

CURRENT AFFAIRS

WEEKLY

WEEK: 3

JULY
2023

MAINS

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- NEW ERA OF INDIA-FRANCE TIES
- INDIA-MYANMAR-THAILAND TRILATERAL HIGHWAY PROJECT
- COMPREHENSIVE AND PROGRESSIVE AGREEMENT FOR TRANS-PACIFIC PARTNERSHIP (CPTPP)
- MINIMUM GUARANTEED INCOME BILL
- NEW PANEL TO REVIEW 'NSO DATA'
- NURSING INFRASTRUCTURE IN INDIA
- AI HELPS TACKLE FRAUD UNDER 'AB-PMJAY'
- NATIONAL IMMUNISATION COVERAGE FOR 2022

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- 'MAKE IN INDIA' MANDATES FOR AIRCRAFT MANUFACTURING
- INDIA AND UAE CURRENCY EXCHANGE TO FACILITATE TRADE
- NEED TO STRATEGIZE POVERTY ELIMINATION IN INDIA
- MULTIDIMENSIONAL POVERTY INDEX 2023
- POLITICAL REPRESENTATION OF ST CAN LEAD TO IMPROVED FOREST COVER: STUDY
- EFFECT OF MOON ON HUMAN EVOLUTION
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- Nawab Wajid Ali Shah

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- Review Progress of MOVCDNER

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- Sriharikota

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The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

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ANTHROPOLOGY

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Section A [MAINS]

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- ☞ 66% of India's population exposed to extreme flood events: Study



NEW ERA OF INDIA-FRANCE TIES

Context: The visit of Prime Minister Narendra Modi to France defined a new era in already-strong bilateral ties between the two countries.

Key-highlights of PM's visit

- * The visit coincided with **25 years of the oldest** among India's almost **30 strategic partnerships** around the world —since the two nations committed themselves to it in 1998.
- * Prime Minister of India attended the **Guest of Honour** at **France's Bastille Day** parade in Paris.

Bastille Day

- France commemorates the **storming of the Bastille prison** on **July 14, 1789**.
- This event marked the start of the **French Revolution**, during which the monarchy was overthrown and a more democratic government established.

- * **Addressing global challenges:** During the visit, the importance of the partnership was highlighted in how it sought to address global challenges, **including climate change, clean energy, health, food security, and development**, among others.
- * **Technological exchange:** Both countries signed agreements on the acquisition of;
 - ▶ **26 Rafale-M (the marine version) fighters** for the Indian Navy
 - ▶ Co-production of three more Scorpene class submarines at the public sector **Mazagon Dock Shipbuilders Ltd**
 - ▶ **Six Scorpene/Kalvari-class submarines**



- * **Horizon 2047 Roadmap:** The ambitious 'Horizon 2047 Roadmap: Charting the future of India-France Strategic Partnership' was adopted to set the next course of the relationship till 2047, the year India will celebrate the centenary of its independence.

- ▶ The roadmap is founded on three critical pillars of partnership: for security and sovereignty, for the planet, and for people.

India-France Relations:

* Background:

- ▶ France was the first country to recognise the **strategic importance of India** after the nuclear tests in 1998.
- ▶ The partnership with France is India's **most important strategic partnership in Europe**.

* Recent developments:

- ▶ In October 2022, they signed a **Road Map on Green Hydrogen**, which aims "to bring the French and Indian hydrogen ecosystems together" to establish a reliable and sustainable value chain for a global supply of decarbonised hydrogen.
- ▶ **For Trade and commerce:** An MoU signed in June 2023, between **NPCI International Payments Limited (NIPL)** and Lyra, a France-based payment services provider, is going to get implemented soon to enable **UPI and RuPay payments** in Europe.
- ▶ **Trade:** Bilateral trade reached a new peak at \$13.4 billion in 2022-23, with exports from India crossing \$7 billion. Indian imports are also significant and stood at around \$5.8 billion during 2022-23. On the investment front, France is India's 11th largest foreign investor and recorded a cumulative investment of \$10.5 billion in India between April 2000 and March 2023.

Importance of France for India:

- * **France support & similar views on China:** India remains hopeful that differences over the war in Ukraine will not block a positive outcome.
 - ▶ The visit provided an opportunity for the Prime Minister to understand better the French and European assessment of the war, and be prepared to take "tough decisions" with regard to forging consensus at the G20 summit.
- * **To overcome lacks amid Russia-Ukraine conflict:** Due to Russia's uncertain stand on India's defence and technology deals amid war, France can become a strategic partner to India.
- * **India can harness France potential for Technology and military:** France could be an important partner for building maritime domain awareness and keep an eye on China's presence in the region, augmenting New Delhi's participation in the Quad.

Existing Bilateral Partnership:

- * **Institutional Dialogue relating to strategic areas** - India and France have a range of regular institutional dialogue - India-France Strategic Dialogue takes place between NSAs from both sides, Joint Working Group on Counter Terrorism (led at the level of Additional Secretary (CT), MEA), Cyber Dialogue (led at the level of Additional Secretary (IO), MEA), Track 1.5 Dialogue (led by Joint Secretary (PP&R), MEA) etc.
- * **Space Cooperation** - India and France have a rich history of cooperation in the field of space going back to fifty years with ISRO and the French Space Agency, CNES carrying on various joint research programmes and launch of satellites. The jointly developed **MeghaTropiques satellite** which observes clouds and water vapours over the tropical region continues to be in good health and providing valuable scientific data. A joint **Ka-band** propagation experiment is also under implementation.
- * **Civil Nuclear Cooperation** - A landmark agreement on civil nuclear cooperation was signed between India and France in 2008 during the visit of Prime Minister. Subsequently, the General Framework Agreement and the Early Works Agreement for the implementation of EPR for the Jaitapur Nuclear Power Project (JNPP) were signed. Regular negotiations are going on towards finalization of a General Framework Agreement on other project-related parameters.
- * **Economic Cooperation** - Both India and France have important bilateral investments and trade and commercial cooperation. A Joint Economic Committee exists at the level of Ministers of Commerce and Foreign Trade from both sides. Also several bilateral joint working groups in various fields like IT & Telecommunications, roads, sustainable Urban Development, Agriculture and Food Processing, Energy (International solar alliance) etc. exists.
- * **Cultural Cooperation** - It is estimated that the Indian community, including NRIs in mainland France number around 106,000, largely originating from French enclaves of **Puducherry, Karaikal, Yanam, Mahe and Chandernagore**. Thus, Indian culture enjoys wide admiration among the people of France.

- * Their discussions centred on the **India-Myanmar-Thailand trilateral highway**, further underlining the importance of ensuring **peace and stability** in the border areas.

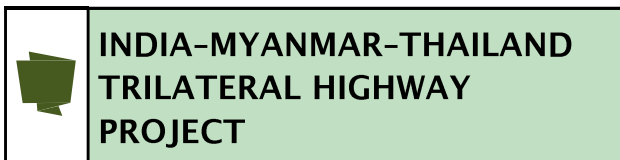
India-Myanmar-Thailand trilateral highway:



- * **Background:** It was first proposed by former Prime Minister Atal Bihari Vajpayee and was approved at a ministerial-level meeting between India, Myanmar and Thailand in **April 2002**.
- * **Road link:** The India-Myanmar-Thailand highway is to connect Moreh in **Manipur** and Mae Sot in **Thailand** via **Myanmar**.
- * **Distance:** The highway will span a distance of approximately **1,360 kilometers (845 miles)**.
- * Its construction began in 2012 and is being implemented in several phases.
 - ▶ **First Segment:** The **India-Myanmar Friendship Road** forms the first segment of the IMT Highway. It runs from the border at **Tamu/Moreh to Kalemmyo and Kalewa**.
- * **Implementing agencies:** On the Indian side, the project is being implemented by the **Ministry of External Affairs (MEA)** with the cooperation of its counterparts in Myanmar and Thailand and budgetary allocation from the **Ministry of Finance**.

Why this project is important for India?

- * **India's Act East Policy:** The project is an important part of India's Act East Policy, which focuses on improving India's relations with the Southeast Asian nations.
 - ▶ It is a diplomatic initiative to promote economic, strategic and cultural relations with the vast Asia-Pacific region at different levels.
 - ▶ **Aim:** To promote economic cooperation, cultural ties and developing a strategic relationship with countries in Indo-pacific region with a proactive and pragmatic approach and thereby improving the economic development of the North Eastern Region (NER) which is a gateway to the South East Asia Region.



Context: Recently, India's External Affairs Minister met his Myanmar counterpart for discussions on initiatives that can be taken in order to enhance the connectivity between the two countries.

Difference Between Look East and Act East:

Look East:	Act East:
<ul style="list-style-type: none"> Look East policy focused on the Association of Southeast Asian Nations (ASEAN) countries + Economic Integration. India became a dialogue partner of ASEAN in 1996 and summit level partner in 2002. In 2012 the relationship got up-graded into a Strategic Partnership. The time when India launched the Look East Policy in 1992, India's trade with ASEAN was USD 2 billion. After signing the Free Trade Agreement in 2010 with ASEAN, the trade has grown to USD 72 billion (2017-18). India is also an active participant in several regional forums like the East Asia Summit (EAS), ASEAN Regional Forum (ARF) etc. 	<ul style="list-style-type: none"> Act East Policy focused on ASEAN countries + Economic Integration + East Asian countries + Security cooperation. Prime minister of India highlighted 4C's of Act East Policy. <ul style="list-style-type: none"> ▶ Culture ▶ Commerce ▶ Connectivity ▶ Capacity building Security is an important dimension of India's Act East Policy. In the context of growing Chinese assertiveness in the South China Sea and the Indian Ocean, securing freedom of navigation and India's own role in the Indian Ocean is a key feature of Act East Policy. In pursuance of this, India has been engaged under the narrative of Indo-pacific and informal grouping called Quad.

