enhances operational security.

Challenges in Using AI in Defence

1. **Misuse by Non-State Actors:** Terrorist groups could exploit AI for planned attacks or social manipulation.
2. **Ethical Concerns:** Issues like **automation bias** and unpredictability in AI actions challenge compliance with **humanitarian laws**.
3. **Lack of International Regulation:** Absence of a robust legal framework to control AI's military applications globally.

4. **Privacy Violations:** AI-driven surveillance could infringe on civil liberties, as seen in **China's Uyghur surveillance**.
5. **Technology Dependency:** Heavy reliance on advanced AI tools could create vulnerabilities in the event of system failures.

Indian Initiatives in AI for Defence

1. **Strategic Implementation of AI for National Security:** Task force chaired by **C. Chandrasekaran** led to the formation of **Defence AI Council (DAIC)** and **Defence AI Project Agency (DAIPA)**.
2. **AI Technologies in Defence:** Launched 75 AI-driven solutions at the first **AI in Defence (AIDef) Symposium, 2024**.
3. **Indigenous Innovations:** Development of tools like **Project Seeker** for surveillance and security operations.

International Efforts to Regulate AI in Defence

1. **UN Group of Governmental Experts (GGE):** Discusses lethal autonomous weapons and their regulation under the **UN Convention on Certain Conventional Weapons (CCW)**.
2. **ICRC Guidelines:** Advocates for binding norms for the use of autonomous weapons.
3. **UNIDIR Guidelines:** Provides strategic guidance for incorporating AI in security and defence responsibly.
4. **New UN Resolution (2023):** Establishes principles to ensure AI-driven decisions involving lethal actions remain under human oversight.

Way Forward

National Strategies:

1. **Enhancing ISR Capabilities:** Foster collaboration between **defence forces** and **private AI tech firms** to enhance surveillance and reconnaissance.
2. **Balanced Cyber Warfare:** Strengthen both **offensive** and **defensive cyber warfare** capabilities.

Global Cooperation:

1. **International Legal Framework:** Develop clear laws to regulate **AI in warfare**, including the protection of civilians.
2. **Arms Control:** Incorporate AI-driven weapons into existing **arms control regimes**.
3. **Responsible Use Principles:** Codify ethical and operational guidelines for AI use in military contexts.

Conclusion

The integration of **AI in defence** presents transformative opportunities for enhancing **national security** and **operational efficiency**. However, it also necessitates a balanced approach to **ethical considerations**, **international cooperation**, and **technological resilience**, ensuring that AI's immense potential is harnessed responsibly.

Non-Kinetic Warfare and India's Preparedness

Why in News?

The Parliamentary Standing Committee on Defence has decided to examine India's preparedness to counter **Non-Kinetic Warfare** threats.

What is Non-Kinetic Warfare?

- **Definition:** A modern warfare concept involving **non-conventional tactics** such as **electronic warfare**, **cyberattacks**, **information warfare**, **psychological operations**, and **economic disruption**.
- **Characteristics:**

- Aims to disrupt and destabilize targets **without direct physical destruction**.
- Involves **non-military stakeholders**, including private corporations and civil institutions.
- **Example:** A cyberattack on **power grids or hospital systems** can cripple a nation without using traditional weapons.
- **Kinetic vs. Non-Kinetic:**
 - Kinetic warfare involves **physical destruction** using weapons like tanks, missiles, and firearms.
 - Non-Kinetic warfare uses **tools like lasers, electromagnetic waves, cyberattacks, and psychological operations** to achieve strategic goals.

Examples of Non-Kinetic Warfare

- **Lebanon Pager Blasts:** Demonstrated disruptive tactics without physical destruction.
- **Russia-Ukraine Conflict:** Extensive use of cyberattacks and disinformation campaigns.
- **Israel-Palestine Conflict:** Information warfare and psychological operations to destabilize opponents.

Emerging Threats for India

1. **Hostile Neighbors:**
 - **Pakistan:** Non-state actors supported by Pakistan use cyber and psychological operations to fuel instability.
 - **China:** Employs "**Three Warfares**"—psychological, political, and legal—to assert its geopolitical ambitions.
2. **Non-State Actors:** Groups like Hezbollah have been observed deploying **hybrid warfare tactics**.
3. **Internal Challenges: Naxalite Movement:** Use of cyber technologies and misinformation campaigns to destabilize governance.
4. **Emerging Technologies: Artificial Intelligence:** Weaponized AI in surveillance, targeting, and predictive warfare poses new challenges.

Significance of Readiness for Non-Kinetic Warfare

1. **Cybersecurity:** India's critical infrastructure, including **power grids, banking, and healthcare systems**, is increasingly vulnerable to cyberattacks.
2. **Psychological Warfare:** Countering disinformation campaigns on **social media** and other platforms is essential to maintain internal stability.
3. **Economic Stability:** Protection of financial systems from **economic sabotage** like ransomware attacks is critical.
4. **Information Dominance:** Securing the information domain to counter adversaries' **propaganda and influence operations**.

Steps for India's Non-Kinetic Warfare Preparedness

1. **Strengthening Cybersecurity:**
 - Expand the **National Critical Information Infrastructure Protection Centre (NCIIPC)**.
 - Develop capabilities in **offensive and defensive cyber warfare**.
 - **CERT-In** (Indian Computer Emergency Response Team) to lead proactive measures against cyber threats.
2. **Psychological Operations and Media Management:**
 - Build capabilities to counter **disinformation** and **propaganda**.
 - Collaborate with media platforms to regulate **fake news**.
3. **Technological Advancements:**
 - Develop **AI-driven defense mechanisms**.
 - Invest in **quantum communication and cryptography** to secure data transmissions.
4. **Institutional Reforms:**
 - Establish a dedicated **Non-Kinetic Warfare Division** within the armed forces.
 - Promote **public-private partnerships** in developing tools for hybrid warfare.
5. **Cross-Sectoral Training:** Conduct regular drills involving **civil, military, and private entities** to ensure readiness.

6. **Legal and Policy Framework:** Formulate strict laws to counter **cybercrimes** and penalize non-state actors employing such methods.

Way Forward

- With the growing complexity of warfare, **non-kinetic threats** are likely to escalate. India must focus on **integrated defense strategies, public awareness campaigns, and international cooperation** to counter these challenges effectively. Prioritizing investments in technology and fostering partnerships will be critical to maintaining sovereignty and stability in the face of evolving threats.

DefConnect 4.0: Showcasing Innovation for Defence Excellence

Why in News?

The Ministry of Defence, through **Innovations for Defence Excellence - Defence Innovation Organisation (iDEX-DIO)**, organized **DefConnect 4.0** to foster innovation in the defence sector.

Key Initiatives Launched

1. Acing Development of Innovative Technologies with iDEX (ADITI 2.0)

- **Features:**
 - Introduced **19 challenges** from the Armed Forces and allied agencies.
 - Domains include **Artificial Intelligence (AI), Quantum Technology, Anti-drone Systems**, and others.
- **Grants:** Provides funding of up to **₹25 crore** to winners.
- **Focus:** Targets the development of **30 critical and strategic defence technologies**.

2. Defence India Start-Up Challenges (DISC 12)

- **Features:** Focuses on **41 challenges** in key technology areas such as **Unmanned Aerial Vehicles (UAVs), AI, and Networking & Communication**.
- **Grants:** Offers up to **₹1.5 crore** for selected innovations.
- **Objective:** Supports **start-ups, MSMEs**, and innovators in prototype development and product commercialization.
- **Partnership:** Launched in collaboration with the **Atal Innovation Mission**.

3. Medical Innovations and Research Advancement (MIRA) Initiative

- **Purpose:** Focuses on the development of **medical technologies** tailored to the Armed Forces.
- **Scope:** Includes innovations in **field medical support, trauma care, and advanced diagnostics**.

About iDEX

Scheme for Innovations for Defence Excellence (iDEX)

- **Launch:** Initiated in **2021** by the Ministry of Defence.
- **Implementation:** Operated by **Defence Innovation Organisation (DIO)**, a not-for-profit entity under MoD.
- **Funding:**
 - Provides up to **₹1.5 crore** under DISC and Open Challenge categories.
 - **iDEX Prime** offers up to **₹10 crore** for projects with a larger scale of impact.
- **Achievements:**
 - **26 products** developed under iDEX.
 - Procurement orders worth **₹1,000 crore** have been placed for these innovations.

Significance of DefConnect and iDEX Initiatives

1. **Promotes Start-Ups and MSMEs:** Encourages **small-scale innovators** to contribute to defence technology development.

2. **Indigenization of Defence Technology:** Reduces dependency on imports by fostering **self-reliance** in defence manufacturing.
3. **Focus on Cutting-Edge Domains:** Addresses critical technology needs such as **AI, quantum computing, drones, and medical advancements.**
4. **Public-Private Partnerships:** Bridges the gap between defence needs and private sector capabilities.
5. **Economic Boost:** Facilitates job creation and drives investment in the defence sector.

Way Forward

- **Enhanced Industry Collaboration:** Foster stronger collaborations between **iDEX** and large-scale private sector players.
- **Focus on Global Competitiveness:** Position India as a hub for **defence technology exports.**
- **Increased Funding:** Expand funding under initiatives like **ADITI** and **DISC** to accelerate prototype development and deployment.
- **Inclusion of New Domains:** Integrate **space technology, cybersecurity, and renewable energy** into defence innovation frameworks.

31 MQ-9B Drones and Indigenous Nuclear Attack Submarines Deal Cleared

Why in the News?

The **Cabinet Committee on Security (CCS)** approved the procurement of **31 MQ-9B drones** from the U.S. and the **indigenous construction of two nuclear-powered attack submarines (SSNs)** to enhance India's defence capabilities.

About MQ-9B Drones

Description

- **High Altitude Long Endurance (HALE) UAVs** for **surveillance, reconnaissance, and precision strikes.**
- Designed to operate beyond the horizon via satellite communication for up to **40 hours.**

Key Features

- **Variants:** Two types - **SkyGuardian** (land operations) and **SeaGuardian** (maritime operations).
- **Capabilities:**
 - Engage targets on **land, at sea, and in air.**
 - Equipped with **advanced sensors** for persistent surveillance and intelligence gathering.

Deal Highlights

- **31 drones** to be procured:
 - **16 SkyGuardian** and **15 SeaGuardian** variants.
 - Distributed across the **Indian Army, Navy, and Air Force** (8 for the Army and Air Force each).

Significance of MQ-9B Deal

MQ-9B

Predator Drones



Max Gross Takeoff Weight: **5,670 kg**

Fuel Capacity: **2,721 kg**

Payload Capacity: **2,177 kg across 9 hardpoints (8 wing, 1 centerline)**

Crew:

Two pilots in ground control stations

Weapons

Laser guided missiles

Anti-tank missiles

Anti-ship missiles

Missions

- Humanitarian Assistance/Disaster Relief
- Search and Rescue
- Law Enforcement
- Border Enforcement
- Defensive Counter Air
- Airborne Early Warning

Missions

- Electronic Warfare
- Anti-Surface Warfare
- Anti-Submarine Warfare
- Airborne Mine Counter Measures
- Long-Range Strategic ISR
- Over-the-Horizon Targeting

1. **Enhanced Surveillance:** Critical for monitoring sensitive regions, particularly along the **Line of Actual Control (LAC)** with China.
2. **Strengthened Indo-Pacific Strategy:** Improves India's military readiness in the **Indo-Pacific region**, ensuring maritime security and freedom of navigation.
3. **Operational Readiness:** Provides **real-time intelligence** and **precision targeting capabilities** for quick decision-making in conflict scenarios.
4. **Deepened India-U.S. Defence Ties:** Reflects growing **strategic alignment** and collaboration in advanced defence technologies.

About Nuclear-Powered Attack Submarines (SSNs)

Description

- Submarines designed for **anti-submarine warfare**, **anti-surface ship operations**, and **intelligence gathering**.
- Operate independently without reliance on external air for propulsion.

Key Features

- Equipped with **torpedoes** and **cruise missiles**, though they do not carry ballistic missiles.
- **Faster, quieter**, and more difficult to detect than conventional submarines.
- Capable of remaining submerged for extended periods.

Significance of SSN Deal

1. **Underwater Combat Capability:** Enhances **deterrence** and boosts India's **underwater warfare capabilities**.
2. **Self-Reliance in Defence:** Encourages **indigenous manufacturing** under the **Make in India initiative**.
3. **Maritime Security:** Addresses evolving security challenges in the **Indian Ocean Region (IOR)** and beyond.
4. **Strategic Deterrence:** Strengthens India's **nuclear triad**, improving its capacity to respond to potential threats.

Conclusion

The procurement of **31 MQ-9B drones** and indigenous construction of **two nuclear-powered attack submarines** marks a critical step in India's efforts to modernize its defence forces. These assets will bolster India's **surveillance, deterrence, and combat capabilities**, enhance **maritime security**, and deepen **strategic partnerships** like the **India-U.S. defense collaboration**, while also promoting domestic defence manufacturing under **Atmanirbhar Bharat**.

Akashteer Air Defence Systems: Enhancing India's Air Defence Capabilities

Key Features of Akashteer Systems:

- **Real-Time Monitoring:** Facilitates monitoring of low-level airspace over battle areas, enabling prompt detection, tracking, and engagement of aerial threats.
- **Integration of Multiple Systems:** Combines radar systems, sensors, and communication technologies into a single operational framework for enhanced situational awareness and response efficiency.
- **Indigenous Development:** Developed by Bharat Electronics Limited (BEL), showcasing India's commitment to self-reliance in defence technology under the 'Atmanirbhar Bharat' initiative.

Significance of the Acquisition:

- **Enhanced Air Defence:** Strengthens the Army's capability to monitor and neutralize aerial threats in real-time, ensuring better national security.