Initiatives to Enhance Connectivity:

- * **Agartala-Akhaura Rail Link** between India and Bangladesh.
- * Intermodal transport linkages and inland waterways through Bangladesh.
- * **Kaladan Multimodal Transit Transport Project** and the Trilateral Highway Project connecting the North East with Myanmar and Thailand.
- * Under **India-Japan Act East Forum**, projects such as Road and Bridges and modernization of Hydro-electric power projects have been undertaken.
- * **India-Japan Act East Forum** was established in 2017 which aims to provide a platform for India-Japan collaboration under the rubric of India's "Act East Policy" and Japan's "Free and Open Indo-Pacific Strategy".
 - ▶ The Forum will identify specific projects for economic modernization of India's North-East region including those pertaining to connectivity, developmental infrastructure, industrial linkages as well as people-to-people contacts through tourism, culture and sports-related activities.

Conclusion:

- * India's Northeast region, although a critical connecting link between South and Southeast Asia, is clearly beleaguered with security issues, economic stagnation, and poor infrastructure. While India's Look East Policy has made tremendous progress, it has bypassed the Northeast region. The Act East policy was meant to perhaps redeem that. Plans and proposals are in place and the possibilities of building a cobweb of connectivity networks through India and its Northeast region is high. But given India's implementation track record, how soon it can

be the real bridge between South and Southeast Asia is still an open ended issue.

COMPREHENSIVE AND PROGRESSIVE AGREEMENT FOR TRANS-PACIFIC PARTNERSHIP (CPTPP)

Context: Three years after leaving the European Union, the United Kingdom joined the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a club of 11 other countries which together generate 14% of the world's income.

About the deal:

- * The CPTPP is a landmark pact agreed upon in 2018 that cuts trade barriers **among 11 countries**, including **Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam**.



All 11 countries of CPTPP are also members of the **Asia-Pacific Economic Cooperation (APEC)**.

- * Those founding members signed the Pacific trade pact in March 2018.
- * Between them, they generate 13% of the world's income.

- * The UK is the first non-founding country to join, and will be its second biggest economy after Japan.
- * With **UK membership**, CPTPP will have a combined **GDP of 12 trillion pounds** and **account for 15% of global trade**.

What is Brexit?

- Brexit refers to the U.K.'s decision to leave the European Union (EU). The country formally left the EU in January 2020, after a referendum in 2016.
- **Impact of Brexit on U.K.:**
 - ▶ Changes in trade policies and tariffs with the EU and other countries.
 - ▶ Reduced access to the EU market for U.K. businesses.
 - ▶ Increased regulatory burden on U.K. businesses trading with the EU.

Highlights of the Deal:

- * The pact requires countries to eliminate or significantly **reduce tariffs** and make strong commitments to opening services and investment markets.
- * It also has rules addressing competition, intellectual property rights and protections for foreign companies.
- * **Significance:**
 - ▶ CPTPP removes **99% of tariffs** on goods and services.
 - ▶ It prevents environmental abuses, such as unsustainable **logging and fishing**.
 - ▶ This is also has impact on wildlife trafficking.

CPTPP: Geopolitical impacts:

- * **For Britain:** The CPTPP is a "gateway" to the **Indo-Pacific region**, which is expected to account for a majority (54%) of global economic growth in the future.
 - ▶ As a CPTPP member, the U.K. will have a veto on whether China joins the treaty. U.K. firms will not need to establish a local office or be resident to provide services and will be able to operate on a par with firms in host countries.
- * **India's views:**
 - ▶ India has recognized that the **sweeping economic concessions** required to join CPTPP have too far-reaching consequences, similar to RCEP.
 - ▶ India opted out of the bloc because it wants to **impose stricter labour and environmental regulations** on its other partners.
 - ▶ India also mentioned that the deal eliminates crucial issues such as **data localisation and environmental standards**.



MINIMUM GUARANTEED INCOME BILL

Context: The Rajasthan government tabled the **Rajasthan Minimum Guaranteed Income Bill, 2023**, with an aim to **provide entitlement-based social security to support the individuals or households with an additional minimum guaranteed income in the form of a guaranteed wage or social security pension**.

Key-highlights of the Bill

- * **Focus area:** The Bill has three broad components-
 - ▶ Right to Minimum Guaranteed Income
 - ▶ Right to Guaranteed Employment
 - ▶ Right to Guaranteed Social Security Pension
- * **Aim:** The Rajasthan government plans to bring a law that promises '**guaranteed minimum income**' for the poor.
- * **Mahatma Gandhi Minimum Guaranteed Income Yojana (MGMGIY):** The Mahatma Gandhi Minimum Guaranteed Income Yojana (MGMGIY) will be the name of the scheme. The state shall provide to all eligible people a **minimum guaranteed income** by providing employment
 - ▶ **in urban areas** through the **Indira Gandhi Urban Employment Guarantee Scheme (IGUEGS)**
 - ▶ **in rural areas** through **Chief Minister Rural Employment Guarantee Scheme (CMREGS)**
- * Alternatively, eligible individuals may receive a pension if they fall under the categories of old age, specially abled, widow, or single woman.
- * **Guaranteed Employment:** Every adult residing in rural areas of the state has the right to guaranteed employment for at least an additional 25 days per financial year, after completing the maximum days of work under MGNREGA.
- * **Right to Guaranteed Social Security Pension:** The Right to Guaranteed Social Security Pension ensures that individuals in the categories of old age, specially abled, widow, or single woman, who meet the prescribed eligibility criteria, receive a pension.
- * **Significance:** The law will ensure that all beneficiaries are covered under different social security schemes and in case they are not, the government will ensure minimum income to them.

The idea of 'Basic Income':

- * **Universal basic income (UBI)** is considered a solution to the looming crisis of decreasing job opportunities and an effective tool for eradicating poverty.

- * Universal basic income (UBI) is a socio-political financial transfer policy proposal in which all citizens of a given country receive a legally stipulated and equally set financial grant paid by the government.
- * A basic income can be implemented nationally, regionally, or locally.
- * Universal basic income (UBI) is a government program in which every adult citizen receives a set amount of money regularly.
- * The goals of a basic income system are to replace other need-based social programs that potentially require greater bureaucratic involvement.

Benefits	Challenges
<ul style="list-style-type: none"> • To accommodate a diverse workforce, UBI could potentially provide the necessary support and flexibility for individuals to find suitable work or pursue education and entrepreneurship. • UBI is supposed to be easily accessible, periodic, in the form of funds (and not vouchers or coupons) and is paid to individuals not households. 	<ul style="list-style-type: none"> • UBI did not significantly reduce labour force participation, except for new mothers and teenagers, who used the income to extend their maternity leaves and focus on education. • UBI has no criteria to select the beneficiaries, • Agency involved providing support in the form of cash transfers to respect, not dictate recipients' choices.

Arguments in Favour of UBI in India:

- * **Social Justice:** No society can be just or stable if it does not give all members of the society a stake. A Universal Basic Income promotes many of the basic values of a society which respects all individuals as free and equal.
- * **Administrative Efficiency:** A UBI will reduce the burden of financing a plethora of separate government schemes and administrative burden of implementation.
- * **Employment:** UBI is an acknowledgement of the government's duty to guarantee a minimum living standard (Article 43 of Indian Constitution) is even more urgent in an era of uncertain employment generation.
- * **Insurance against Shocks:** Poor households often face multiple shocks such as bad health, job loss or aggregate shocks such as crop loss, water borne diseases, loss of property and natural disaster.
 - ▶ The UBI income floor will provide a safety net against health, income and other shocks.
- * **Freedom of Choice:** A UBI treats beneficiaries as agents and entrusts citizens with the responsibility of using welfare spending as they see best, this may not be the case with in-kind transfers.



NEW PANEL TO REVIEW 'NSO DATA'

Context: The Ministry of Statistics is going to replace the existing Standing Committee on Economic Statistics (SCES) by a 'Standing Committee on Statistics (SCoS)' which has a broader mandate to review the framework and results of all surveys conducted under the aegis of the National Statistical Office (NSO).

About the order:

- * **Background:** The government has constituted a new internal oversight mechanism for official data via forming a **Standing Committee on Economic Statistics (SCES)** set up in late 2019.
- * **About the new Committee:**
 - ▶ As per the update, a new committee 'SCoS' will have **10 official members**, and **four non-official members** who are eminent academics.
 - ▶ The panel can have up to **16 members**.
- * **Need for a new committee:** The last round of household surveys on **consumption expenditure and employment** cited 'data quality issues'.
- * **Significance:**
 - ▶ The 'SCoS' terms of reference include the **identification of data gaps** that need to be filled by official statistics, along with an appropriate strategy to plug those gaps.
 - ▶ It has also been **mandated to explore the use of administrative statistics** to improve data outcomes.

Present scenario:

- * The SCES, which had **28 members**, including 10 non-official members.
- * The panel was mandated to review the **framework for economic indicators** pertaining to the **industrial sector, the services sector and the labour force statistics**.
- * This meant that their purview was limited to **datasets like the Periodic Labour Force Survey, the Annual Survey of Industries, the Index of Industrial Production and the Economic Census**.

National Statistical Office (NSO):

- * National Statistical Office (NSO) was formed through the merger of the **NSSO and CSO** under the **Ministry of Statistics and Programme Implementation (MoSPI)**.



NURSING INFRASTRUCTURE IN INDIA

Context: Recently, the Central Government has directed States to overcome the regional disparity in availability of nursing colleges which is found to be skewed in five southern states and three western states in the country.

- * This has become a difficulty for students of **Eastern and Central India** due to lack of seats.

The Skewed Nursing Infrastructure:

- * About **64% of the nursing workforce** is currently trained in just **eight States**.
- * Around **42%** of nursing colleges are present in five southern States whereas **17% in three western States**.
- * The nursing institutions are concentrated in **Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, and Telangana**, while 17% are in the western states of **Rajasthan, Gujarat, and Maharashtra**.
- * Only **2% of nursing colleges** are in the **north-eastern states**.

India currently has close to **35 lakh nurses**, but its nurse-to-population ratio is only **2.06:1000** against a global benchmark of **3:1000**.

Global nursing shortages:

- According to the **World Health Organisation (WHO)**, approximately **27 million men and women** make up the global nursing and midwifery workforce, accounting for **nearly 50% of the global health workforce**.
- "There is a global shortage of health workers, in particular nurses and midwives, who represent more than 50% of the current shortage in health workers."

Why India needs to focus on the issue?

- * **Backbone:** Nursing services form the backbone of any **medical establishment**. Nurses play a critical role in **health promotion, disease prevention and delivering primary and community care**.
- * **Frontline:** They are often the first to detect health emergencies and work on the front lines of disease prevention and the delivery of **primary health care, including promotion, prevention, treatment, and rehabilitation**.
- * **Key in achieving UHC:** They provide care in **emergency settings** and will be key to the achievement of **universal health coverage**.

Possible Reasons of shortage:

- * **Lack of Infrastructure:** As there is a skewed scenario for availability of nursing colleges there are limited seats for nursing in several states in India, which makes difficult for students to take the nursing courses.
- * **Health as a 'State' subject:** Since **Health** is a state subject, the onus lies on the states to ensure that the optimum **nurse-patient ratio** is maintained. This has been compromised by the state government up to an extent.
- * **Gender biased profession:** The nursing jobs are treated to be a gender biased occupation especially in India.
- * **Poor governance:** The nursing and midwifery profession is witnessing a large-scale brain drain from the country due to poor salary, working conditions and absence of a proper career pathway, and outdated systems of professional governance.

Concerns associated:

- * **Less Nurse-patient ratio:** Due to lack of staff in the hospitals, patients are suffered for timely services.
- * **Health facilities compromised:** Health facilities in a hospital get automatically compromised as staff members are unavailable or due to overburden of work.
- * **Corruption:** The appointment of nurses is adding to the issue of corruption in nursing college for admissions due to less seats by officials.
- * **Harassment at workplace:** As the less staff is available, hospitals are required to order their staff working for more time than normal employees, which creates frustration amongst the nurses.

Government interventions:

- * The Centre has announced **157 new nursing colleges** in co-location with the existing medical colleges established since 2014 for investment of Rs 1570 crore that would add around 15700 nursing graduates every year.
- * **Development of nursing services:** Rs.100 crore has been allocated for the development of nursing services in the **10th five-year plan**.
- * In line with the **World health Organisation's (WHO's) global strategy** on "**Human Resources for Health: Workforce 2030**", the Ministry of Health and Family Welfare (MoHFW) issued draft guidelines earlier this month to improve the working conditions of all **categories of nurses in all healthcare institutions** across India.
 - ▶ The WHO's global strategy calls for a safe and healthy work environment for nurses in order to ensure quality nursing care.



Way forward:

- * **Incentivise the nursing staff:** The government should provide nurses with personal protective equipment as required, free of cost, will fall on the hospital or clinic employing them.
- * **Open-up more colleges:** There should be a central scheme for nursing colleges in every state and regulations must be scrutinised by an authority likewise for Medical colleges.
- * **Promote awareness to stop gender biasness for occupation:** For India society, there is a need to spread awareness and campaigns regarding boys joining jobs of nurses by making 'Nurse' a gender neutral Term.

of anti-fraud framework supported by **State Anti-Fraud Units (SAFUs)** at State level.

- * The scheme is governed by a **zero-tolerance approach** to any kind of fraud viz. **suspect/non-genuine medical treatment claims, impersonation, and up-coding of treatment packages/procedures etc.**

The government is now pushing for **Ayushman card saturation** — where of the existing cards more than 40% were created in the **last financial year (2022-23)** — deployment of **health kiosks, timely settlement of claims, empanel and activate hospitals and increase scheme uptake.**

AI HELPS TACKLE FRAUD UNDER 'AB-PMJAY'

Context: According to data with the Health Ministry, a penalty amount of Rs.9.5 crore has been recovered based on information of fraud obtained through artificial intelligence and machine learning-based anti-fraud initiative protecting the world's largest government-run insurance scheme **Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).**

- * Also about **3 lakh Ayushman cards** have been disabled and **210 hospitals de-empanelled.**

About the guidelines:

- * Around **18% of the total authorised hospital admissions** under the scheme have also been confirmed as fraud since its inception.
- * Additionally, **188 hospitals** have been suspended and a penalty of Rs.20.17 crore levied across board as part of the **anti-fraud drive.** Anti-fraud advisories were also issued to **States/UTs.**
- * **National Anti-Fraud Unit (NAFU)** was created at NHA for overall monitoring and implementation

Future Aspirations:

- * The government is now working at:
 - ▶ developing and strengthening health and wellness centres
 - ▶ Blocking public health units
 - ▶ Expanding disease surveillance systems
 - ▶ Strengthen pandemic research and a multi-sector national institutions platform

What is artificial intelligence (AI) governance?

- * Artificial intelligence governance is the **legal framework for ensuring AI and machine learning technologies** are researched and developed with the goal of helping humanity navigate the adoption and use of these systems in ethical and responsible ways.
- * AI governance aims to **close the gap that exists between accountability and ethics in technological advancement.**
- * AI use is rapidly increasing across nearly all **industry sectors, including healthcare, transportation, retail, financial services, education and public safety.**
- * As a result, governance has taken on a more significant role and is getting more attention than in the past.

How AI can help in Governance model in India?

- * AI can be used to assist members of the **public to interact** with government and access government services.
- * It is the **most effective technique** of eliminating corruption by **automating services and guaranteeing transparency in information communicated** and making it easily available to the public.
- * Ease of access to government services for all citizens **24*7 via online applications**.

Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY):

- The Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) **SEHAT scheme** would work in convergence with **Pradhan Mantri Jan Arogya Yojana (PM-JAY)**
- **Beneficiaries:** All residents of India, irrespective of their socio-economic status, will be covered under the scheme.
- The beneficiaries will get the **Universal Healthcare Coverage (UHC)** as per the **SECC 2011 database**.
- The PM-JAY is **world's largest health insurance/assurance scheme** fully financed by the government.
- It provides a cover of **Rs.500, 000 per family per year** for secondary and tertiary care hospitalisation across public and private empanelled hospitals in India.



NATIONAL IMMUNISATION COVERAGE FOR 2022

Context: The WHO and UNICEF recently released its estimates for 'National immunisation coverage for 2022'.

- * The **World Health Organization (WHO)** has mentioned that the coverage rate for the third dose of **diphtheria, pertussis and tetanus vaccines (DPT3)**, in India rose to an all-time of **93% in 2022**, surpassing the previous pre-pandemic best of **91% recorded in 2019**.

Highlights of the Estimates:

- * **For WHO South-East Asia Region:**
 - ▶ The coverage rate for the third dose of **diphtheria, pertussis and tetanus vaccines (DPT3)** recovered to the **pre-pandemic level of 91%**, a sharp increase from the 82% recorded in 2021.
 - ▶ The region also witnessed a **six per cent improvement** in the coverage of the measles vaccine, rising to 92% in 2022 from 86% in 2021.

- ▶ The number of **zero-dose children** (those that have not received even the first dose of DPT vaccine) halved to 2.3 million in 2022 from 4.6 million in 2021.

- * The report revealed that the efforts were majorly attributed being made by **India and Indonesia**.

* Performance of India's Neighbourhood:

- ▶ **Indonesia reported DPT3 coverage of 85%** in 2022, the same as in 2019, but rising sharply from the 67% recorded in 2021.
- ▶ **Bhutan recorded 98%** and **Maldives 99%**, surpassing their pre-pandemic immunisation rates.
- ▶ Bangladesh with 98% and Thailand 97%, Sri Lanka with 98% coverage, Nepal with 90% and Timor-Leste with 86% were closer to the pre-pandemic coverage of 99%, 93% and 90%.

Significance of the report:

- * It helps to strengthen capacities of the health workforce, better understand, and engage with vulnerable populations and roll out tailored strategies to reach each child with the lifesaving routine immunization vaccines.

Diphtheria, pertussis and tetanus vaccines:

- * The **DPT vaccine or DTP vaccine** is a class of combination vaccines against **three infectious diseases** in humans: **diphtheria, pertussis (whooping cough), and tetanus**.
- * The vaccine components include diphtheria and tetanus toxoids and either kills whole cells of the bacterium that causes pertussis or pertussis antigens.
- * Immunisation is an essential component for reducing under-five mortality: Immunisation coverage estimates are used to monitor coverage of immunisation services and to guide disease eradication and elimination efforts.
- * It is a good indicator of **health system performance**.