- **Operational Efficiency:** Offers a unified platform for air defence operations, improving coordination and reducing response times during attacks.
- **Support for Indigenous Manufacturing:** Reflects India's focus on promoting domestic defence manufacturing, reducing dependency on foreign technology.

Deployment of THAAD Missile Defense System to Israel

About the THAAD System:

- **Purpose:** THAAD is an advanced missile defense system designed to intercept and neutralize short, medium, and intermediate-range ballistic missiles during their terminal phase of flight.
- **Technology:** Utilizes a "hit-to-kill" mechanism, relying on kinetic energy to destroy incoming threats without the use of explosive warheads.
- **Components:** Includes truck-mounted launchers, interceptors, radar surveillance systems, and fire control units, with a standard battery comprising about 95 personnel.



Comparison with India's S-400 Triumf System:

- **Purpose:** Both systems are designed to intercept aerial threats, but the S-400 offers versatility in targeting aircraft, cruise missiles, and ballistic missiles, whereas THAAD specializes in ballistic missile defense.
- **Technology and Range:** The S-400 is recognized for its extensive range and multi-target capability, while THAAD is optimized for high-altitude interception of ballistic missiles.

Significance of Deployment:

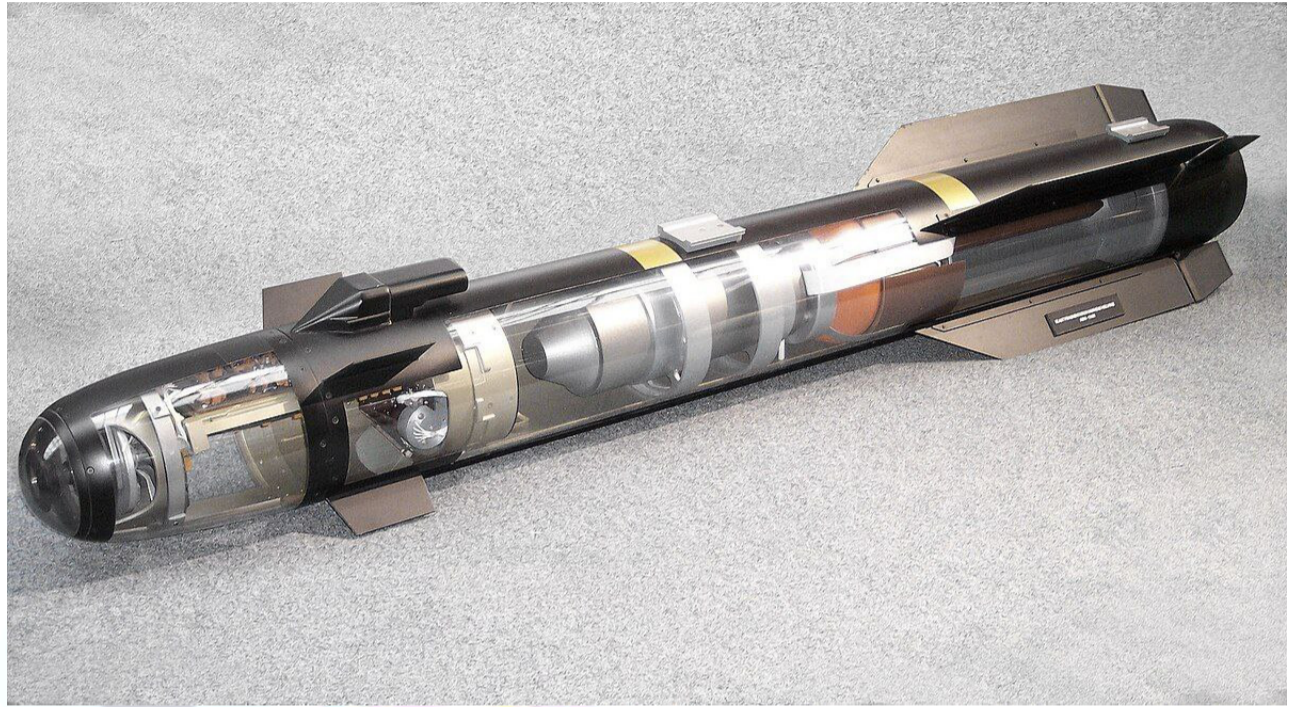
- **Enhanced Defense:** Strengthens Israel's missile defense capabilities against evolving regional threats.
- **Strategic Collaboration:** Reflects deep defense cooperation between the United States and its allies, ensuring regional stability and security.
- **Regional Security:** Contributes to a robust deterrence mechanism against potential adversarial ballistic missile threats.

India Acquires AGM-114R Hellfire Missiles to Enhance Precision Strike Capabilities

India has entered into an agreement with the United States to procure 170 AGM-114R Hellfire missiles, aiming to enhance its precision strike capabilities.

AGM-114R Hellfire Missile Overview:

- **Type:** Short-range air-to-ground missile.
- **Range:** Approximately 7 to 11 kilometers.
- **Guidance System:** Semi-Active Laser (SAL) homing, enabling precision targeting.
- **Warhead:** Multi-purpose design capable of neutralizing a variety of targets, including armored vehicles, air defense systems, patrol boats, and enemy combatants.
- **Launch Platforms:** Versatile deployment from various platforms, including rotary and fixed-wing aircraft, as well as unmanned aerial vehicles (UAVs).



Significance of the Acquisition:

- **Enhanced Precision Strike Capability:** The AGM-114R's advanced guidance and versatile warhead allow for effective engagement of diverse targets, bolstering India's tactical operations.
- **Operational Flexibility:** Compatibility with multiple platforms provides the Indian armed forces with adaptable deployment options across different mission profiles.
- **Strengthened Defense Collaboration:** This procurement underscores the deepening defense ties between India and the United States, facilitating technology transfer and strategic cooperation.

The integration of AGM-114R Hellfire missiles is poised to significantly augment India's defense posture, providing a robust tool for precision engagements in various operational scenarios.

Recent Military Exercises Involving India

Exercise	Edition	Location	Duration	Participants	Objective
KAZIND-2024	8th	Auli, Uttarakhand	September 30 – October 13, 2024	India: KUMAON Regiment, Kazakhstan: Land Forces, Troopers	Enhance joint military capabilities for counter-terrorism in semi-urban and mountainous terrains.
Malabar 2024	28th	Visakhapatnam, Andhra Pradesh	October 8 – October 18, 2024	Australia, Japan, USA, India	Improve interoperability in maritime operations like anti-submarine warfare, air defense, etc.
Naseem-Al-Bahr	13th	Goa	Not specified	Indian Navy, Royal Navy of Oman	Strengthen maritime security cooperation and enhance interoperability.

ENVIRONMENT & ECOLOGY

Air Pollution in Delhi: Causes, Effects, and Solutions

What is Air Pollution?

- **Air Pollution** is the introduction of harmful chemicals, particulates, or biological materials into the atmosphere that cause discomfort, disease, or death to humans.

How is Air Pollution Measured in India?

- **National Air Quality Index (NAQI)** developed by the **Central Pollution Control Board (CPCB)** in 2014.
- The measurement is based on **eight pollutants**:
 - Particulate Matter (PM10, PM2.5)
 - Nitrogen Dioxide (NO₂)
 - Sulphur Dioxide (SO₂)
 - Carbon Monoxide (CO)
 - Ozone (O₃)
 - Ammonia (NH₃)
 - Lead (Pb)

Reasons for Rising Air Pollution in Delhi

1. **Stubble Burning**: Contributes **35% of PM2.5 levels** during peak October-November season due to emissions from **Punjab, Haryana, and Rajasthan**.
2. **Reduced Wind Speed**: Low wind speeds in winter fail to disperse pollutants, exacerbating air pollution.
3. **North-westerly Winds**: Post-monsoon, **north-westerly winds** bring dust from **Gulf region, northern Pakistan, and Afghanistan**.
4. **Lower Inversion Height**: As temperatures dip, pollutants concentrate in the lower atmosphere due to **lower inversion height**.
5. **Vehicular Pollution**: Vehicles contribute to **40% of particulate load**, as Delhi has a high number of registered private vehicles.
6. **Construction Activities & Open Waste Burning**: **Construction debris** and **landfill burning** exacerbate pollution levels.
7. **Firecrackers**: **Firecracker use during Diwali** significantly worsens pollution levels.
8. **Urban Development**: The focus on **real estate development** and **large fuel-guzzling vehicles** increases pollution.
9. **Land Use Change**: Conversion of **open spaces** for real estate and lack of **afforestation** disrupts the city's ecological balance.
10. **Promotion of Car Sales**: Widening roads and policies that encourage private car ownership contribute to pollution.
11. **Lack of Construction Monitoring**: **Unregulated construction activities** contribute roughly **10%** to Delhi's air pollution.

Harmful Effects of Air Pollution

1. **Economic Impact**:
 - **Loss of productivity**: Air pollution costs **India \$95 billion** annually, equivalent to **3% of GDP**.
 - **Agriculture**: Reduces crop and commercial forest yields.
2. **Health Impact**:
 - Air pollution contributes to **respiratory diseases, heart disease, lung cancer**, and other health conditions.
 - **1.8 million premature deaths** annually in India, with **49 million disability-adjusted life years (DALYs)** lost.

3. Environmental Impact:

- **Acid rain** damages crops, vegetation, and monuments like the **Taj Mahal**.
- **Eutrophication** of water bodies from nitrogen contamination.

Government Initiatives to Reduce Air Pollution in Delhi

1. **Crop Residue Management Scheme:** Provides **subsidies** to farmers for **machines** like **Turbo Happy Seeders** to prevent stubble burning.
2. **Commission for Air Quality Management (CAQM):** Established under the **CAQM Act 2021** to monitor and regulate air quality, particularly addressing **stubble burning**.
3. **Vehicular Pollution Control:** Implementation of **BS-VI norms**, promotion of **Electric Vehicles (EVs)**, and **Odd-Even policy** to curb vehicular emissions.
4. **Graded Response Action Plan (GRAP):** Measures like shutting down **thermal power plants** and banning **construction activities** during high pollution days.

What Should Be the Way Ahead?

1. **Increase AQI Monitoring Stations:** Install **adequate AQI monitoring stations** and **sensor-based units** for real-time, hyperlocal data.
2. **Empower Authorities with Hyperlocal Data:** Enable authorities to take **preemptive actions** and **penalize violators** based on localized pollution data.
3. **National Nodal Authority for Air Pollution:** Establish a **national nodal authority** with **constitutional powers** to manage air pollution across states.
4. **Independent Commissions for Air Quality:** Set up regional commissions like **CAQM** for other major cities (e.g., **Mumbai** and **Chennai**) to manage AQI effectively.
5. **Stricter Industrial Emission Guidelines:** Strengthen frameworks like **BRSR** to ensure **standardized emission reporting** and set **targets** for industrial pollution reduction.
6. **Promote Clean Air as an Investment Sector:** Encourage investment in **clean energy**, **green mobility**, and **clean cooking** to reduce pollution and boost the economy.
7. **Funds and Manpower for Pollution Control:** The **Sixteenth Finance Commission** should provide funds to local bodies for **air pollution control initiatives**.
8. **Raise Awareness and Incentives for Civil Society:** Increase **awareness** about the benefits of reducing air pollution and incentivize **sustainable practices**, like alternatives to **stubble burning**.
9. **Encourage Public Transport:** **Improve public transport** and reduce reliance on **private vehicles**. Introduce **ward-wise parking** and **parking taxes** to discourage car usage.
10. **Limit Crop Residue Burning:** Implement **alternative agricultural practices** to reduce stubble burning, such as **altered irrigation systems**, **harvesting timing**, and **market-based solutions**.
11. **Improved Construction & Waste Management:** Regulate construction and waste management to reduce **dust** and **waste burning**.
12. **Global Best Practices:** Incorporate lessons from cities like **London**, **China**, **Singapore**, and **Hong Kong** for managing **urban pollution** and enhancing **public transport systems**.

State of Global Water Resources 2023: Key Findings and Implications

The World Meteorological Organization (WMO) has released the "State of Global Water Resources 2023" report, highlighting significant challenges in global water availability.

Key Findings:

- **Record Temperatures:** 2023 was the hottest year on record, intensifying hydrological extremes.
- **Soil Moisture Deficits:** Large regions experienced below-normal soil moisture levels, affecting agriculture and ecosystems.

- **River Flows:** Global rivers recorded their driest year in 33 years, with notable low water levels in the Amazon's Lake Coari.
- **Glacial Melt:** Glaciers suffered the largest mass loss in the past five decades, threatening long-term water security.