Immunisation Process:

- * DTaP is only for children younger **than 7 years old**. Different vaccines against tetanus, diphtheria, and pertussis (Tdap and Td) are available for older **children, adolescents, and adults**.
- * It is recommended that children receive **5 doses of DTaP**, usually at the following ages:
 - ▶ 2 months
 - ▶ 4 months
 - ▶ 6 months
 - ▶ 15–18 months
 - ▶ 4–6 years

* DTaP may be given as a **stand-alone vaccine**, or as part of a combination vaccine (a type of vaccine that combines more than one vaccine together into one shot).

Government Interventions:

* **Universal Immunization Programme (UIP): Vaccines under UIP:** Under UIP, following vaccines are provided:

▶ BCG (Bacillus Calmette Guerin)

- ▶ DPT (Diphtheria, Pertussis and Tetanus Toxoid)
- ▶ OPV (Oral Polio Vaccine)
- ▶ Measles
- ▶ Hepatitis B
- ▶ TT (Tetanus Toxoid)
- ▶ JE vaccination (in selected high disease burden districts)
- ▶ Hib containing Pentavalent vaccine (DPT+HepB+Hib) (In selected States)

DOSAGE PROFILE					
S. No.	Vaccine & its presentation	Protection	Route	Number of doses	Vaccination Schedule
1	BCG (Bacillus Calmette Guerin)- Lyophilized vaccine	Tuberculosis	Intra-der mal	1	at birth (upto 1 year if not given earlier)
2	OPV (Oral Polio Vaccine)- Liquid vaccine	Poliomyelitis	Oral	5	Birth dose for institutional deliveries, Primary three doses at 6, 10 & 14 week and one booster dose at 16-24 month of age. Given orally
3	Hepatitis B – Liquid Vaccine	Hepatitis B	Intra-muscular	4	Birth dose (within 24 hours) for institutional deliveries, Primary three doses at 6, 10 & 14 week.
4	DPT (Diphtheria, Pertussis and Tetanus Toxoid) - Liquid vaccine	Diphtheria, Pertussis and Tetanus	Intra-muscular	5	Three doses at 6, 10 & 14 week and two booster dose at 16-24 month and 5-6 years of age



'MAKE IN INDIA' MANDATES FOR AIRCRAFT MANUFACTURING

Context: According to a latest update, for boosting the Indigenous Aircraft manufacturing in India, Final Assembly Line (FAL) at Vadodara has been introduced in partnership with Tata Advanced Systems Limited (TASL) under 'Make in India' Obligations.

More about the news

- * In addition the above, the first aircraft -**Airbus C295**, manufactured in India would be delivered in September 2026.
- * The C-295 is an aircraft of 5-10 tonne capacity used for tactical transport of up to 71 passengers or 50 paratroopers.

- * It will replace the Indian Air Force's ageing fleet of Avro-748 planes
- * It will be used for **logistic operations** to locations that are not accessible by current heavier aircraft.
- * India has become the 35th C-295 operator worldwide.
- * The first made-in-India aircraft is expected from September 2026 and completed by 2031 at the rate of eight aircraft per year.
- * **Important features:**
 - ▶ With a flight endurance of **up to 11 hours**, can carry out multi-role operations under all weather conditions.
 - ▶ It can operate from short or unprepared airstrips.
 - ▶ The C-295 has very **good fuel efficiency**.

Aircraft Industry in India

- * India has a much bigger footprint in civil aviation manufacturing than defense, in addition to being a market itself.

- * India is currently the **7th largest civil aviation market** in the world.
- * **Defense aircraft Industry**
 - ▶ India has the **third largest armed forces in the world** and plans to spend billions of dollars on defense articles over the next several years.
 - ▶ India's resolve to drastically reduce its reliance on imports is referred to as **"Aatmanirbharta" (self-reliance)**.

Indigenisation of aircraft industry

- * It is among the five fastest growing aviation markets globally, registering a growth rate of over 15.2 per cent year-on-year.
- * Despite this high rate of growth, the country is one of the least penetrated air markets in the world with 0.04 trips per capita per annum compared to 0.3 in China and more than two in the US.
- * With 'Make in India' initiatives, it is estimated that huge procurement costs can be significantly reduced.
- * Additionally, this will enable building up of manufacturing capabilities spurring the much needed growth of the economy.



'Make-in-India' and offset obligations:

- * **Indigenous Production under the Defence Acquisition Procedure, 2020:**
 - ▶ The **Defence Acquisition Procedure, 2020 ("DAP 2020")** which governs **capital acquisition for the defence sector**, sets out certain categories (methods/routes) under which the **Ministry of Defence** undertakes capital procurement.
 - ▶ These categories are ranked in order of **procurement preference, with the purchase of indigenously designed, developed and manufactured products** being the highest priority and outright purchase of fully formed equipment being the lowest priority.
- * **Other mandates:**
 - ▶ In addition to the categories for **purchase of equipment**, the DAP 2020 also envisages the 'Make' procedure of procurement which

promotes **indigenous design and development of prototypes** of military equipment.

- ▶ The aim is in line with the wider Make in India policy, and to develop **long term defence capabilities**.
- ▶ Once products are designed and developed under Make, they are procured by the Ministry of Defence under either the **Buy (Indian-IDD) or Buy (Indian) category (as applicable)**.

* Local Procurement Preference:

- ▶ The **Public Procurement (Preference to Make in India) Order, 2017** grants general purchase preference in government tenders to local suppliers.

Attempts made so far:

- * **FDI:** Foreign investment of up to 49% is allowed under the automatic route.
- * **UDAN Scheme:** The Ministry of Civil Aviation (MoCA) launched Regional Connectivity Scheme (RCS) – **Ude Desh ka Aam Nagrik (UDAN)** in 2016.
- * **National Policy:** In 2016, the Ministry of Civil Aviation released the **National Civil Aviation Policy (NCAP)**.
- * **Two Defense Industrial Corridors** in the Indian states of Uttar Pradesh and Tamil Nadu were announced in the 2018-2019 budget, which will attract manufacturers and suppliers.
- * **10-year Integrated Capability Development Plan:** India is formulating the 10-year Integrated Capability Development Plan, which would be the basis for future defense procurement.
- * **Made in India:**
 - ▶ The **state-owned Hindustan Aeronautics (HAL)** has manufactured indigenously in large numbers, the multi-purpose light transport aircraft — **Dornier 228 aircraft**. HAL bought the production licence for this aircraft from the **German firm Dormer GmbH in 1983**.
 - ▶ Recently Made-in-India light combat helicopters 'Prachand' has been inducted into Indian Air Force.



INDIA AND UAE CURRENCY EXCHANGE TO FACILITATE TRADE

Context: During Prime Minister Narendra Modi's recent visit to the UAE, the Reserve Bank of India (RBI) and the Central Bank of the UAE signed two MoUs to promote local currency use in cross-border transactions and interlink payment systems, fostering economic cooperation.

Key-highlights of the Agreement:

- * **Background:** The step was taken in line with the emerging future threats of **dollar dominance, currency manipulation and Russia's sanctions**.
- * **The first** aims to encourage the use of local currencies (**rupee and dirham**) for cross-border transactions, promoting economic cooperation between the two nations.
- * **The second** is focused on linking their payment systems, facilitating smoother financial transactions between India and the UAE.
- * **Significance:**
 - ▶ Such cooperation will also include the mutual acceptance of **domestic card schemes** by interlinking national card switches.
 - ▶ Integration between these systems will enhance access to **payment services** for the benefit of the **citizens and residents of the two countries**.
- * **Other points of discussion:**
 - ▶ The agenda of the groupings such as the **I2U2 (India, Israel, UAE and USA)** and the **UAE-France-India trilateral cooperation** under which both sides are in collaboration with other powers.
 - ▶ Also, the two leaders also witnessed the signing of a MoU on establishing a **branch of the Indian Institute of Technology-Delhi in Abu Dhabi**.

How currency exchange helps in Trade facilitation?

- * **Easy documentation:** Trade facilitation covers the full spectrum of border procedures, from **the electronic exchange of data about a shipment**, to the **simplification and harmonisation of trade documents**, to the possibility to appeal administrative decisions by border agencies.
- * **Fixed rate of transaction:** **Foreign exchange markets** provide a way to hedge currency risk by fixing a rate at which the transaction will be completed.
- * A **lower-valued currency** makes a country's imports more expensive and its exports less expensive in foreign markets.
- * A **higher exchange rate** can be expected to worsen a **country's balance of trade**, while a lower exchange rate can be expected to improve it.

How exchange rate affects Trade?

- * An increase in exchange rates reduces the **balance of trade in a country** by reducing **exports and increasing imports**.
- * If a country's imports are valued higher than their exports, the country is said to have a **trade deficit** and a lower demand for their currency. This drives the currency exchange rate down.

India's step in similar lines:

- * According to reports, **18 countries** have agreed to trade in Indian rupees.
- * These **18 nations** include **Botswana, Fiji, Germany, Guyana, Israel, Kenya, Malaysia, Mauritius, Myanmar, New Zealand, Oman, Russia, Seychelles, Singapore, Sri Lanka, Tanzania, Uganda and the United Kingdom**.
- * These agreements mean that the Indian rupee can be used for trade transactions between the countries involved, rather than relying solely on **the US dollar**.

Why domination of US Dollar is concernable?

The domination of the US Dollar is concernable for several reasons:

- * **Economic Vulnerability:** Countries relying heavily on the US Dollar for trade and reserves are susceptible to fluctuations in its value, which can impact their own economies.
- * **Global Financial Stability:** As the world's primary reserve currency, the Dollar's fluctuations can create volatility in international financial markets, affecting global stability.
- * **Trade Imbalances:** Countries with weaker currencies may find it harder to export and compete in the international market.
- * **Dependency on US Policies:** Countries using the Dollar as a major currency may become subject to the monetary policies and decisions of the US Federal Reserve, which may not align with their own economic needs.
- * **Geopolitical Influence:** The US can use its currency's dominance as a tool for exerting geopolitical influence, leading to concerns over economic and political sovereignty for other nations.
- * **Dollarization Risks:** Some countries may fully adopt the US Dollar as their official currency, relinquishing control over their monetary policies and economic autonomy.

NEED TO STRATEGIZE POVERTY ELIMINATION IN INDIA

Context: India has ranked 149 out of 194 countries in per capita Income terms for the year 2022. There is a need to take steps to achieve its targets of eliminating poverty; and focus on raising incomes of individuals.

- * Let us identify the challenges that the country will face in reaching this goal and the actions it needs to take to overcome them.

Poverty in India:

- * The poverty rate in India has increased to **9.7% in 2020**.
- * From **2011 to 2019**, the number of poor in India was estimated to have decreased to **78 million from 340 million**.

How poverty is measured?

- * In India, the official consumption-based poverty line is still the Tendulkar Line, which is close to the World Bank \$1.9 a day line.
- * The **Tendulkar Expert Group** chaired by economist **Suresh Tendulkar** in 2009 was formed to review the methodology for poverty estimation.
- * The committee finalised per person per day consumption figure of Rs 32 a day for urban areas and Rs 26 a day for rural areas.
- * The **national poverty line** for 2011-12 was estimated at Rs 816 per capita per month for rural areas and Rs 1,000 per capita per month for urban areas.

India's plan for poverty alleviation:

The strategy for poverty alleviation is essentially two fold;

- * Firstly, an effort is underway to provide **greater opportunity for the poor** to participate in the growth process by focusing on specific sectors, which offer such opportunities.
- * Secondly, **poverty alleviation and social sector programmes** have been strengthened and restructured with special programmes for the weaker sections of society.

Multidimensional Poverty Index (MDP):

- To tackle the drawbacks associated with the poverty line, UNDP, in association with **Oxford Poverty and Human Development Initiative (OPHI)**, has developed the **Multidimensional Poverty Index (MDP)** for the 107 developing countries.
- MDP uses **Health, Education and Standard of Living** indicators to determine the incidence and intensity of Poverty experienced by a population.

Dimensions (Indicators):

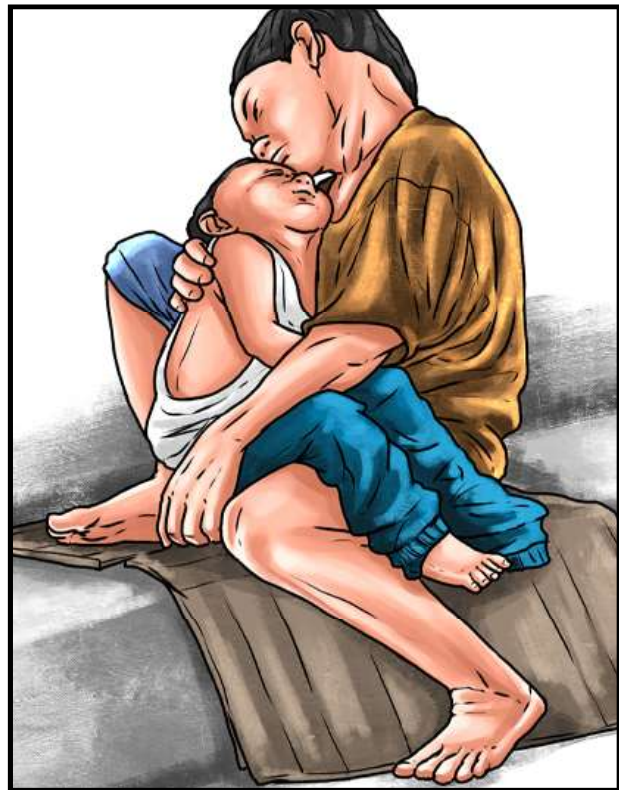
- Health (Child Mortality, Nutrition)
- Education (Years of Schooling, School Attendance)
- Standard of living (Cooking Fuel Sanitation, Drinking Water, Electricity, Housing Assets)

What else is required to be done?

- * **More Employment Opportunities:** Poverty can be eliminated by providing more employment opportunities so that people may be able to meet their basic needs. For this purpose, labour intensive

rather than capital intensive techniques can help to solve the problem to a greater extent

- * **Establishment of Small Scale Industries:** The policy of encouraging cottage and small industries can help to create employment in rural areas especially in backward regions. Moreover, this will transfer resources from surplus areas to deficit without creating much problem of urbanisation.
- * **Focus to boost rural economy:** As more than half of the country resides in rural India, there is an acute need to focus on increasing rural income opportunities.



Challenges:

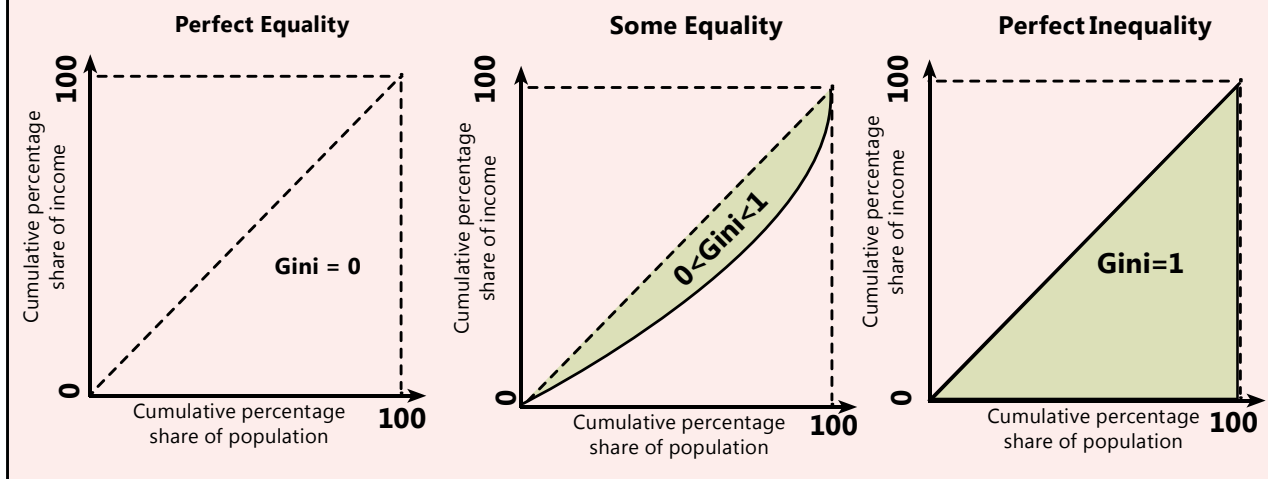
- * **Large population:** India continues to have a large population, which is certainly, not able to afford basic things, whichever poverty line, either based on calorific value or on income.

According to the last released official data, in 2011, **268 million people** were surviving on less than **\$1.90 a day**.

- * **High Out-of-Pocket expenditure:** More people are investing their **disposable income** in 'Utilities' like on electricity, transport, health etc.
- * **High Income and Wealth Inequality:** According to latest Oxfam Study, India's top **1 percent** holds 51.53 percent of the national wealth whereas the bottom **60 percent**, the majority of the population, own merely **4.8 percent of the national wealth**, indicating a huge difference in the income level of people.

Measurement of Income Inequality:

- Gini coefficient is a typical measure of income inequality. The coefficient varies between 0 and 1, with 0 representing perfect equality and 1 perfect inequality.
- Most of the analysis is centered on the concept of income inequality as captured by the Gini coefficient, which is available for a large number of countries and relatively long periods.

**Factors responsible:**

- * For a country, the factors those related to economic developments and economic stability as well as to domestic policies — **include financial integration, redistributive fiscal policies, and liberalization and deregulation of labour and product markets** — which plays an important role in explaining inequality trends within countries.

Steps taken to eliminate poverty (based on Income):

- * **National Food for Work Programme:** The National Food for Work Programme was launched on November 14, 2004 in 150 most backward districts of the country with the objective to intensify the generation of supplementary wage employment.
- * **Swaranjayanti Gram Swarozgar Yojana (SGSY):** SGSY, launched in April 1999, aims at bringing the assisted poor families (Swarozgaris) above the poverty line by organizing them into Self Help Groups (SHGs) through a mix of Bank credit and Government subsidy.
- * **Sampoorna Grameen Rozgar Yojana (SGRY):** SGRY, launched in 2001, aims at providing additional wage employment in all rural areas and thereby food security and improve nutritional levels. The SGRY is open to all rural poor who are in need of wage employment and desire to do manual and unskilled work around the village/habitat. The programme is implemented through the **Panchayati Raj Institutions (PRIs)**.
- * **Pradhan Mantri Gramodaya Yojana (PMGY):** PMGY launched in 2000-01 envisages allocation of Additional Central Assistance (ACA) to the States and UTs for selected basic services such as primary

health, primary education, rural shelter, rural drinking water, nutrition and rural electrification.

- * **Rural Employment Generation Programme (REGP):** REGP was launched with the objective of creating self-employment opportunities in the rural areas and small towns, is being implemented by the **Khadi and Village Industries Commission (KVIC)**.
- * **Prime Minister's Rozgar Yojana (PMRY):** the objective of making available self-employment opportunities to the educated unemployed youth by assisting them in setting up any economically viable activity.