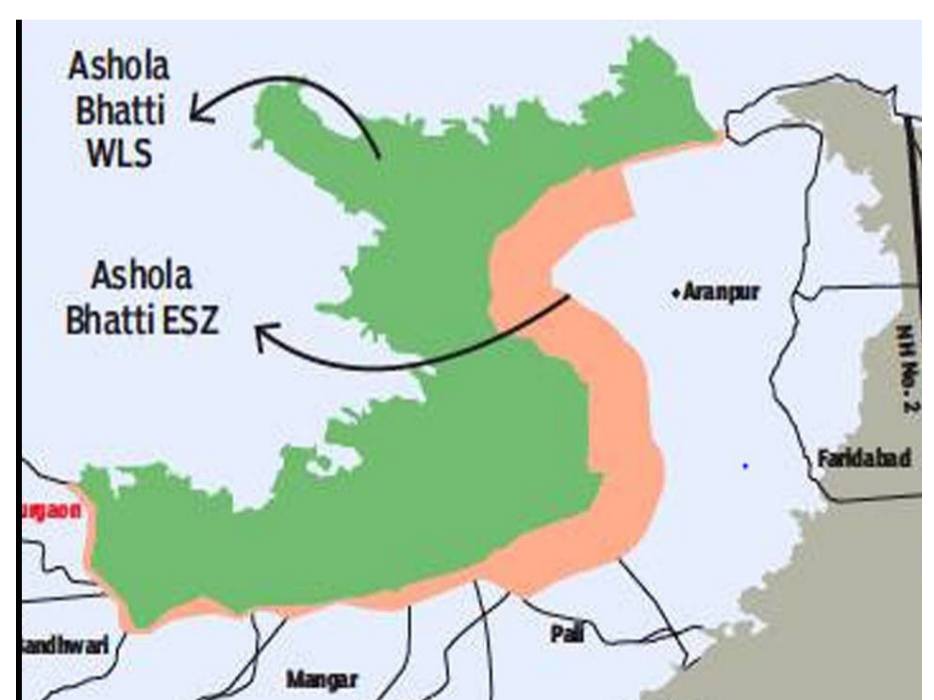
These findings underscore the urgent need for improved water management and climate adaptation strategies to address the escalating water scarcity and its impacts on communities worldwide.

Key Findings on Indian Elephant Migration and Genetic Diversity

1. **Migration from North to South:** Indian elephants have progressively migrated southward over millennia, which has led to a significant loss of genetic diversity. The southern populations now show reduced genetic vigour.
2. **Five Genetically Distinct Populations:** Researchers identified five distinct genetic populations of elephants across India:
 - **Northern Population:** Located along the Himalayan foothills (Northwest to Northeast).
 - **Central Indian Population:** Found in parts of central India.
 - **Southern Populations:** Three distinct populations in Tamil Nadu and Kerala, south of the Shencottah Gap.
3. **Southernmost Population's Vulnerability:** The population south of the Shencottah Gap has the lowest genetic diversity, with fewer than 150 elephants. This makes them highly vulnerable and at a greater risk of extinction.
4. **Historical Divergence:** The northern population diverged from others over 70,000 years ago. Central Indian elephants separated around 50,000 years ago, while the southern populations split about 20,000 years ago.
5. **Serial Founder Effect and Inbreeding:** As elephants migrated southward, smaller population sizes led to the **serial founder effect**, increasing the risk of inbreeding depression, where harmful genetic traits are more likely to be passed on.
6. **Shencottah Gap as a Barrier:** The **Shencottah Gap** acted as a natural barrier that further divided the southern populations, which was previously unrecognized. Earlier, the **Palghat Gap** was considered the only barrier in the Western Ghats.
7. **Central and Northern Populations:** The **Central Indian elephants** are found between southwest West Bengal and eastern Maharashtra, while **Northern populations** in the northwest (Uttarakhand, Uttar Pradesh) and northeast (Assam, Arunachal Pradesh) were historically connected but separated by the Ganga and Brahmaputra rivers.
8. **Importance of Habitat Connectivity:** The study stresses the need to preserve **habitat connectivity**, particularly in the **Western Ghats**, where infrastructure development has disrupted gene flow between elephant populations, exacerbating genetic isolation.

Asola Bhatti Wildlife Sanctuary: A Vital Protected Area on Delhi's Southern Edge

1. **Location and Size:**
 - The **Asola Bhatti Wildlife Sanctuary** is a **protected area** situated on the **southern edge of Delhi** and the **northern part of Haryana**, covering parts of the **Aravalli Hills**.
 - The sanctuary spans **32 square kilometers**, making it a significant conservation area.
2. **Geological and Climatic Features:**
 - This sanctuary represents the **northeastern rolling outliers** of the **Aravallis**, India's oldest hill ranges.
 - The climate in the sanctuary is marked by **extreme summer heat** alternating with **great winter cold**, contributing to its unique ecological balance.
3. **Vegetation:**



- The vegetation primarily consists of **open-canopied, thorny scrub**, with **xerophytic adaptations** such as **thorny appendages** and **waxy, succulent** or **tomentose leaves**.
- Notable **flora** include:
 - **Dhau (Anogeissus pendula)**, **Kumtha (Senegalia senegal)**, and **Palash (Butea monosperma)** forests.
 - **Grasslands** on slopes and open areas.
 - Degraded areas dominated by **Prosopis juliflora** and invasive species like **Lantana camara** and **Parthenium hysterophorus**.
- 4. **Fauna:**
 - The sanctuary hosts a rich diversity of wildlife, including:
 - **25 mammal species**, such as the **Leopard, Striped Hyena, Golden Jackal**, and **Indian Crested Porcupine**.
 - **250 bird species**, including critically endangered species like the **Red-headed Vulture, Black Eagle**, and **Northern Goshawk**.
 - **28 raptor species**, with 14 protected under India's **Wildlife Protection Act**.
 - **24 reptile species, 86 butterfly species**, and **15 dragonfly species**.
 - Other notable fauna include **Civets, Jungle Cats, Snakes, Monitor Lizards**, and **Mongoose**s.
- 5. **Importance of Sanctuary:**
 - Asola Bhatti is a crucial **habitat for biodiversity**, protecting both plant and animal species native to the region.
 - It plays a vital role in wildlife conservation and is designated as a **protected area** to maintain ecological balance.
- 6. **Recent Developments:** The **Delhi High Court** has recently ordered local authorities to prioritize the relocation of **monkeys** to the sanctuary, highlighting its role as a wildlife refuge.

SOCIETY & SOCIAL ISSUES

Mental Health Among Adolescents: Challenges and Way Forward

Why in the News?

- WHO and UNICEF released the ‘**Mental Health of Children and Young People - Service Guidance**’ report on **World Mental Health Day (10th October)**.
- **Key findings:**
 - One-third of mental health conditions emerge before the age of 14, and half before the age of 18.
 - **15% of adolescents (10–19 years)** experience mental health conditions, with **anxiety, depression, and behavioral disorders** being most common.
 - **Suicide** is the **fourth leading cause of death** among adolescents aged 15–19 years.

Understanding Mental Health

- **Definition:** According to WHO, mental health is a **state of well-being** in which an individual realizes their potential, copes with normal life stresses, works productively, and contributes to the community.
- **Impact of untreated issues:**
 - Affects academic performance, relationships, and employment.
 - May lead to severe outcomes like **substance abuse** or **suicide**.

Determinants of Adolescent Mental Health

Category	Factors
Immediate Triggers	Financial loss, grief, failing exams, public humiliation (e.g., IIT and Kota suicides).

Social Media	Decreased sleep, depression, and poor academic performance linked to excessive use; cyberbullying.
Social Isolation	Dysfunctional family dynamics, gender identity struggles, and substance abuse.
Biological Predispositions	Genetic factors, hormonal changes, and family history. Girls and socially unsupported youth are more vulnerable.

Barriers to Mental Health Services for Adolescents

Barrier	Description
Stigma and Discrimination	Fear of societal judgment discourages help-seeking behavior.
Lack of Inclusive Services	Overlooks needs of neurodiverse children, those with disabilities, etc.
Coordination Issues	Poor continuity of care during transitions between child, adolescent, and adult services.
Shortage of Professionals	Only 0.75 psychiatrists per lakh population in India (Economic Survey 2023-24).
Geographical Disparities	Inadequate infrastructure in rural and remote areas.

Initiatives for Adolescent Mental Health

Indian Initiatives	Global Initiatives
Mental Health Care Act, 2017: Promotes rights and ensures access to mental healthcare.	Helping Adolescents Thrive (HAT): Strengthens adolescent mental health policies.
Tele-MANAS: 24/7 tele-mental health services in multiple languages.	mhGAP: WHO initiative to address mental health resource gaps.
MANODARPAN: Psychosocial support for students, families, and teachers.	UNICEF Global Coalition for Youth Mental Health: Public investment in youth mental health.
SAATHI Program: CBSE initiative offering workshops and online sessions.	

Way Forward

1. Integrating Mental Health in Primary Care:

- Boost early detection and care of common conditions in adolescents.
- **Example:** Nigeria's community psychiatric nurses provide mental health services at primary clinics.

2. Community-Based Mental Health Services:

- Build networks with services integrated into schools, youth centers, and health facilities.
- Early interventions for psychosis, eating disorders, etc.
- **Example:** Chennai's Schizophrenia Research Foundation focuses on early intervention.

3. Digital Interventions:

- Use technologies like **chatbots** for stress reduction.
- **Example:** WHO's **Sustainable Technology for Adolescents and Youth to Reduce Stress (STARS)**.

4. Promoting Awareness and Reducing Stigma:

- Conduct campaigns to normalize conversations around mental health.

5. Enhanced Professional Training:

- Increase the number of psychiatrists and counselors through specialized programs.

6. Policy and Investment:

- Allocate adequate budgets for mental health services.
- Advocate for public-private partnerships to enhance service reach.

Conclusion

Mental health in adolescents is a pressing issue that requires a **multi-dimensional approach**, combining **community-based interventions**, **digital solutions**, and **policy support**. Addressing barriers, enhancing awareness, and providing timely interventions will pave the way for a healthier, more resilient youth population.

Child Marriage in India: Current Scenario, Causes, and Solutions

Why in the News?

- The **Supreme Court** issued **comprehensive guidelines** to curb child marriage in a petition filed by the **Society for Enlightenment and Voluntary Action**.

Status of Child Marriage in India (NFHS-5)

- 23.3%** of women (20–24 years) were married before **18 years**.
- 17.7%** of men (25–29 years) were married before **21 years**.
- Prevalence has reduced from **47% (2006)** to **23.3% (2019-21)**.
- States with **higher prevalence**: Andhra Pradesh, Assam, Bihar, Jharkhand, Rajasthan, Telangana, Tripura, and West Bengal.
- NCRB Data**: Cases registered under **Prohibition of Child Marriage Act (PCMA), 2006** increased from **395 (2017)** to **1050 (2021)**.

Reasons for Prevalence of Child Marriage

CATEGORY	DETAILS
ECONOMIC FACTORS	- Poverty compels families to marry off daughters early. - Dowry traditions and financial burdens.
CULTURAL FACTORS	- Seen as a way to protect family honor and ensure virginity. - Social acceptance of child marriage.
PATRIARCHAL ATTITUDES	- Gender inequality places less value on girls' education. - Girls viewed as economic liabilities.
SAFETY CONCERNS	- Parents perceive early marriage as protection against harassment and assault.
LACK OF AWARENESS	- Poor legal enforcement and awareness, especially in rural areas.
EDUCATIONAL BARRIERS	- Limited educational opportunities reduce aspirations of young girls.

Key Measures Taken by the Government

Initiative	Description
Prohibition of Child Marriage Act (2006)	Prohibits marriage of girls under 18 and boys under 21; includes Child Marriage Prohibition Officers (CMPOs) .
Juvenile Justice Act (2015)	Protects children at risk of early marriage.
Beti Bachao Beti Padhao (2015)	Aims to prevent child marriages , promote education for girls, and challenge gender stereotypes.
Childline (1098)	24/7 outreach service for children in crisis, including prevention of child marriages.
National Action Plan to Prevent Child Marriage	Comprehensive framework focusing on data collection, awareness programs, and government coordination.
Partnerships with UNICEF and NGOs	Capacity building of faith leaders, community volunteers, and local initiatives.

Comprehensive Supreme Court Guidelines

1. Legal Enforcement

- Appointment of **Child Marriage Prohibition Officers (CMPOs)**.
- District Collectors and Superintendents of Police made responsible for prevention.
- Establishment of **Special Police Units** and **Special Child Marriage Prohibition Units**.

2. Judicial Measures

- Empower magistrates for **suo moto actions** against child marriages.
- Explore **fast-track courts** for child marriage cases.

3. Community Engagement

- Launch of "**Child Marriage Free Village**" certification program similar to Swachh Bharat Mission.
- Awareness campaigns in high-risk regions.

4. Technology Integration

- **Centralized Reporting Portal** for child marriages.
- Use of **data analytics** to identify high-risk areas.

5. Resource Allocation

- Annual budget allocation to prevent child marriage.
- Training programs for community health workers, educators, and law enforcement.

Way Forward

Focus Area	Suggested Measures
Awareness and Education	- Comprehensive sexuality and rights education in schools. - Promote campaigns to challenge societal norms.
Strengthening Legal Framework	- Enhance enforcement mechanisms. - Increase penalties for neglect by public servants.
Data-Driven Interventions	- Leverage technology for real-time monitoring and predictive analytics.
Community Involvement	- Engage local leaders, self-help groups, and panchayats to spread awareness and intervene.
Economic Empowerment	- Promote girls' education and skill development. - Support families with financial incentives.

Conclusion

While child marriage in India has reduced significantly, persistent socio-economic and cultural factors continue to challenge its eradication. Strengthened legal frameworks, robust enforcement, and community-driven awareness campaigns are critical to achieving a **child marriage-free India**.

National Health Account (NHA) Estimates 2021-22: Key Highlights

Why in the News?

The **Union Ministry of Health and Family Welfare (MoHFW)** released the **National Health Account (NHA) Estimates** for **2020-21** and **2021-22**.

About NHA Estimates

1. **Objective:** Provides a detailed analysis of financial flows within India's health system, covering collection, allocation, and utilization of funds.
2. **Framework:** Prepared using **System of Health Accounts (SHA) 2011**, a global standard for health expenditure classification.
3. **Prepared by:** National Health Accounts Technical Secretariat (NHATS) with guidance from the NHA Steering Committee and NHA Expert Group.
4. **First Release:** Started in **2013-14**, envisioned under **National Health Policy 2002**.

Key Findings

Indicator	Trend (2021-22)	Details
Total Health Expenditure (THE)	Increased to 3.83% of GDP from 3.31% ; Per capita rose to ₹6,602 from ₹4,297.	Indicates higher relative spending on health as compared to economic development. Per capita THE shows increased healthcare spending per individual.
Government Health Expenditure (GHE)	Rose to 48% of THE from 40.8% .	Reflects growing government investment in health programs, infrastructure, and schemes.
Current Health Expenditures (CHE)	Decreased to 87.3% of THE from 88.5% .	Operational health spending indicates efficiency in healthcare delivery systems.
Out-of-Pocket Expenditure (OOPE)	Reduced to 48.8% of THE from 64.2% .	Shows improved financial protection and reduced burden on households for direct healthcare payments.
Social Security Expenditure (SSE)	Marginal decline to 8.7% of THE from 9% .	Includes health insurance programs like PMJAY and RSBY , reflecting the need for broader coverage.
Private Health Insurance (PHI)	Increased to 7.4% of THE from 5.8% .	Rising role of private health insurers in healthcare financing.
External/Donor Funding	Rose to 1.1% of THE from 0.5% .	Highlights increased international support, likely driven by health crises like COVID-19.

Significance of the Findings

1. Enhanced Government Focus:

- Increased GHE indicates stronger prioritization of public healthcare infrastructure and accessibility.
- Expansion of health insurance schemes reflects commitment to universal health coverage.

2. Reduced OOPE: Decline in out-of-pocket expenses reduces financial vulnerability and enhances health equity.

3. Rise in Private Health Insurance: Growing private sector participation complements public initiatives, improving access to quality healthcare.

4. Global Contributions: Higher external funding underscores global confidence in India's health reforms and the need for continued international cooperation.

Conclusion

The National Health Account Estimates highlight significant progress in India's healthcare financing, showcasing reduced household burdens, enhanced government spending, and increasing private sector engagement. Sustained reforms will ensure **accessible, affordable, and equitable healthcare**, preparing India to address future challenges like pandemics more effectively.

UN Women Report: "World Survey on the Role of Women in Development"

Theme: "Harnessing Social Protection for Gender Equality, Resilience, and Transformation"

Key Highlights

Need for Gender-Responsive Social Protection (GRSP)

1. Objective: GRSP seeks to address **gender-specific risks and vulnerabilities**, including:

- **Lesser access** to resources and opportunities.
- Disproportionate **burden of unpaid care** and domestic work.
- Exposure to **gender-based violence**.
- Limited **voice in decision-making** processes.

2. Approach:

- Acknowledges **nature and intensity of gender-based constraints**.
- Focuses on addressing systemic inequalities.

Key Findings

1. Lack of Access:

- **Two billion women and girls** lack any form of social protection (cash benefits, pensions, unemployment insurance, healthcare).
- **63% of women** globally give birth without access to **maternity benefits**.

2. Impact of External Factors:

- Gender-specific risks are exacerbated by **conflicts, climate change, and economic shocks**.

Recommendations

1. **Address Gender Gaps:** Eliminate **biases in existing social protection systems**, policies, and programs.
2. **Coordination with Public Services:** Align **employment policies and public services** with GRSP objectives.
3. **Adapt Policies for Crisis Situations:** Ensure social protection systems are responsive to the needs of women and girls in **sudden or prolonged crises**.
4. **Adopt Rights-Based Approaches:** Implement social protection systems based on **universal rights** and ensure equitable access for all.

Conclusion

The report underscores the urgent need to build **comprehensive and gender-responsive social protection systems** that address gender-specific vulnerabilities, empower women, and promote **resilience and equality** in the face of global challenges.

Government Extends Supply of Fortified Rice Until 2028

Key Announcement

The government has extended the supply of **fortified rice** under welfare schemes like **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)** until 2028, aiming to combat malnutrition and micronutrient deficiencies.

About Fortified Rice

• Definition:

- **Rice fortification** involves blending **Fortified Rice Kernels (FRK)** (enriched with **Iron, Folic Acid, and Vitamin B12**) into regular rice as per standards set by the **Food Safety and Standards Authority of India (FSSAI)**.
- **Fortification** refers to adding essential vitamins and minerals to staple foods like rice, wheat, oil, milk, and salt to enhance their nutritional value.

Fortified Rice Initiative

- **Launched:** 2022.
- **Rollout Completion:** Achieved by March 2024 in three phases.
- **Funding:**
 - 100% centrally funded under the **Central Sector Initiative**.
 - Part of the food subsidy component of **PMGKAY**.

Rationale for the Initiative

1. Addressing Malnutrition:

- Provides a **cost-effective solution** to tackle **anaemia** and **micronutrient malnutrition**.
- Particularly significant for vulnerable sections of society.

2. **Wider Reach:** Rice is a **staple food** for **65% of India's population**, making it an ideal medium for nutrient delivery.

Schemes Covered

1. **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY):** Supplies **free fortified rice** to **81.35 crore beneficiaries** under the **National Food Security Act (NFSA)**.
2. **Targeted Public Distribution System (TPDS).**
3. **Integrated Child Development Services (ICDS).**
4. **PM POSHAN (formerly Mid-Day Meal Scheme).**
5. Other **welfare programs** across states and Union Territories.

Significance

- **Health Benefits:**
 - Reduces **micronutrient deficiencies** like anaemia.
 - Improves nutritional security among **economically disadvantaged populations**.
- **Social Impact:** Supports government efforts to **eradicate malnutrition**.
- **Economic Efficiency:** Ensures cost-effective fortification through the **existing supply chain**.

Conclusion

The extension of fortified rice supply reaffirms India's commitment to addressing **malnutrition** and achieving **sustainable development goals** related to health, food security, and nutrition. The initiative is a pivotal step in enhancing the **quality of life** for millions of beneficiaries.



SCHEMES & INITIATIVES

PM-YASASVI: PM Young Achievers Scholarship Award Scheme for Vibrant India

Overview

The PM-YASASVI scheme, under the Ministry of Social Justice and Empowerment, aims to empower **socially and economically disadvantaged students** by providing educational support and opportunities.

Key Features

- **Objective:**
 - Enhance access to **quality education** for marginalized students.
 - Streamline support mechanisms for **Other Backward Classes (OBCs), Economically Backward Classes (EBCs), and Denotified Tribes (DNTs)**.
- **Umbrella Scheme:** Subsumes earlier initiatives such as:
 - Dr. Ambedkar Post-Matric Scholarship Scheme for EBCs.
 - Scholarship Schemes for DNTs.
- **Financial Assistance:** Covers tuition fees, maintenance allowances, and other educational costs.

Significance

- Promotes **inclusive education** by reducing barriers for students from marginalized communities.
- Contributes to **social empowerment** by fostering academic and professional opportunities.
- Supports **vibrant and equitable growth** in India by investing in human capital.

Impact

The scheme is seen as a vital step toward creating a **level playing field** for disadvantaged students, enabling them to compete and excel in various fields. It aligns with the government's vision of "**Sabka Saath, Sabka Vikas**" (Collective Efforts, Inclusive Growth).

PM Rashtriya Krishi Vikas Yojana (PM-RKVY)

Why in the News?

The Cabinet has approved consolidating Centrally Sponsored Schemes (CSS) under the Ministry of Agriculture and Farmers Welfare into two umbrella programs:

1. **PM-RKVY (Cafeteria Scheme)** to promote sustainable agriculture.
2. **Krishonnati Yojana (KY)** to ensure food security and agricultural self-sufficiency.

Objectives of PM-RKVY

- **Incentivize Public Investment:** Encourage states to increase agricultural investment.
- **State Autonomy:** Grant flexibility to states for planning and executing schemes tailored to local needs.
- **Infrastructure Creation:** Strengthen pre- and post-harvest infrastructure to improve access to quality inputs, storage, and market facilities.
- **Value Addition:** Promote value-chain-linked production models to enhance farmers' income and productivity.

- **Youth Empowerment:** Foster agri-entrepreneurship, skill development, and innovation to attract youth to agriculture.

Key Features

1. **Nodal Ministry:** Ministry of Agriculture & Farmers Welfare.
2. **Funding Pattern:**
 - **90:10** for Northeastern and hilly states.
 - **60:40** for other states.
 - **100%** for Union Territories.
3. **Background:**
 - Initiated in **2007-08** to motivate states for comprehensive agricultural plans tailored to local climates and resources.
 - Transformed into **RKVY-RAFTAAR** in 2017-18, focusing on pre- and post-harvest infrastructure, innovation, and entrepreneurship.
 - Restructured as **RKVY Cafeteria Scheme** in 2022-23, rationalizing multiple agricultural schemes.
4. **State-Level Sanctioning Committee (SLSC):**
 - Headed by the Chief Secretary of the concerned state.
 - Funds are allocated based on approved projects.

Focus Areas

- Special attention to **small and marginal farmers, SCs, STs, women, and weaker segments** of society.

Sub-Schemes Under PM-RKVY

1. **Soil Health Management:** Promote sustainable soil practices.
2. **Rainfed Area Development:** Enhance productivity in rainfed areas.
3. **Agroforestry:** Encourage integrated farming systems.
4. **Paramparagat Krishi Vikas Yojana:** Promote organic farming.
5. **Agricultural Mechanization:** Includes crop residue management.
6. **Per Drop More Crop:** Efficient water use and micro-irrigation.
7. **Crop Diversification Programme:** Encourage alternative cropping systems.
8. **Accelerator Fund for Agri Startups:** Support innovation and entrepreneurship in agriculture.

Conclusion

PM-RKVY aligns with sustainable agriculture goals by integrating investment, infrastructure, and innovation. The scheme addresses the needs of vulnerable segments, promotes efficiency in resource use, and aims to increase farmers' income through diversified and modernized farming practices.

Krishonnati Yojana (KY)

Why in the News?

The Cabinet approved consolidating Centrally Sponsored Schemes (CSS) under the Ministry of Agriculture and Farmers Welfare into two umbrella programs:

1. **PM-RKVY (Cafeteria Scheme):** To promote sustainable agriculture.
2. **Krishonnati Yojana (KY):** To address food security and agricultural self-sufficiency.

Objectives of Krishonnati Yojana

- Develop agriculture and allied sectors holistically and scientifically.

- Increase farmers' income by enhancing production, productivity, and better market returns.

Key Features

1. **Nodal Ministry:** Ministry of Agriculture & Farmers Welfare.
2. **Background:**
 - Initiated in **2016-17** by integrating multiple schemes/missions under one umbrella.
 - Aimed at comprehensive agricultural development and food security.

Major Sub-Schemes Under KY

1. **Mission for Integrated Development of Horticulture (MIDH):** Promote horticulture production and productivity.
2. **National Mission on Oil Seeds and Oil Palm (NMOOP):** Boost oilseed and oil palm production to reduce import dependency.
3. **National Food Security Mission (NFSM):** Ensure food security through crop diversification and sustainable practices.
4. **National Mission for Sustainable Agriculture (NMSA):** Promote sustainable agriculture through efficient resource use.
5. **Sub-Mission on Agriculture Extension (SMAE):** Strengthen agricultural extension services.
6. **Sub-Mission on Seeds & Planting Material (SMSP):** Ensure availability of quality seeds and planting material.
7. **Sub-Mission on Agricultural Mechanisation (SMAM):** Enhance farm mechanization to improve productivity.
8. **Sub-Mission on Plant Protection and Plant Quarantine (SMPPQ):** Strengthen pest and disease management.
9. **Integrated Scheme on Agricultural Census, Economics and Statistics:** Improve data collection and analysis for agricultural planning.
10. **Integrated Scheme on Agricultural Cooperation:** Promote cooperatives and allied activities.
11. **Integrated Scheme on Agricultural Marketing (ISAM):** Strengthen agricultural marketing infrastructure.
12. **National e-Governance Plan in Agriculture (NeGP-A):** Promote the use of IT in agriculture.
13. **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER):** Develop organic farming value chains in Northeast India.

Conclusion

Krishonnati Yojana consolidates key initiatives for holistic agricultural development, ensuring better productivity, sustainable practices, and improved incomes for farmers. The scheme plays a pivotal role in achieving self-reliance in food security and enhancing the livelihood of farmers.

Launch of Pradhan Mantri Divyasha Kendra (PMDK) to Empower Visually Impaired

1. **Purpose and Focus:**
 - The **Pradhan Mantri Divyasha Kendra (PMDK)** is a dedicated initiative for empowering persons with disabilities, especially those with **visual impairments**.
 - It is located at the **National Institute for the Empowerment of Persons with Visual Disabilities (NIEPVD)** in **Dehradun**.
 - The center serves as a vital resource for improving the quality of life and opportunities for **Divyangjans**(persons with disabilities).
2. **Objectives and Services:**
 - **Empowerment Through Rehabilitation:** Focuses on **comprehensive rehabilitation services** to help visually impaired individuals achieve independence and self-sufficiency.
 - **Assistive Technologies:** Equipped with advanced technologies such as **prosthetics, orthotics, and Braille appliances** to assist individuals in their daily activities and improve mobility.

- **Skill Development:** The center offers **vocational training programs** to enable beneficiaries to acquire skills that lead to employment and **self-employment**.
 - **Community Engagement:** Aims to raise awareness about the capabilities of persons with disabilities and promote **inclusivity** within the community.
3. **Facilities and Infrastructure:**
- **Prosthetics and Orthotics Lab:** Provides tailored assistive devices to enhance **mobility** and functionality for users.
 - **Audiology Room:** Supports individuals with combined **visual and hearing disabilities** by offering auditory assessments and interventions.
 - **Braille Workshop:** Manufactures **Braille materials** and **assistive devices**, promoting literacy and education for visually impaired individuals.