Suggestive Measures:

- * **Realistic Assessment** of the present situation of poverty in the country in need of the hour.
- * **Direct income transfer** to needy is an immediate solution.
- * **Taxing wealth of rich people** to fund amelioration of poor in the country.
- * By improving **social infrastructure and job opportunities** in rural areas, migration to urban areas can be decreased, and thus urban poverty can also be decreased.

**MULTIDIMENSIONAL POVERTY INDEX 2023**

Context: As per the **Multidimensional Poverty Index 2023**, the number of states with less than 10 per cent people living in multidimensional poverty doubled in the five years between 2016 and 2021.

About the Report:

- * **Released by:** NITI Aayog
- * **Title of the Report:** 'National Multidimensional Poverty Index: A Progress of Review 2023'.
- * **Indicators:** The report examines three broad indicators of multidimensional poverty — **health, education, and standard of living**, each comprising various sub-indicators.
- * **Approach used:** It uses statistics from the **National Family Health Survey (NFHS)** to capture the various dimensions of poverty in India.

Key Highlights:

In terms of Standard of Living:

- * NITI Aayog **Multidimensional Poverty Index 2023** shows **13.5 crore Indians** escaped poverty between 2016 and 2021.
- * Data suggests a big boost came from '**Standard of living**' indicators.
- * According to the report, in **2015-16 (NFHS-4)**, only seven states had less than **10 per cent** of their population living in multidimensional poverty — **Mizoram, Himachal Pradesh, Punjab, Sikkim, Tamil Nadu, Goa, and Kerala**.
- * In **2019-21 (NFHS-5)**, the list had doubled to **include 14 states**, with the seven new additions being **Telangana, Andhra Pradesh, Haryana, Karnataka, Maharashtra, Manipur, and Uttarakhand**.
- * All of these states saw a significant reduction in **poverty headcount ratios**.

Except for Bihar, no other state in India has more than **one-third of its population** living in multidimensional poverty.

- * **State shown improvement:**
 - ▶ **Jharkhand** reduced the percentage of people living under multidimensional poverty from 42 per cent in 2015-16 to 28.82 per cent in 2019-21;
 - ▶ **Uttar Pradesh** saw a decline from **37.68 per cent** to **22.93 per cent**, and
 - ▶ In **Madhya Pradesh**, multidimensional poverty dropped from **36.57 per cent** to **20.63 per cent**.
- * **In terms of Health:** Within the health category, three sub-indicators — **nutrition, child and adolescent mortality, and maternal health** — showed **only moderate improvement**.
- * **In terms of education:** There has been a slight reduction in the percentage of people facing deprivation on the **two sub-indicators**.
 - ▶ The first indicator is "**Years of schooling**," where a household is considered deprived if no member has completed **at least six years of schooling**.

- ▶ The second indicator is "**school attendance**," which considers a household deprived if any school-age child does not attend **school until completing class 8**.

How did India reduce multidimensional poverty?

- * The seven standard-of-living sub-indicators has shown the growth which including **cooking fuel, sanitation, drinking water, housing, electricity, assets, and bank accounts**— rather than in the indicators for health and education.

NITI Aayog report shows that around **58 per cent** of Indians were deprived of clean cooking fuel in 2015-16, but by 2019-2021, it was **only 44 per cent**.

- * Similarly, the **percentage of individuals lacking adequate sanitation facilities** dropped from 51.88 per cent to 30.13 per cent, electricity deprivation went from 12 per cent to 3.27 per cent.
- * **The percentage of people lacking access to banking** reduced from 9.66 per cent to 3.69 per cent.
- * **The percentage of people experiencing deprivation in years of Schooling** has marginally decreased from 13 per cent in 2015-16 to 11.4 per cent in 2019-21.

Global Multidimensional Poverty Index:

- **Released by:** United Nations Development Programme (UNDP)
- The index is a key international resource that measures acute multidimensional poverty across more than **100 developing countries**.
- It was first launched in 2010 by the **OPHI and the Human Development Report Office of the UNDP**.
- The MPI monitors deprivations in **10 indicators** spanning health, education and standard of living and includes both incidence as well as intensity of poverty.

POLITICAL REPRESENTATION OF STS CAN LEAD TO IMPROVED FOREST COVER: STUDY

Context: According to a new research, increasing the formal political representation of Scheduled Tribes (ST) enhances the average tree canopy and reduced the rate of deforestation.

Key findings of the Study:

- * The **Panchayat Extension to Scheduled Areas Act (PESA)** and other rules that recognise the Scheduled Areas where STs live plays a crucial role in protecting their **rights and forest conservation**.
- * However, formally the Panchayati Raj institutions in **non-scheduled areas** that mandated ST representation did not have any **impact on conservation**.
- * The implementation of the **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (FRA), 2006**, did not have a visible impact beyond the **benefits of PESA**.
- * According to study, several interventions under PESA alone have shown significant results.
- * With PESA, the ST communities could pursue **better economic interests** and translate them into better forest conservation.

Need for significant steps:

- * Nearly **66 per cent** of the total population in India resides in rural areas, of which **275 million** depend on forest resources for livelihood.
- * Governments in **Chhattisgarh, Odisha, Jharkhand and West Bengal** allows corporate houses to mine, build dams, establish **steel plants, aluminium refineries and sponge-iron factories and displace tribal people**.

How Tribals get affected by lack of representation?

- * The communities often take steps to **protect their livelihood from human activities** that lead to decreased vegetation cover and composition, **increased deforestation and forest fragmentation**.
- * Such activities make the inhabitants suffer from **respiratory illnesses and poor employment opportunities**.
- * On the other hand, the implementation of schemes such as the **Mahatma Gandhi National Rural Employment Guarantee Scheme**, which guarantees **100 days of minimum work** and mandates the inclusion of ST communities, improved their income and helped in the development of assets such as rural roads and other local public goods.

How Political representation of Tribes can help to improve livelihood?

- * Political representation can enable them to push away **deforestation spearheaded by industrialists and collect and sell non-timber forest products**, thereby improving the overall health of forest.
- * Enhanced representation of ST communities also helps them to **oppose mining and other large-scale commercial projects**.

- * Before PESA was implemented, areas near mines **experienced high deforestation** rates; introducing PESA led to a **greater reduction in deforestation in such villages**.

Existing laws for Conservation of Forest rights:

- * **The Scheduled Tribes (Recognition of Forest Rights) Act:** As per the provisions of the Act;
 - ▶ The Gram Sabha is empowered to initiate the process of determining the extent of forest rights that may be given to each eligible individual or family.
 - ▶ It would then pass a resolution to that effect and forward a copy to the **Sub-Divisional Level Committee (SDLC)**.
 - ▶ The SDLC, which shall be constituted by the **State Government**, would examine the resolution passed by the Gram Sabha and prepare the record of forest rights.
 - ▶ It would then be forwarded to the **District Level Committee (DLC)** through the Sub-Divisional Officer for a final decision.
 - ▶ The DLC would be the final authority to approve the record of forest rights prepared by the SDLC.
 - ▶ If a person is not satisfied by the ruling of the Gram Sabha, he can file a petition to the SDLC who would consider and dispose of such petition.
 - ▶ If a person is not satisfied by the decision of the SDLC, he can petition to the DLC within **60 days of date** of decision of the SDLC. The DLC's decision would be final and binding.



EFFECT OF MOON ON HUMAN EVOLUTION

Context: With the recent launch of Chandrayaan-3 Mission of India, it holds significance as Moon has remained important to determine the geology of the Earth and for evolution of life itself.

- * Moon is responsible for Earth's current length of the **day, stable seasons and tides**. It affects the **everyday life of several species**.

About Moon as a Satellite:

- * It is a small, silvery satellite of the Earth with an orbit of **384,400 kilometres**.
- * Earth's Moon is the **fifth largest of the 200+ moons** orbiting planets in our solar system.

How Moon helped in Earth's evolution?

- * **Tidal Phenomenon:** The biggest impact that the moon has on life is through tides.
 - ▶ Tides resulting from the **gravitational force of the moon** affect animal life in the intertidal zone, where the ocean meets the land between high and low tides.
 - ▶ Weaker tides due to the **absence of the moon** would have narrowed down this zone, increasing the competition for survival among the species.
 - ▶ The tides eroded the **coastal areas, adding minerals to the oceans** which have been essential for life to evolve quickly.
- * **Marine animals and evolution:** Tides led by the moon also affect the reproductive cycles of marine life, where the laying and hatching of turtles' eggs depend on the timings of tides.
- * Most other animal behaviours relating to the moon are because the tides change the coastal environment.
- * **Climate change and stabilising seasons:** The absence of moon would lead to extreme climate change.
 - ▶ There would be huge differences between temperatures and daylight throughout the year, and ice ages would hit different parts of the world every few thousand years.
 - ▶ The moon's gravitational pull helps to transport heat away from the equator and towards the poles, fundamentally shaping **earth's climate**.
- * **Rotation axis:** Moon also stabilises the Earth's rotation on its axis by slowing Earth's rotation on its axis.
 - ▶ In the absence of the moon, the poles would be burning hot and the equator freezing cold, seasons would be a thing of the past, and night and day would be equally long all year round.
- * **Affects Tectonic activity:** The moon's pull of gravity might have set our tectonic plates. It raises the level of the world's oceans towards the equator. Without this gravity, the oceans would redistribute, raising levels at the poles.