SCIENCE & TECHNOLOGY

Nobel Prize in Chemistry 2024: Celebrating Advancements in Protein Science

Award Announcement

The **2024 Nobel Prize in Chemistry** was jointly awarded to **David Baker**, **Demis Hassabis**, and **John Jumper** for their groundbreaking contributions to **protein science**:

- **David Baker:** Recognized for his work on **computational protein design**.
- **Demis Hassabis and John Jumper:** Honored for their achievements in **protein structure prediction** using Artificial Intelligence (AI).

David Baker's Contributions to Computational Protein Design

1. **Objective:** Creating new proteins with unique functions not found in nature.
2. **Milestones:**
 - Published the first designed small protein via computation in 1997.
 - Created **'Top7'**, the first entirely synthetic protein, in 2003.
3. **Software Development:** Developed **Rosetta software** (1999), which uses short structural fragments to predict and design protein structures.

Demis Hassabis and John Jumper's Work on Protein Structure Prediction

1. **Problem Solved:** Tackled a **50-year challenge** of predicting how proteins fold into their complex shapes, crucial for their function.
2. **Significance:**
 - Improved understanding of **cellular processes**.
 - Applications in **drug design**, combating **antibiotic resistance**, creating **enzymes for plastic degradation**, and enhancing **crop resilience**.

About Proteins

- **Definition:**
 - Proteins are **biopolymeric structures** composed of chains of 20 naturally occurring **amino acids**, linked by **peptide bonds**.
 - Their structure and function are determined by the sequence and composition of amino acids.
- **Abundance:**

- **Collagen:** Most abundant protein in animals.
- **RuBisCO:** Most abundant protein in the biosphere.

Protein Structure

Proteins have **four levels of organization**:

1. **Primary:** Linear sequence of amino acids.
2. **Secondary:** Alpha-helices and beta-sheets formed through hydrogen bonding.
3. **Tertiary:** Three-dimensional folding of a single polypeptide chain.
4. **Quaternary:** Complexes of multiple polypeptide chains.

Key Functions of Proteins

1. **Structural Support:**
 - Provides mechanical strength and determines cell shape.
 - Example: **Actin** in muscle fibers.
2. **Catalysis:**
 - Acts as enzymes to facilitate biochemical reactions.
 - Example: **Amylase** aids in digestion.
3. **Hormonal Function:**
 - Serves as chemical signals to regulate bodily functions.
 - Example: **Insulin** for metabolism regulation.
4. **Immune Defense:**
 - Functions as antibodies to fight pathogens.
 - Example: **Immunoglobulin G (IgG)**.
5. **Transport and Storage:**
 - Binds and transports molecules within and between cells.
 - Examples: **Ferritin** (iron storage) and **GLUT-4** (glucose transport).

Impact of the Discoveries

- These advancements significantly enhance our ability to manipulate proteins for:
 - Developing **personalized medicines**.
 - Engineering **sustainable materials**.
 - Solving global challenges in **healthcare** and **environmental science**.

Space Docking Experiment (SPADEX): A Leap in Indian Space Exploration

Why in the News?

- Recently, a Hyderabad-based private firm handed over two **400 kg class satellites** to ISRO for the **Space Docking Experiment (SPADEX)**, planned for launch at the end of 2024.

What is Space Docking?

1. **Definition:** Space docking is the process of precisely connecting two spacecraft (manned or unmanned) in orbit to operate as a single unit for critical tasks.
2. **Applications:**
 - **Refueling, repairing, and crew exchange.**
 - Construction of facilities like the **International Space Station (ISS)**.
3. **Docking vs. Berthing:**
 - **Docking:** The spacecraft maneuvers and attaches to the station autonomously.
 - **Berthing:** Requires manual intervention using robotic arms to attach the spacecraft.

About SPADEX

1. **Objective:** ISRO's technology demonstration to achieve **autonomous docking**, a capability mastered by the **US, Russia, and China**.
2. **Mission Details:**
 - Two satellites: **'Chaser'** and **'Target'**.
 - Launched into slightly different orbits using a **PSLV-class vehicle**.
 - Docking planned at **700 km altitude** at speeds of **~28,000 km/h**.
3. **Key Features:**
 - **Autonomous Rendezvous and Docking:** Satellites navigate, approach, and dock autonomously.
 - **Formation Flying:** Precise orbital control to maintain relative positions.
 - **Remote Operations:** Experimentation with controlling one spacecraft via another's **Attitude Control System**.
 - **Robotic Arms:** Exploration of robotic technologies for in-space servicing and manipulation.

Significance for India

1. **Space Exploration:** Vital for missions like:
 - **Gaganyaan** (human spaceflight).
 - **Chandrayaan-4** (lunar sample return).
 - **Bharatiya Antariksha Station (BAS)** (permanent space infrastructure).
2. **Private Sector Participation:**
 - Marks the **first complete satellite integration by a private company** for ISRO.
 - Enabled by **IN-SPACe** reforms.
3. **Global Collaboration:** Opens doors for partnerships in building **space infrastructure** and **deep space exploration**.
4. **Future Applications:**
 - **Satellite longevity** via refueling.
 - Support for **interplanetary missions** (e.g., Mars).
 - **Space solar stations** for harnessing solar energy.

Challenges

1. **Complex Docking Mechanism:** High-speed coordination (**~8-10 km/s**) is critical to prevent collisions.
2. **Automated Maneuvers:** Real-time autonomous control amidst dynamic factors like speed and trajectory.
3. **Sensor Reliability:** Ensuring the functionality of **cameras, LIDAR, and radar** in harsh space conditions.
4. **Additional Issues:**
 - Threat of **space debris**.
 - Effects of **microgravity**.
 - Stable **communication and data transfer**.

Conclusion

SPADEX signifies India's stride towards mastering advanced **space docking technologies**, a cornerstone for ambitious space missions and global collaborations. This initiative aligns with the **Atmanirbhar Bharat vision**, reinforcing India's position as a leader in **innovative space exploration and technology development**.

Space-Based Surveillance (SBS): Enhancing India's Security and Scientific Endeavors

Why in the News?

- The **Cabinet Committee on Security (CCS)** has approved the third phase of the **Space-based Surveillance (SBS-3)** project to enhance land and maritime domain awareness for civilian and military applications.

About Space-Based Surveillance (SBS)

- Definition:** Utilizes satellites and space assets to monitor and collect data on objects and activities in space and on Earth.
- Applications:** National security, environmental monitoring, disaster response, and space situational awareness.
- Global Context:**
 - Nations like the **U.S., Russia, China, and India** are heavily investing in SBS.
 - U.S. systems: **SBIRS** and **Next-Gen OPIR** for missile detection.

India's SBS Projects

Phase	Key Features	Satellites
SBS-1 (2001)	Focused on basic surveillance capabilities.	Cartosat-2A, RISAT-2, etc.
SBS-2 (2013)	Enhanced maritime domain awareness.	Cartosat-2C, RISAT-2A, Microsat-1, etc.
SBS-3 (2024)	Advanced surveillance with AI-based satellites in LEO and GEO .	52 satellites for dynamic geo-intelligence.

Significance of SBS-3

- Integrated Surveillance:** AI-powered satellites in **GEO (36,000 km)** and **LEO (400–600 km)** interact dynamically for detailed intelligence.
- Strengthened National Security:** Detect missile launches, monitor military activities, and secure borders.
 - Example: **EMISAT** for electronic intelligence.
- Space Asset Protection:** ISRO's **NETRA** initiative ensures tracking of space debris to safeguard satellites.
- Environmental and Disaster Monitoring:** Real-time tracking of natural disasters and climate changes using satellites like **Cartosat**.
- Scientific Advancements:** Enables data collection on cosmic phenomena and supports deep space exploration.

Concerns with Space-Based Surveillance

- Dual-Use Technology:** Ambiguities in distinguishing peaceful from military uses.
- Militarization of Space:** Risks of an arms race as nations enhance military presence in space.
 - Example: **U.S. Space Force (2019)**, **Russia's Aerospace Forces (2015)**.
- Privacy Violations:** High-resolution imaging raises ethical concerns about surveillance.
- Legal and Regulatory Gaps:** Outdated treaties like the **Outer Space Treaty (1967)** fail to address modern military applications.
- Space Debris and Collisions:** Crowded orbits increase the risk of collisions, endangering space operations.
- International Tensions:** Unauthorized surveillance can lead to diplomatic conflicts.
 - Example: **Chinese surveillance balloon incident (2023)** over U.S. territory.

Conclusion

Space-based surveillance is revolutionizing security, scientific research, and environmental monitoring. While it promises immense benefits, addressing challenges like militarization, privacy, and space debris is critical. A collaborative global

framework must ensure space remains a shared resource for progress and stability, fostering innovation and safeguarding the future.

Charon: Discovery of Carbon Dioxide and Hydrogen Peroxide

Why in the News?

- **NASA's James Webb Telescope** detected **carbon dioxide (CO₂)** and **hydrogen peroxide (H₂O₂)** on **Charon**, the largest moon of Pluto.

Significance of the Findings

1. **Understanding Charon's Origins:** Offers insights into the formation and chemical composition of Charon and its relationship with Pluto.
2. **Clues to the Evolution of Icy Bodies:** Helps unravel the origins and evolution of icy celestial bodies in the **Kuiper Belt** and beyond.
3. **Astrobiological Implications:** Understanding the chemical processes on Charon could inform research on icy worlds elsewhere in the solar system.

About Charon

1. **Largest Moon of Pluto:** Among Pluto's five known moons, Charon is the largest, constituting **half of Pluto's diameter**.
2. **Double Planet System:** The size of Charon relative to Pluto makes their orbit resemble a **double planet system**.
3. **Kuiper Belt:** Pluto and Charon are located in the **Kuiper Belt**, a distant region of icy bodies beyond Neptune.
4. **Surface and Composition:** Known for its icy surface, the detection of CO₂ and H₂O₂ indicates chemical activity and the potential for interactions with cosmic radiation.

About Pluto

1. **Dwarf Planet:** Classified as a **dwarf planet** since 2006 by the International Astronomical Union (IAU).
2. **Location:** Pluto resides in the **Kuiper Belt**, a zone of icy bodies and remnants from the solar system's formation.
3. **Moons:** Apart from Charon, Pluto has four smaller moons: **Styx, Nix, Kerberos, and Hydra**.

Conclusion

The detection of CO₂ and H₂O₂ on Charon by the James Webb Telescope deepens our understanding of Pluto's moon, the **Kuiper Belt**, and the **chemical evolution** of icy bodies in the outer solar system. This discovery underscores the importance of continued exploration of distant celestial bodies for insights into the solar system's history and potential astrobiological phenomena.

Revamped Pharmaceutical Technology Upgradation Assistance Scheme (RPTUAS)

Key Updates:

- **Enhanced Incentive:** Subsidy limit increased to **₹2 crore** (previously ₹1 crore).
- **Expanded Coverage:** Inclusion of "**production equipment**" in the list of eligible expenses for subsidy calculation.

About RPTUAS:

1. **Objective:**

- To assist the pharmaceutical industry in upgrading to **Revised Schedule-M** standards and **WHO Good Manufacturing Practices (GMP)** norms.
 - Enhance quality, safety, and competitiveness of Indian pharmaceuticals in global markets.
2. **Salient Features:**
- Introduced **flexible financing options**, providing support through **subsidies on a reimbursement basis**.
 - Focus on aiding medium and small-scale pharmaceutical enterprises in technological modernization.
3. **Eligible Expenditures:**
- Machinery and equipment necessary for meeting GMP standards.
 - Newly added category: **Production equipment**.

Significance:

- **Improved Standards:** Ensures that Indian pharmaceutical products meet stringent global quality benchmarks.
- **Boost to Exports:** Enhances credibility and market access for Indian pharmaceuticals internationally.
- **Support to MSMEs:** Assists smaller firms in bridging the technology gap, contributing to Atmanirbhar Bharat (self-reliant India).

Conclusion: The RPTUAS modification reflects the government's commitment to strengthening India's pharmaceutical sector by promoting quality enhancement, global compliance, and competitiveness.

Advancements in Fluorescent Nanodiamonds (FNDs) and Their Applications in Industry

1. Recent Research:

- Researchers at **Purdue University** successfully **levitated nanodiamonds** in a vacuum and spun them at ultra-high speeds, marking a significant advancement in the study of **fluorescent nanodiamonds (FNDs)**.
- The experiment also recorded the **Berry phase**, a **quantum property** related to the rotation of **spin qubits** inside the nanodiamonds, opening new possibilities for **industrial applications** and **fundamental research**.

What Are Fluorescent Nanodiamonds (FNDs)?

1. Composition:

- **Nanometre-sized diamonds** made from **carbon nanoparticles**.
- Created through a process involving **high temperature and pressure**.

2. Key Properties:

- **Stability under light** and **non-toxic properties** make FNDs valuable across various fields.
- They have wide applications in **medical diagnostics**, **microscopy**, and **temperature sensing**.

3. Biological Use:

- FNDs are used in **biology** to **track cells** and monitor their behavior over extended periods.

Unique Fluorescent Properties of FNDs:

1. Fluorescence:

- FNDs exhibit **fluorescence**, emitting light at a lower frequency when exposed to higher frequency light.
- Unlike other materials, FNDs **do not blink** when irradiated over time, making them more reliable for extended observations.

2. Long Fluorescence Lifespan:

- Their **fluorescence lifespan** exceeds **10 nanoseconds**, which is superior to other fluorescent materials like **quantum dots**.

Quantum Spin and the Berry Phase:

1. **Quantum Spin:** The **spin of particles** such as **electrons and nuclei** is a crucial property in quantum mechanics, influencing quantum computing.
2. **Berry Phase:**
 - The **Berry phase** occurs when the phase of a wave (like that of an electron) changes after passing through different states.
 - Measuring the **Berry phase** is key to understanding quantum effects and properties of materials, such as **topological insulators**.

Applications of FNDs in Industry:

1. **Advanced Sensors and Gyroscopes:** Levitated FNDs are highly sensitive to **acceleration and electric fields**, making them ideal for use as **sensors** in critical industries.
2. **Gyroscope Development:** The **Berry phase** generated by the rotation of FNDs could be applied to create **gyroscopes** for precise **rotation sensing**, enhancing navigational and sensing technologies.

BIOTECHNOLOGY & HEALTH

Nobel Prize in Medicine 2024: Discovery of microRNA and Its Role in Gene Regulation

Award Announcement

The **2024 Nobel Prize in Physiology or Medicine** has been awarded to **Victor Ambros** and **Gary Ruvkun** for their pioneering discovery of **microRNA (miRNA)** and its critical role in **post-transcriptional gene regulation**.

About the Discovery

1. **Key Breakthrough:**
 - In **1993**, Ambros and Ruvkun identified **microRNA** as a key regulator of gene expression.
 - This challenged the prior belief that gene regulation was solely driven by **transcription factors** acting at the DNA level.
2. **Study Model:**
 - Research on **Caenorhabditis elegans (a nematode)** revealed that mutations in specific genes caused developmental defects, traced to alterations in microRNA.
3. **Principle Revealed:**
 - **Gene regulation by microRNAs** occurs after transcription by binding to messenger RNA (mRNA), either preventing its translation into proteins or degrading it.

What is microRNA (miRNA)?

1. **Definition:** Small, non-coding, single-stranded RNA molecules involved in regulating gene expression.
2. **Functions:**
 - **Binds to mRNA:** Prevents protein synthesis or degrades mRNA.
 - Universal across multicellular organisms, with over **1,000 genes for microRNA** in humans.

Understanding Gene Regulation

1. **Definition:** The process by which the **timing, location, and quantity** of gene expression are controlled.
2. **Importance:**

- Enables different cell types (e.g., muscle cells, neurons) to express unique sets of proteins, despite having identical DNA.
3. **Gene Expression Process:**
- **Transcription:** DNA is copied into mRNA.
 - **Translation:** mRNA is decoded to synthesize proteins.

Transcription and Translation

1. **Transcription:**
 - DNA → mRNA, facilitated by RNA polymerase and transcription factors.
2. **Translation:**
 - mRNA → Protein, executed by ribosomes using tRNA to add amino acids.

Significance of the Discovery

1. **Cellular Development:** miRNA regulates **stem cell differentiation** and **tissue development**.
2. **Immune Response:** Controls both **innate** and **adaptive immunity**.
3. **Oncogenesis:** Abnormal miRNA activity is linked to **cancer** and other genetic disorders (e.g., congenital hearing loss).
4. **Diagnostics:** miRNA serves as **biomarkers** for disease diagnosis, prognosis, and treatment targets.

About Ribonucleic Acid (RNA)

1. **Structure:** Made of **ribose sugars**, **phosphate groups**, and nitrogenous bases (adenine, uracil, cytosine, guanine).
2. **Types:**
 - **mRNA:** Carries genetic code from DNA to cytoplasm.
 - **tRNA:** Transfers amino acids to ribosomes.
 - **rRNA:** Structural component of ribosomes, aiding in protein synthesis.

Impact

This discovery transformed our understanding of **gene regulation**, highlighting its critical role in **developmental biology**, **disease mechanisms**, and **therapeutics**, paving the way for innovative approaches in medicine and biotechnology.

Unified Genomic Chip and Indigenous Sex-Sorted Semen Technology: Transforming Livestock Management

Why in the News?

- The **Prime Minister** recently launched the **Unified Genomic Chip** and **indigenous sex-sorted semen technology** to enhance livestock productivity and empower farmers in India.

Unified Genomic Chip

1. **Definition:** A **Single Nucleotide Polymorphism (SNP) chip** designed for **genomic profiling** and evaluation of Indian cattle breeds.
2. **Purpose:** To apply **DNA technology** for improving the genetic potential of dairy animals.
3. **Variants:**
 - **Gau chip:** For cattle.
 - **Mahish chip:** For buffaloes.
4. **Development:** Led by the **Department of Animal Husbandry and Dairying (DAHD)**, in collaboration with **NDDB** and **NAIB**.

About SNPs (Single Nucleotide Polymorphisms)

- **Definition:** A variation in a **single DNA nucleotide**, such as replacing Guanine (G) with Thymine (T).
- **Significance:**
 - SNPs are common genetic variations used to study genetic traits and potential.
 - Useful in research, genetic testing, and improving livestock breeds.

Sex-Sorted Semen Technology

1. **Definition:** A technique ensuring the birth of female calves with **90% accuracy**, compared to the conventional **50:50 ratio**.
2. **Development:** Indigenous technology by **NDDB** under **Atmanirbhar Bharat** initiative.
3. **Benefits:**
 - Enhances dairy productivity.
 - Reduces dependency on foreign technology.

Significance of Genetic/Breed Improvement

- **Objectives:**
 - Develop disease-resistant and climate-tolerant breeds.
 - Conserve indigenous breeds.
 - Enhance productivity and reduce reliance on exotic species.
- **Techniques Used:**
 - **Artificial Insemination (AI).**
 - **In-Vitro Fertilization (IVF).**
 - **Embryo Transfer Technology (ETT).**

Challenges in Genetic Improvement

1. Limited data on native breed performance.
2. Long generational timelines for breed improvement.
3. Lack of breeder organizations for specific breeds.
4. Inadequate semen production and research facilities.

Government Initiatives

1. **Rashtriya Gokul Mission (2014):**
 - Nationwide Artificial Insemination Programme.
 - IVF-based accelerated breed improvement.
 - Breed multiplication farms.
2. **IndiGau Chip:** India's first cattle genomic chip for conserving breeds like Gir and Sahiwal.
3. **e-Pashuhaat Portal:** Connects breeders and farmers for germplasm availability.
4. **National Livestock Mission (NLM):** Focuses on genetic resource improvement.
5. **INAPH:** Real-time data on breeding, health, and nutrition.

Key Indigenous Cattle and Buffalo Breeds

<i>Cattle Breed</i>	<i>Breeding Tract</i>	<i>Buffalo Breed</i>	<i>Breeding Tract</i>
Gir, Kankrej	Gujarat	Banni, Jaffarabadi	Gujarat
Tharparkar, Sahiwal	Punjab, Rajasthan	Murrah	Haryana, Delhi
Deoni, Dangi	Maharashtra	Bhadawari	Uttar Pradesh, Madhya Pradesh
Ongole	Andhra Pradesh	Mehsana	Gujarat, Maharashtra

Conclusion

The **Unified Genomic Chip** and **indigenous sex-sorted semen technology** represent a leap forward in India's livestock management. These advancements will not only boost **farmers' income** but also ensure **food security** and reinforce India's commitment to **Atmanirbhar Bharat**.

Anti-Microbial Resistance (AMR): A Global Health Threat

Why in the News?

- At the **79th UNGA High-Level Meeting on AMR**, global leaders adopted a **political declaration** to combat AMR.
- Goals include:
 - Reducing **4.95 million annual deaths** linked to bacterial AMR by **10% by 2030**.
 - Allocating **\$100 million in funding** for AMR initiatives.
 - Setting global targets for antibiotic use in health, agriculture, and environmental sectors.

What is Anti-Microbial Resistance (AMR)?

- **Definition:** AMR occurs when microorganisms like bacteria, viruses, fungi, and parasites become resistant to medications designed to treat them.

Major Causes:

1. **Pharmaceutical Manufacturing:** Industrial waste and production of antibiotics.
2. **Agriculture:** Overuse of antibiotics in livestock and aquaculture.
3. **Healthcare:** Improper disposal of unused or expired antibiotics.
4. **Waste Management:** Untreated wastewater and landfill leachates.

Global Threat of AMR

1. **Economic Costs:** **\$1 trillion** in additional healthcare expenses by 2050 (World Bank).
2. **Threat to Food Security:** Drug resistance impacts livestock, crops, and aquaculture productivity.
3. **Health Risks:** Makes surgeries, cancer treatments, and other procedures riskier.
4. **Environmental Contamination:** Improper disposal of antibiotics creates reservoirs of resistance genes.
5. **Vulnerable Populations:** The elderly, children, and immune-compromised individuals are at higher risk.
6. **Stalled R&D:** Limited pipeline for alternative treatments to combat rising resistance.

Key Global and National Initiatives

Global Efforts:

1. **Global Action Plan on AMR (WHO):** Provides a comprehensive roadmap to combat AMR.
2. **Global Antimicrobial Resistance Surveillance System (GLASS):** Tracks global AMR trends.
3. **One Health Global Leaders Group:** Advocates for multisectoral AMR actions.

India's Efforts:

1. **National AMR Containment Program:** Surveillance and research on AMR patterns.
2. **Red Line Campaign:** Public awareness on responsible antibiotic use.
3. **Ban on Fixed-Dose Combinations (FDCs):** Restricts the misuse of antibiotics.
4. **National Action Plan on AMR:** Focuses on the "One Health" approach to address AMR across human, animal, and environmental sectors.

Way Forward

1. **WHO Guidance Implementation:** Ensure **Zero Liquid Discharge (ZLD)** in pharmaceutical manufacturing.
2. **One Health Approach:** Tackle AMR through human, animal, and environmental health collaboration.
3. **Strengthen Regulations:** Enforce limits on antibiotic residues in treated industrial effluents.
4. **Agricultural Practices:** Promote **sustainable and organic farming** to minimize antibiotic use.
5. **Antibiotic Stewardship Programs:** Responsible prescription and usage practices in healthcare facilities.

Recent Related News

- **DTAB Recommendations:** Inclusion of all antibiotics under the definition of "**new drugs**" in the **New Drugs and Clinical Trial Rules, 2019** to curb antibiotic misuse.

Conclusion

Combating AMR requires a **multi-sectoral, global effort** with a focus on sustainable practices, stringent regulations, and responsible antibiotic use. Effective policies and international cooperation are critical to mitigate AMR's devastating health and economic impacts.

Global Strategic Preparedness, Readiness, and Response Plan (SPRP) for Dengue and Aedes-Borne Arboviruses

Key Highlights of SPRP:

1. **Purpose and Scope:**
 - Launched by WHO to address rising cases of dengue and other Aedes-borne arboviruses like Zika and chikungunya.
 - Aims to reduce disease burden, suffering, and mortality through a globally coordinated response.
 - Tenure: One year (until September 2025).
2. **Key Components:**
 - **Emergency Coordination:** Establishing effective leadership and coordination mechanisms to manage outbreaks.
 - **Collaborative Surveillance:** Enhancing early detection systems, epidemiological analysis, and laboratory diagnostics.
 - **Community Protection:** Promoting local community engagement and adaptive prevention measures, including vector control.
 - **Safe and Scalable Care:** Ensuring adequate clinical management and treatment facilities during outbreaks.
 - **Access to Countermeasures:** Facilitating availability of vaccines, treatments, and other resources.
3. **Alignment with Global Initiatives:**
 - Supports WHO's **Global Vector Control Response 2017–2030** and **Global Arbovirus Initiative**.
 - Focuses on integrated strategies to improve vector control, monitoring, and outbreak response.
4. **Significance:**
 - Addresses the threat posed to approximately **four billion people worldwide**, projected to rise to **five billion by 2050**.
 - Promotes innovation, advanced technology, and international collaboration for effective vector management.
5. **Call to Action:**
 - Urges governments, healthcare providers, and communities to work together to implement scalable and sustainable interventions.
6. **Special Focus on India:**
 - India, with high Aedes mosquito prevalence (e.g., Assam), faces significant risks of dengue and related outbreaks.
 - Adoption of SPRP strategies can bolster national preparedness and response efforts.

Conclusion: The SPRP is a crucial global initiative aimed at mitigating the increasing threat of Aedes-borne diseases by fostering coordination, innovation, and proactive public health measures. Its implementation will be vital in combating the rising burden of arboviral diseases worldwide.

India Eliminates Trachoma as a Public Health Problem

Key Highlights:

- **Achievement:** India becomes the **third country** in the South-East Asia Region, after Nepal and Myanmar, to eliminate Trachoma as a public health problem.
- **Previous Milestones:** India was declared free from:
 - **Guinea Worm Disease** in 2000.
 - **Yaws** in 2016.

About Trachoma:

1. **Cause:**
 - **Bacterium:** *Chlamydia trachomatis*.
2. **Transmission:**
 - Spreads through contact with **infected eyes, nose, or throat secretions**.
3. **Impact:**
 - Causes **eye infections**; if untreated, leads to **irreversible blindness**.
4. **Status in India:**
 - Blindness due to Trachoma was **5% in 1971**; reduced to **less than 1%** now.

Key Interventions for Trachoma Elimination:

1. **National Programme for Control of Blindness & Visual Impairment (NPCBVI):**
 - Focused on reducing the prevalence of avoidable blindness.
2. **WHO SAFE Strategy:**
 - **S:** Surgery for advanced disease.
 - **A:** Antibiotics to treat infection.
 - **F:** Facial cleanliness.
 - **E:** Environmental improvement to reduce transmission.

Significance:

- Marks India's progress in controlling **Neglected Tropical Diseases (NTDs)**.
- Showcases **effective public health interventions** and hygiene awareness.
- Contributes to achieving **Sustainable Development Goals (SDG-3): Ensure healthy lives and promote well-being for all at all ages**.

Conclusion:

The elimination of Trachoma reflects India's commitment to improving public health and combating preventable diseases. This milestone reinforces India's leadership in global health initiatives and its ability to implement successful large-scale interventions.