Moon missions:

- * NASA currently has three robotic spacecraft exploring the Moon – **Lunar Reconnaissance Orbiter** and the twin **ARTEMIS spacecraft** (not to be confused with

What is a Satellite?

- A satellite is an object that moves **around a larger object**.
- The moon is a satellite because it moves around Earth. Earth and the moon are called **"natural" satellites**.

NASA's new Artemis program to send astronauts back to the Moon).

- * **Chandrayaan-3** is India's third moon mission and is a follow-up of Chandrayaan-2 of July 2019, which aimed to land a rover on the lunar South Pole.



CRIMEAN-CONGO HAEMORRHAGIC FEVER (CCHF)

Context: According to the World Health Organization (WHO), rising temperatures in Europe have also raised fears of spread of viruses generally not found in colder climates namely includes Crimean-Congo haemorrhagic fever (CCHF), an infection spread by ticks that has a high fatality rate.

- * In June 2023, a person got infected from the **Crimean-Congo haemorrhagic fever in Gujarat** whose vaccine is still not made.

Background:

- * The CCHF is endemic to **Africa, the Balkan countries, Middle East, and parts of Asia**.
- * The first fatality from the **disease in Europe was in Spain, in 2016**.
- * Scientists are now warning that CCHF, which can kill between **10% and 40%** of patients, is spreading northward and westward in Europe.

About Crimean-Congo haemorrhagic fever (CCHF):

- * **Crimean-Congo haemorrhagic fever (CCHF)** is a viral haemorrhagic fever usually transmitted by ticks.
- * It can also be contracted through contact with **viraemic animal tissues** (animal tissue where the virus has entered the bloodstream) during and immediately post-slaughter of animals.



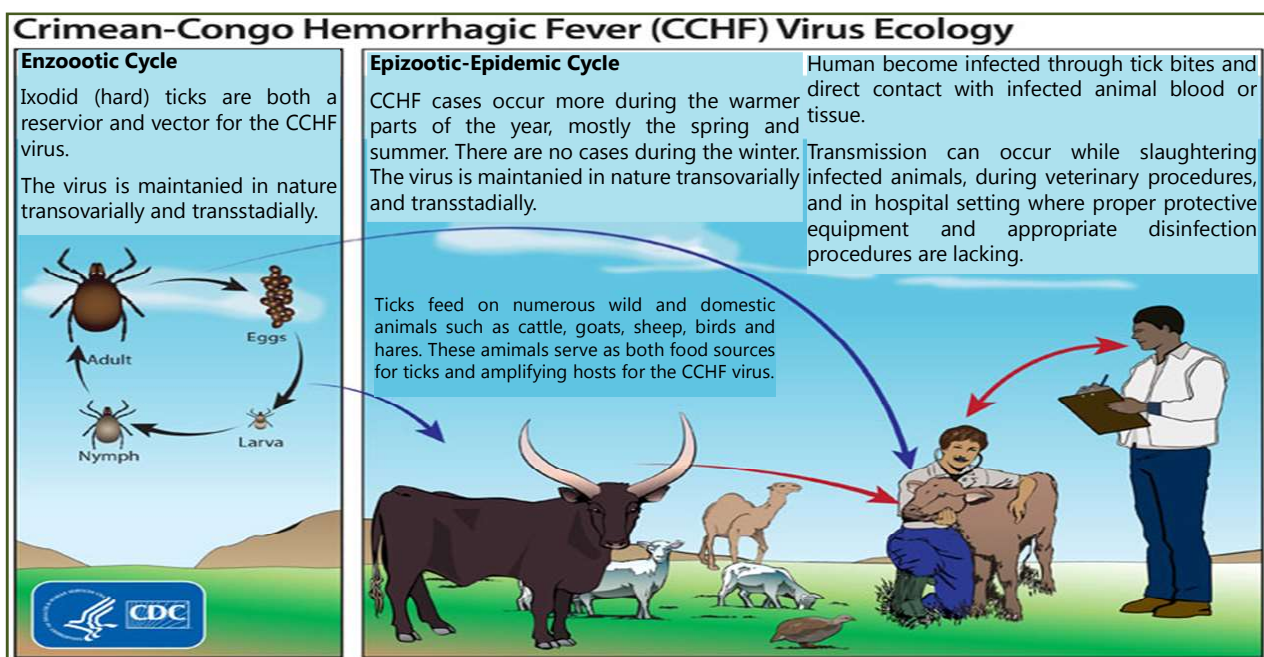
- * **Vector of the spread: 'Ticks'**, especially those of the genus, **Hyalomma**, are both a reservoir and a vector for the CCHF virus.
 - ▶ Numerous wild and domestic animals, such as **cattle, goats, sheep and hares**, serve as amplifying hosts for the virus.

- ▶ **Transmission to humans** occurs through contact with **infected ticks or animal blood**.
- * CCHF outbreaks constitute a threat to public health services as the virus can lead to epidemics, has a **high case fatality ratio (10–40%)**, potentially results in **hospital and health facility outbreaks**, and is difficult to prevent and treat.
- * **Symptoms:**
 - ▶ CCHF symptoms include **fever, muscle ache, dizziness, neck pain, backache, headache, sore eyes and sensitivity to light**.
 - ▶ There may be **nausea, vomiting, diarrhoea, abdominal pain and sore throat early on**, followed by sharp mood swings and confusion.
 - ▶ After **2–4 days** the agitation may be replaced by **sleepiness, depression and lassitude**.
- * **Treatment:**
 - ▶ There is **no vaccine** for the virus in either humans or animals, and treatment generally consists of managing symptoms.

According to the WHO, "**the antiviral drug** ribavirin has been used to treat CCHF infection with apparent benefit."

How Climate Change contribute to spread of Viruses?

- * As temperature patterns are disrupted, pathogens are thriving in geographies that traditionally had a climate hostile to them.
- * Climate change contributes to the **spread of diseases in multiple ways, including:**
 - ▶ Warmer temperatures expanding the **habitat of ticks and other insects** and giving them more time to reproduce;
 - ▶ The habitat **offered by water undergoing changes**; and
 - ▶ Animals moving to **newer areas and people coming into contact** with them.



Effects of rising temperature on Microorganism:

- * According to a study, an **increase in temperature** will increase enzyme activity. But if temperatures get too high, enzyme activity will reduce, and **the protein (the enzyme) will denature**.
- * On the other hand, lowering temperature will decrease enzyme activity.
- * In general, **the higher the temperature**, the more easily microorganisms can grow up to a certain point.
- * Very high and low temperatures both obstruct the **enzyme processes microorganisms** depend on to survive.

Survival of Microorganism in high Temperature:

- * Generally, microorganisms with an **optimal growth temperature (OGT)** between **60 and 80°C** are designated as thermophiles, whereas those growing optimally at temperatures of **>80°C** are referred to as hyperthermophiles, which are found in the **three domains of life**, archaea, bacteria, and eukarya, but the majority are archaea and bacteria.
- * Environmental changes such as **temperature shifts** induce **genomic evolution**, which in turn provides the bacteria with **thermal-tolerant abilities** to survive under high temperatures.
- * Such evolutionary changes could be achieved through **horizontal gene transfer (HGT), gene loss, or gene mutations**.

66% OF INDIA'S POPULATION EXPOSED TO EXTREME FLOOD EVENTS: STUDY

Context: According to a new study by the Council on Energy, Environment and Water, has found that while 66% of individuals in India are exposed to extreme flood events, only 33% of the exposed individuals are covered by flood 'Early warning systems (EWS)'.

Highlights of the study:

- * In total, **14 out of 32 states** that are exposed to floods, and **9 out of 17 states** exposed to cyclones, are highly resilient owing to the availability, accessibility, and effectiveness of EWS and MHEWS.



- * Furthermore, states such as **Andhra Pradesh, Odisha, Goa, Karnataka, Kerala, and West Bengal** are at the forefront of building resilience by establishing cyclone EWS, however much is needed to be done.
- * The district-level analysis revealed that while **72 per cent of districts** in India were exposed to extreme flood events, merely **25 per cent** of these exposed districts had level flood forecasting stations.
- * Approximately **97.51 million people** in India are exposed to extreme flood events in India, and most districts are exposed to more than one extreme event.
- * It also pointed out that the gap then remains in **data collection and dissemination of early warnings**.
- * Only **25% of India's population** has being covered by EWS.

What is an Early Warning System?

- * Early warning systems are a major component of **disaster risk reduction**.
- * They **prevent loss of life**, as well as reducing the economic impact of natural hazards.
- * Increasing the availability of multi-hazard early warning systems and disaster risk information is one of seven global targets set by **The Sendai Framework for Disaster Risk Reduction 2015-2030**.

UNESCO also promotes **scientific exchange and collaborative efforts** in order to establish effective early warning systems for different hazards such as **tsunamis, landslides, volcanoes, earthquakes, floods and droughts**.

Need for an Early Warning system (EWS):

- * **Reliable protection:** Early warning systems have proven to be an effective way to adapt to climate change by providing a cost-effective and reliable way of protecting **lives and livelihoods** from natural hazards such as **floods, heatwaves, storms, and tsunamis**.
 - ▶ According to the **Global Commission on Adaptation**, giving just **24 hours' notice** of an impending hazardous event can reduce damage **by 30 percent**.
- * **Loss prevention:** Investing just US 800 million dollars in such systems in developing countries would prevent losses of 3 billion dollars to 16 billion dollars annually.