HISTORY, ART & CULTURE

Union Cabinet Grants Classical Language Status to Marathi, Pali, Prakrit, Assamese, and Bengali

Key Highlights:

- **Recent Approval:** Classical language status accorded to **Marathi, Pali, Prakrit, Assamese, and Bengali.**
- **Previous Classical Languages:** Tamil (2004), Sanskrit (2005), Telugu & Kannada (2008), Malayalam (2013), and Odia (2014).

About Classical Language:

1. **Definition:** Custodians of India's profound cultural and historical heritage, embodying linguistic milestones.
2. **Establishment:** Introduced by Government of India in 2004; criteria revised in 2005 and 2024.
3. **Criteria (2024 Update):**
 - High antiquity of texts over **1500-2000 years.**
 - A body of ancient literature considered **valuable heritage.**
 - Distinct language and literature with **possible discontinuity** between classical and modern forms.
 - **Original literary tradition norm removed** in 2024.

Newly Recognized Classical Languages:

1. **Prakrit:**
 - Language of the masses; opposed to elite Sanskrit.
 - Reflected in **Ashokan edicts** and literary texts.
 - Regional subtypes: Ardhamāgadhī, Saurasena, Maharastri.
 - Influenced Buddhist and Jain literature.
2. **Pali:**
 - Associated with **Magadhi Prakrit.**
 - Known as the language of **Theravada Buddhist canon.**
 - Key works: **Dhammapada, Jātaka Tales, Tipitaka.**
3. **Marathi:**
 - Descends from **Maharashtri Prakrit**, official language of the Satavahanas.
 - Earliest evidence: Copper-plate inscription (739 CE).
4. **Bengali and Assamese:**
 - Origin in **Magadhi Prakrit.**
 - Both languages evolved in East India and hold rich literary traditions.

Benefits of Classical Language Status:

1. **Financial Assistance:** Funding for research, preservation, and digitization of ancient texts.
2. **Documentation and Conservation:** Systematic efforts to safeguard manuscripts and cultural artifacts.
3. **Enhanced Cultural Identity:** Strengthens linguistic identity and fosters pride among speakers.
4. **Employment Opportunities:** Archiving, translation, and digital documentation create jobs.
5. **Study Centres:**
 - Universities and institutions receive grants to establish research hubs.
 - Example: **Central Institute of Classical Tamil.**

Steps Taken to Promote Classical Languages:

1. Dedicated Institutions:

- Sanskrit: Rashtriya Sanskrit Sansthan, Maharishi Sandipani Rashtriya Ved Vidya Pratishthan.
- Telugu and Kannada: Centres of Excellence at CIIL.

2. National Mission for Manuscripts: Focuses on digitization and conservation of Indian manuscripts.

3. National Education Policy (2020): Emphasizes promotion and preservation of all Indian languages.

4. Awards and Recognition: National and international awards to encourage excellence in classical studies.

Conclusion:

The recognition of these languages as Classical emphasizes India's commitment to preserving its linguistic and cultural diversity. By investing in the documentation, study, and promotion of classical languages, the government reinforces the nation's rich heritage and ensures its accessibility to future generations.

Kartarpur Sahib Corridor Extended for Five Years

Key Highlights:

- India and Pakistan have agreed to extend the validity of the **Sri Kartarpur Sahib Corridor Agreement** for an additional five years.
- The corridor facilitates **visa-free travel** for pilgrims to Gurdwara Darbar Sahib Kartarpur in Pakistan.

About Kartarpur Sahib Corridor:

1. Location:

- Gurdwara Sri Kartarpur Sahib: Narowal, Pakistan, 4.5 km from the India-Pakistan border near **Dera Baba Nanak, Gurdaspur, Punjab**.
- River Ravi separates **Kartarpur (Pakistan)** on the west bank and **Dera Baba Nanak (India)** on the east bank.

2. Original Agreement (2019):

- **Duration:** 5 years, now extended.
- **Access:** Visa-free travel for Indian pilgrims and OCI cardholders.
- **Limitations:**
 - Pakistani Sikhs need an Indian visa to visit **Dera Baba Nanak**.
 - Pilgrims must return on the same day.
 - Pilgrims pay **USD 20 per visit** to Pakistan.

3. Inclusivity: No restrictions on the faith of pilgrims traveling through the corridor.



Significance of Kartarpur Sahib Corridor:

1. Religious and Cultural Importance:

• Final Resting Place of Guru Nanak Dev Ji:

- Guru Nanak spent **18 years** of his life in Kartarpur.
- Composed hymns of the **Guru Granth Sahib** and initiated **guru ka langar** here.

• Three Pillars of Sikhism Practiced:

- **Kirat Karo:** Honest work.
- **Vand Chhako:** Sharing wealth and talents.

- **Naam Japo:** Meditation and chanting.

2. Peace and Diplomacy:

- Promotes **people-to-people connections** between India and Pakistan.
- Enhances **cultural diplomacy** despite political tensions.

Prominent Sikh Pilgrimage Sites:

Gurdwara	Location	Significance
Gurdwara Janam Asthan	Nankana Sahib, Pakistan	Birthplace of Guru Nanak Dev Ji
Gurdwara Ber Sahib	Sultanpur Lodhi, Punjab	Guru Nanak's enlightenment site
Akal Takht (Golden Temple)	Amritsar, Punjab	Sikhism's holiest shrine
Takht Sri Keshgarh Sahib	Anandpur Sahib, Punjab	Birthplace of Khalsa
Takht Sri Damdama Sahib	Talwandi Sabo, Punjab	Final editing of Guru Granth Sahib
Takht Sri Patna Sahib	Bihar	Birthplace of Guru Gobind Singh Ji
Takht Sri Hazur Sahib	Nanded, Maharashtra	Place where Guru Gobind Singh Ji passed away

Conclusion:

The **Kartarpur Sahib Corridor** not only holds immense religious significance for the Sikh community but also serves as a platform for fostering **peaceful relations** and **cultural diplomacy** between India and Pakistan. By extending the agreement, both nations reaffirm their commitment to preserving and promoting shared heritage and mutual respect.

New Flag, Insignia, and Lady Justice at Supreme Court

Why in the News?

- The **President of India** unveiled the **new flag and insignia** of the Supreme Court.
- The **Chief Justice of India** unveiled a **new Lady Justice statue** at the Supreme Court.

About Lady Justice:

1. Historical Origin:

- Derived from **Greek and Roman mythology**.
- Introduced as the goddess **Justitia** by Roman Emperor Augustus.

2. Traditional Depiction:

- **Scales:** Represent balance and impartial weighing of evidence.
- **Sword:** Symbolizes the power of law and enforcement.
- **Blindfold:**
 - Initially added during the **Renaissance** as a satire on corrupt legal systems.
 - Reinterpreted during the **Enlightenment** as a symbol of judicial **impartiality**.

3. In India:

Introduced by the British in 1872, first at the **Calcutta High Court**.



Significance of the New Lady Justice Statue:

- **Decoloniality:** Replaces colonial-era symbols with Indian elements.

- **Indian Identity:**

- Saree replaces western attire, aligning with Indian tradition.
- **Open Eyes:**
 - Symbolize **impartiality** with awareness of societal complexities.
 - Denotes that the law "sees" everyone equally, rejecting blind justice.
- **Constitution replaces the sword:**
 - Emphasizes the supremacy of the **Indian Constitution**.
 - Shifts focus from punishment to **constitutional values**.
- **Scales retained:** Reflect the importance of weighing evidence and ensuring fair trials.

Flag and Insignia of Supreme Court:

1. **Flag:**

- **Designed by:** National Institute of Fashion Technology (NIFT), New Delhi.
- **Features:**
 - **Ashoka Chakra** at the top.
 - **Supreme Court building** in the center.
 - **Book of Constitution** at the bottom.

2. **Insignia:**

- Includes:
 - The phrase "**Supreme Court of India**" in Roman script.
 - Sanskrit motto "**Yato Dharmastato Jayah**" in Devanagari script, meaning "**Where there is Dharma, there is victory.**"

Significance of the Changes:

- **Symbolism:** Reflects the evolving identity of Indian justice rooted in **constitutional values**.
- **Cultural Resonance:** Incorporates elements aligned with Indian ethos and tradition.
- **Progressive Justice:** The open eyes and constitutional focus denote a modern, inclusive, and informed judicial outlook.

Nobel Prize in Literature 2024: Han Kang

Why in the News?

- South Korean author **Han Kang** received the **2024 Nobel Prize in Literature** for her **intense poetic prose** that confronts **historical traumas** and explores the **fragility of human life**.

About Han Kang:

1. **Literary Style:**

- Known for her deep, **poetic prose** and evocative storytelling.
- Themes often include **violence, trauma,** and the **human condition**.

2. **Notable Works:**

- *The Vegetarian* (won the **Man Booker International Prize**, 2016): Explores a woman's decision to stop eating meat, delving into themes of **bodily autonomy** and **societal expectations**.



THE NOBEL PRIZE
IN LITERATURE 2024

Han Kang

"for her intense poetic prose that confronts historical traumas and exposes that fragility of human life"

- *Human Acts*: Examines the **1980 Gwangju Uprising** and its lingering effects on individuals and society.
3. **Global Impact:**
- Her works are widely translated, resonating with readers across the globe for their **universal themes**.

About the Nobel Prize:

1. **History:**
 - Established by **Alfred Nobel** (inventor of dynamite) in his will, 1895.
 - First awarded in **1901**.
2. **Categories:**
 - **Peace, Physics, Chemistry, Medicine, Literature, and Economic Sciences** (added in 1968 by Sweden's central bank).
3. **Administration:**
 - Managed by the **Nobel Foundation**, Stockholm, Sweden.
 - Awarded based on the **will of Alfred Nobel**, who desired recognition for those contributing the “**greatest benefit to humankind**.”
4. **Eligibility Rules:**
 - From **1974**, prizes cannot be awarded posthumously unless the recipient dies **after the announcement**.

Significance of Han Kang's Win:

- **Cultural Milestone:** Highlights the global recognition of **Asian literature** and South Korea's cultural contributions.
- **Literary Influence:** Reinforces the power of **fiction to address historical traumas** and foster **empathy and understanding**.
- **Universal Appeal:** Her exploration of **human fragility** connects with a wide audience, transcending cultural and national boundaries.

Nobel Peace Prize 2024: Nihon Hidankyo

Why in the News?

- The **2024 Nobel Peace Prize** has been awarded to **Nihon Hidankyo**, a **Japanese organization of atomic bomb survivors**, for its enduring efforts to achieve a **world free of nuclear weapons**.

About Nihon Hidankyo:

1. **Foundation:** Nihon Hidankyo, also known as the **Japan Confederation of A- and H-Bomb Sufferers Organizations**, represents survivors of the **Hiroshima and Nagasaki atomic bombings**.
2. **Mission:**
 - Advocates for the **elimination of nuclear weapons** globally.
 - Focuses on raising awareness about the **devastating humanitarian and environmental consequences** of nuclear warfare.
3. **Activities:**
 - Conducts **public outreach, testimonies, and campaigns** to highlight the lived experiences of atomic bomb survivors (Hibakusha).
 - Actively participates in **international peace and disarmament dialogues**.



4. Significance:

- A **grassroots movement** that brings survivor voices to the forefront of global nuclear disarmament efforts.
- Their advocacy has inspired numerous global campaigns and initiatives for **denuclearization**.

About the Nobel Peace Prize:

1. Purpose: Awarded to individuals or groups that have worked for:

- **Fraternity between nations.**
- **Abolition or reduction of standing armies.**
- **Promotion of peace congresses.**

2. Background:

- Established by **Alfred Nobel** in his will, with the **first award in 1901**.
- Administered by the **Norwegian Nobel Committee**.

3. Previous Notable Laureates:

- **2017:** Awarded to the **International Campaign to Abolish Nuclear Weapons (ICAN)** for its pivotal role in the adoption of the **Treaty on the Prohibition of Nuclear Weapons** by the United Nations.
- **2022:** Recognized human rights organizations for their efforts against authoritarianism and human rights abuses.

Significance of Nihon Hidankyo's Win:

1. **Global Awareness:** Highlights the **catastrophic consequences of nuclear warfare** and the urgent need for disarmament.
2. **Recognition of Grassroots Efforts:** Validates the power of survivor-led movements in influencing **global peace and security agendas**.
3. **Strengthening Denuclearization Efforts:** Reinforces international commitments toward the **abolition of nuclear weapons** and strengthens calls for the **implementation of nuclear non-proliferation treaties**.
4. **Inspiration:** Motivates other grassroots organizations and civil society movements to persist in their **peace-building efforts**.

Conclusion:

The award to Nihon Hidankyo reaffirms the importance of survivor-led advocacy in the global movement for peace and disarmament, emphasizing the enduring necessity of a **nuclear-free world**.

Cabinet Approves Development of National Maritime Heritage Complex (NMHC) at Lothal, Gujarat

About National Maritime Heritage Complex (NMHC):

1. Objective:

- Showcase **India's maritime heritage** and establish the **largest maritime heritage complex** in the world.
- Develop it as a center for **global maritime studies** and **tourism**.

2. Location:

- **Lothal**, Gujarat, a prominent **Indus Valley Civilization (IVC)** site.
- Situated between the **Bhogavo** and **Sabarmati** rivers near the **Gulf of Khambhat**.

3. Significance of Lothal:

- Known for the **world's oldest man-made dry dock** (~2400 BC), reflecting advanced knowledge of **tides, winds, and nautical factors** in the IVC.
- A crucial trade hub with links to **Mesopotamia** during the IVC.

4. Key Projects Under NMHC:

- **World-class Lighthouse Museum** to commemorate historical navigation and lighthouses.
- **Coastal State Pavilions** showcasing the maritime traditions of Indian states.

- **Maritime-themed Eco-resort** to promote sustainable tourism.
- **Maritime virtual reality experiences** and exhibits for educational purposes.

India's Maritime Heritage:

1. Early Days (3000–2000 BC):

- Indus Valley Civilization had **maritime trade links with Mesopotamia**.
- Evidence of **shipbuilding** and port activities.

2. Vedic Age (2000–500 BC): **Rig Veda** contains references to **maritime activities** and sea voyages.

3. Nandas and Mauryas (500–200 BC): Magadh kingdom's **navy** is considered the **world's first recorded navy**.

4. Satavahana Dynasty (200 BC–220 AD): Issued **coins with ship inscriptions**, symbolizing their maritime strength.

5. Gupta Dynasty (320–500 AD): Ports on the **east and west coasts** revived maritime trade with **Europe and Africa**.

6. Southern Dynasties: Dynasties like the **Cholas, Cheras, Pandyas**, and the **Vijayanagara Empire** had significant maritime power and trade.

7. Marathas: Under **Shivaji**, the Maratha navy grew into a formidable force with over **500 ships**, ensuring dominance in **coastal defense**.

Significance of NMHC:

1. **Preserving History:** Highlight India's **maritime advancements** from ancient to modern times.

2. **Global Engagement:** Establish India as a **global hub for maritime studies** and heritage tourism.

3. **Economic Boost:** Promote **tourism** and create **employment opportunities**.

4. **Cultural Legacy:** Revive pride in **India's maritime achievements** and traditions.

5. **Educational Resource:** Serve as a platform for learning about **maritime engineering, trade, and navigation history**.

GI Tags for Eight Traditional Products from Assam

Newly GI-Tagged Products from Assam:

1. **Traditional Fermented Rice-Based Beverages:**

- **Bodo Jou Gwran**
- **Bodo Jou Gishi**
- **Maibra Jou Bidwi**

2. **Traditional Dishes:**

- **Bodo Napham:** A dish made from fermented fish.
- **Bodo Ondla:** A curry prepared using rice powder.
- **Bodo Gwkha (also known as Gwka Gwkhi):** A dish traditionally prepared during the Bwisagu festival.
- **Bodo Narzi:** A semi-fermented food made with jute leaves.

3. **Traditional Attire:**

- **Bodo Aronai:** A traditional shawl or scarf.

These GI tags recognize the unique qualities and cultural significance of these products, ensuring their protection and promoting their heritage.

Abhidhamma Divas: Celebrating Buddhist Teachings and Spiritual Growth

1. **Significance of Abhidhamma Divas:**

- **Commemoration of Buddha's Descent:** Abhidhamma Divas, or Abhidhamma Day, marks the Buddha's descent from the **Tāvātīṃsa Heaven**, where he imparted advanced teachings of **Abhidhamma** to his disciples.
- **Event Timing:** This observance coincides with the **Pavāraṇā Festival**, marking the end of the **Rainy Retreat (Vassa)**.

2. Historical Background:

- **Teaching in Tāvatiṃsa Heaven:** After attaining enlightenment, Buddha spent three months in Tāvatiṃsa Heaven, teaching **Abhidhamma** to his mother **Māyā**, who had passed away and was reborn there.
- **Buddhist Lent (Vassa):** This event coincides with the Buddhist Lent, when monks stay in monasteries for meditation and study.

3. Celebration Date:

- **Full Moon of the Seventh Lunar Month:** Abhidhamma Divas is celebrated on the full moon day of the seventh lunar month and is observed across Theravāda Buddhist countries.

4. Religious Observances:

- **Monastic Offerings:** Devotees offer alms to monks and nuns.
- **Scripture Recitation and Sermons:** Participating in the recitation of Buddhist scriptures and listening to sermons on **Abhidhamma**.
- **Meditation and Reflection:** Reflecting on the Buddha's teachings and engaging in spiritual practices.

5. Cultural and Spiritual Practices:

- **Deepening Understanding:** Buddhists deepen their understanding of the Buddha's teachings, especially the **Abhidhamma**, which focuses on **Buddhist psychology** and philosophy.
- **Cultivating Virtues:** Fostering virtues like **generosity, wisdom, and loving-kindness**.
- **Acts of Charity:** Donating food, clothing, or money to monasteries, charitable organizations, and the needy.

6. Significance in Modern Times:

- **Mindfulness and Self-Reflection:** The observance encourages mindfulness, self-reflection, and **spiritual growth**.
- **Core Buddhist Values:** It reinforces the core values of **compassion** and the pursuit of **wisdom**, guiding individuals to lead a life of peace and purpose.

The Chenchu Tribe: An Insight into the Indigenous Life of Nallamala Hills

1. Tribal Background:

- The **Chenchus** are an **aboriginal tribe** residing in the **Nallamala Hills**, located in the **Nagarjuna Sagar Tiger Sanctuary** in **Andhra Pradesh**. They are recognized as a **Scheduled Tribe** in the state.
- **Tribal Origin:** Their origin is linked to **Lord Malikarjuna** of the **Srisailam temple**, and they also have smaller populations in **Tamil Nadu** and **Odisha**.

2. Social Structure and Living Pattern:

- The Chenchus live in small villages called "**Penta**", consisting of several huts grouped based on **kinship patterns**.
- **Social Leadership:** Villages are overseen by a **village elder** called "**Peddamanishi**", whose decisions hold the highest social authority.

3. Occupation and Livelihood:

- **Traditional Occupation:** Traditionally, the Chenchus rely on **hunting** for their livelihood, hunting animals like **deer, wild boar, rabbits, and birds** using **bows and arrows**.
- They also gather **jungle products** such as **roots, tubers, fruits, beedi leaves, mahua flowers, honey, gum, tamarind, and green leaves**, selling them to traders and government cooperatives.
- The Chenchus craft **leaf cups** and **plates** from tobacco leaves and sell products like **tamarind** and **mahua flowers**, with **honey** being an especially significant part of their diet and culture.

4. Marriage and Clan System:

- The Chenchu society is divided into **26 gotras**, and marriages within the same gotra are prohibited.
- **Marriage Tradition:** Marriages, referred to as "**Pelli**", are often arranged by elders or chosen by the youth, with the **maternal uncle** performing the '**sampradaan**' ceremony (handing over of the bride).

5. Religion and Beliefs:

- The Chenchus worship **Bhagwan Taru**, a sky god believed to oversee their well-being, and **Garelamai Sama**, the goddess of the forest, who protects them.
- They also worship **Lord Shiva, Hanuman, and the Goddess of Fire**.

6. Language:

- The Chenchu speak various **Chenchu language variants** such as **Chenchucoolam, Chenchwar, Chenswar, and Choncharu**, with a **Telugu accent**.
7. **Challenges:**
- The **Chenchus of Penukumadugu** face **dwindling employment opportunities** under schemes like **MGNREGA**, which affects their livelihoods and ability to sustain their traditional way of life.

REPORTS AND RANKINGS

Global Hunger Index 2024: Key Findings and Insights

Why in the News?

The **Global Hunger Index (GHI) 2024** was released by **Concern Worldwide** and **Welt Hunger Hilfe**. The report highlights alarming trends in hunger levels globally and regionally.

Key Highlights of the GHI

1. Global Findings

- Hunger levels are "alarming" in **42 countries**, making the **Zero Hunger** goal by **2030** unachievable.
- **Global GHI Score: 18.3** (moderate severity).
- Gender inequality and climate change are linked to rising food insecurity and malnutrition, disproportionately affecting **women and girls**.

2. India-Specific Findings

- **India's Rank: 105th** out of 127 countries (improved from **111th** in 2023).
- **India's GHI Score: 27.3** (categorized as "serious").
- **Child Nutrition:** High levels of child **wasting** and **stunting**, tied to maternal health and nutrition.

3. Methodological Concerns

- **Indicators:** 3 out of 4 indicators focus on child health (stunting, wasting, under-5 mortality) and may not represent hunger across the entire population.
- **Data Issues:** Outdated data and small sample sizes for key indicators.
- **Faulty Metrics:** Overemphasis on stunting, which is influenced by factors beyond hunger, like genetics and sanitation.

Indicators Used in GHI

1. **Undernourishment:** Share of the population with insufficient caloric intake.
2. **Child Wasting:** Low weight for height, indicating acute malnutrition.
3. **Child Stunting:** Low height for age, indicating chronic undernutrition.
4. **Child Mortality:** Under-5 mortality rate, partly reflecting inadequate nutrition.

Global Drivers of Hunger

1. Conflict:

- **70%** of acutely hungry people live in conflict-hit countries.
- Examples: Middle East, East Africa, and Eastern Europe.

2. Climate Crisis:

Droughts, floods, and extreme weather events disrupt food production and livelihoods.

3. Economic Challenges:

Global growth slowdown, high food prices, and limited investments in social protection.

4. Displacement:

Displaced populations face specific vulnerabilities, such as lack of access to food and employment.

Hunger and Malnutrition in India

<i>Factors</i>	<i>Details</i>
<i>Urbanization</i>	Shift towards ultra-processed foods and sedentary lifestyles.
<i>Maternal Health</i>	57% of Indian women (15–49 years) are anemic; affects child nutrition.
<i>Education and Socio-Economic Gap</i>	Poor literacy levels among mothers and low socio-economic status lead to high malnutrition.
<i>Vulnerable Populations</i>	Marginalized communities like SCs, STs, and OBCs face higher rates of malnutrition.

Initiatives to Tackle Hunger

1. India-Specific Initiatives

- **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)**: Free food grains for 80 crore people.
- **POSHAN Abhiyan**: National Nutrition Mission for children and women.
- **Integrated Child Development Scheme (ICDS)**: Provides supplementary nutrition.
- **National Food Security Act (NFSA), 2013**: Ensures subsidized food grains for two-thirds of the population.

2. Global Initiatives

- **SDG 2 (Zero Hunger)**: End hunger and malnutrition.
- **World Food Programme (WFP)**: Provides food assistance globally.
- **Rome Declaration on Nutrition**: Commitments to eradicate hunger and prevent malnutrition.

Challenges in Addressing Hunger

<i>Category</i>	<i>Challenges</i>
<i>Data and Measurement</i>	Outdated and insufficient data; small sample sizes.
<i>Policy Implementation</i>	Poor enforcement of laws and limited inter-sectoral coordination.
<i>Economic Inequality</i>	Wealth disparity impacts equitable access to food and nutrition.
<i>Climate Change</i>	Frequent weather extremes disrupt agricultural production.
<i>Cultural Barriers</i>	Social stigmas and entrenched practices hinder access to food programs.

Way Forward

<i>Focus Area</i>	<i>Recommendations</i>
<i>Policy Reform</i>	Strengthen accountability to international law for food security and promote gender-sensitive policies.
<i>Integrated Approach</i>	Link food security programs with maternal health, education, and sanitation initiatives.
<i>Climate Resilience</i>	Adopt climate-resilient agricultural practices and invest in sustainable farming technologies.
<i>Global Cooperation</i>	Enhance collaboration with international organizations for knowledge sharing and resource allocation.
<i>Awareness and Education</i>	Increase awareness on the importance of nutrition and healthy diets among marginalized communities.

Conclusion

Achieving **Zero Hunger** requires a holistic approach that integrates gender equity, climate resilience, and inclusive policies. While India has made strides, addressing **child nutrition**, **maternal health**, and **data quality** are critical to combating hunger effectively.

PLACES IN NEWS

Philadelphi Corridor: Key Details and Current Developments

About the Philadelphi Corridor

1. **Geographical Overview:**
 - A narrow strip of land, approximately **14 km long** and **100 meters wide**.
 - Runs along the **Gaza Strip's border with Egypt**, including the **Rafah crossing**.
2. **Historical Background:**
 - Designated as a **demilitarized zone** following **Israel's withdrawal from Gaza in 2005**.
 - Security responsibilities transferred to **Egypt** and the **Palestinian Authority**.
3. **Strategic Importance:**
 - Connects Gaza with Egypt and serves as a critical point for the **movement of people and goods**.
 - Historically used for **tunnel smuggling**, including arms and supplies into Gaza.



Significance in Current Ceasefire Negotiations

1. **Israeli Stance:**
 - Insists on controlling the Philadelphi Corridor to prevent **weapons smuggling** into Gaza.
 - Argues that such control is crucial for ensuring **regional security** and countering Hamas' rearmament.
2. **Hamas and Egypt's Opposition:**
 - **Hamas:** Views Israeli control as a violation of **Palestinian sovereignty**.
 - **Egypt:** Opposes Israeli control, citing concerns over its **territorial integrity** and **regional stability**.
3. **Sticking Point in Ceasefire Talks:**
 - Israel's demand for corridor control has become a **major obstacle** in peace negotiations.
 - Both Hamas and Egypt have rejected this condition, making progress in talks difficult.

Key Locations within the Corridor

1. **Rafah Crossing:** Main point for **entry and exit** of people and goods between Gaza and Egypt.
2. **Border Zone:** Runs from the **Mediterranean Sea** to the **Kerem Shalom crossing** with Israel.

Implications of the Corridor Dispute

1. **Security Concerns:** Israel views control as vital to curbing **arms smuggling** and Hamas' military capabilities.
2. **Sovereignty Issues:** Hamas and Egypt argue that Israel's presence undermines **sovereignty** and exacerbates regional tensions.
3. **Challenges to Peace:** Highlights the complexities in balancing **security needs** with **sovereignty and cooperation**.

Conclusion

The **Philadelphi Corridor** remains a focal point in the ongoing Israel-Hamas ceasefire negotiations, reflecting the broader challenges of achieving peace in the region. Balancing security, sovereignty, and regional stability will be key to resolving this contentious issue.