Key efforts:

- * The **Cyclone Warning Division (CWD)** at IMD, New Delhi acts as a **multilateral Regional Specialised Meteorological Centre** for monitoring, predicting and issuing warning services on tropical cyclones developing over the north Indian Ocean (one of the six centres in the World) along with 13 countries in **Bay of Bengal and Arabian Sea region**.
- * **Coalition for Disaster Resilient Infrastructure (CDRI):** CDRI is a **global partnership of national governments, United Nations agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and academic and research institutions**.
 - ▶ It aims to increase the resilience of infrastructure systems to climate and disaster risks, thereby ensuring sustainable development.
 - ▶ It was launched in 2019, at the **United Nations Climate Action Summit** in New York.
 - ▶ It is the Government of **India's second major global initiative** after the **International Solar Alliance**, and it demonstrates India's leadership in climate change and disaster resilience issues.
- * **G20 working group on disaster risk reduction:** Under India's G20 presidency this year, a working group on **disaster risk reduction (DRR)** has been formed for the first time since 1999. Further, **EWS** remains one of the key priorities throughout **India's G20 presidency**.
- * **Early Warnings for All initiative:** The **Early Warnings for All initiative** partners beyond UN with the **Red Cross and Red Crescent movement, civil society, Big Tech companies, donor governments, development banks, and the insurance sector**.

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Section B

[CONTEMPORARY ISSUES BASED ESSAY]

Topic

☞ Chandrayaan-3: Mission to Moon

CHANDRAYAAN-3: MISSION TO MOON

Context: The Indian Space Research Organisation (ISRO) launched Chandrayaan-3 to the Moon on a mission to attempt a soft landing on the lunar surface.

Key-highlights

- * The spacecraft is currently cruising in space and is expected to reach lunar orbit by August 5 and the soft-landing attempt is likely to be on August 23.
- * The spacecraft will cover the nearly 3,84,000 kilometers distance between the Earth and Moon in nearly 40 days, which is much longer than what the Apollo mission launched by Nasa would take.

What is Chandrayaan Mission?

- * Chandrayaan-3 is a follow-on mission to **Chandrayaan-2** to demonstrate end-to-end capability in safe landing and roving on the lunar surface.
- * **Need:** The need for Chandrayaan-3 arose after the unsuccessful landing of the **Vikram lander** during **Chandrayaan-2**.
 - ▶ This new mission is designed to demonstrate the essential landing skills required for the proposed lunar polar **exploration mission** in 2024, which India intends to carry out in collaboration with Japan.
- * **Aim:** The goal of the mission is to put India's first lander (*Vikram*) and rover (*Pragyan*) on the lunar surface.
- * Following its predecessor's footsteps, Chandrayaan-3 will attempt to land *Vikram* and *Pragyan* near the lunar **south pole** in hopes of using their respective scientific payloads for conducting *in situ* experiments,

analysis, and observations to gain insights into the Moon's composition.

- * These include gaining insights into the:
 - ▶ lunar surface composition
 - ▶ presence of water ice in the lunar regolith
 - ▶ the history of impacts on the Moon
 - ▶ the Moon's atmospheric evolution
- * **Global Elite:** Mission makes India only the 4th nation after US, Russia and China to land on the moon.
- * **Launch Vehicle:** The Chandrayana-3 mission was launched on India's heaviest rocket, the **Launch Vehicle Mark-III**.

The *Vikram* lander scientific payload consists of the:

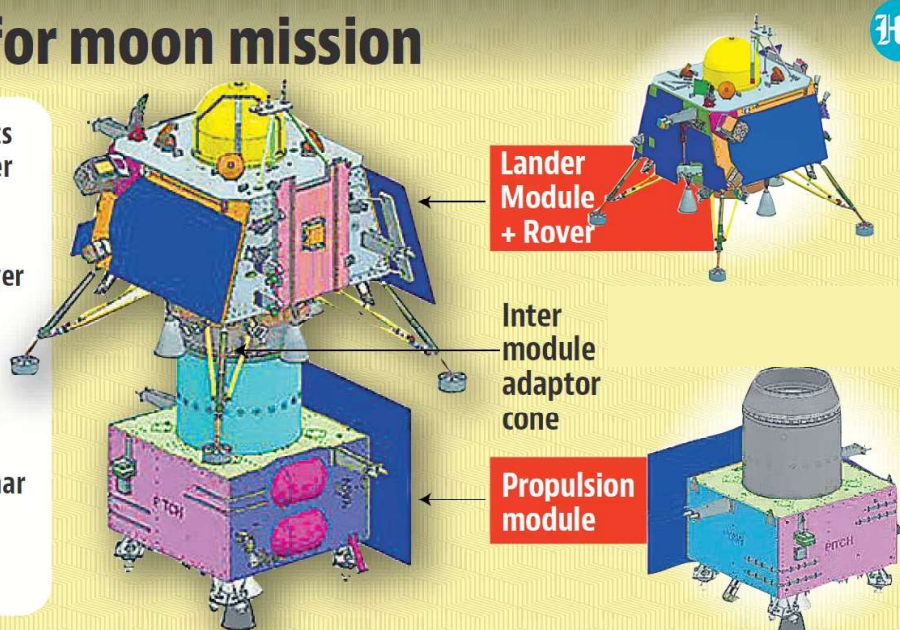
- Radio Anatomy of Moon Bound Hypersensitive ionosphere and Atmosphere (RAMBHA) instrument
- Chandra Surface Thermophysical Experiment (ChaSTE)
- Instrument for Lunar Seismic Activity (ILSA)
- Langmuir Probe (LP)
- NASA's Laser Retroreflector Array (LRA)

The *Pragyan* rover scientific payload consists of the:

- Alpha Particle X-ray Spectrometer (APXS)
- Laser Induced Breakdown Spectroscope (LIBS)

Gearing up for moon mission

- Chandrayaan-3 consists of an indigenous lander module, a propulsion module, and a rover
- The lander and the rover will have scientific payloads to carry out experiments
- The mission aims to demonstrate safe and soft landing on the lunar surface, and have the rover conduct experiments



Composition

The Chandrayaan-3 spacecraft consists of three parts:

- * **Lander:** The lander will be powered by four throttleable engines and will feature a **Laser Doppler Velocimeter (LDV)**.
- * **Rover:** The rover will carry out chemical analysis of the lunar surface. Both the lander and the rover carry many scientific payloads for experiments on the lunar surface.
- * **Propulsion module:** The propulsion module has one main function—to carry the lander and rover from “launch vehicle injection” to a 100-kilometre circular polar lunar orbit before it separates from the other modules.

Why is Chandrayaan-3 taking weeks to reach the cratered sphere?

Chandrayaan-3's LVM-3

LVM-3 or Launch Vehicle Mark-III, is a **three-stage medium-lift launch vehicle** developed by ISRO and earlier known as the **GSLV Mark III**.

- It is the **most powerful rocket** in the space agency.
- **Lift-off mass:** 640 tonnes.
- **Payload capacity:**
 - ▶ upto 8,000 kilograms to a **low-Earth orbit**.
 - ▶ Upto 4,000 kilograms of payload to a **geostationary transfer orbit**
- Its **cryogenic upper stage** is powered by **CE-20 (India's largest cryogenics engine)**.
- The **core stage** is powered by two **L110 liquid-stage Vikas rockets**.

- * While the Chandrayaan-3 mission was launched on India's heaviest rocket, the Launch Vehicle Mark-III, it is still not strong enough to propel the mission on a direct path of the Moon. Hence, the longer journey.
- * **Clever use of gravity:** In order to counter the lack of a powerful rocket, ISRO uses **Earth's gravity** to slingshot its way around the Moon, the same way as it used the slingshot around the planet to push the Mars Orbiter Mission (MoM) a.k.a **Mangalyaan** towards Mars.
- * Chandrayaan-3 employs a series of **Earth-bound maneuvers and lunar orbit insertion burns** to gradually raise their orbits and synchronize with the Moon's orbit.
- * These missions used a method called a series of “**bi-elliptic transfers,**” which involved multiple engine burns to gradually increase the spacecraft's energy and adjust its trajectory.
- * This method allows for more fuel-efficient and cost-effective missions but takes longer compared to the direct trajectory used by the **Apollo missions**.

In the case of Apollo missions, including Apollo 11, a direct trajectory called Translunar Injection (TLI) was used. The Saturn V launch vehicle propelled the Apollo spacecraft into Earth orbit first.

Conclusion

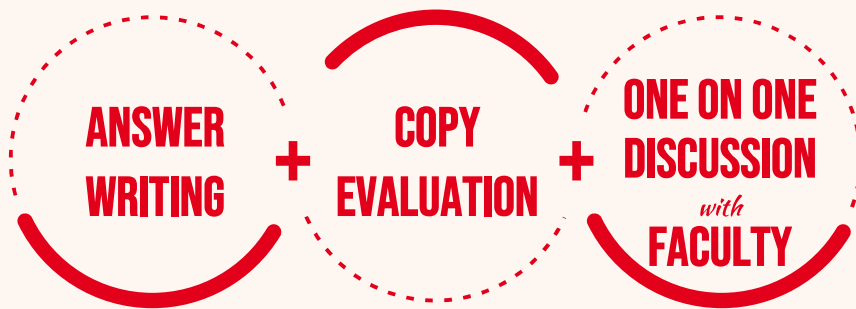
Chandrayaan-3's mission is not just about reaching the Moon, it also aims to conduct scientific experiments to study the lunar environment, including its history, geology, and potential for resources. If all proceeds as planned, sometime around 23 August, Chandrayaan-3 will accomplish a groundbreaking feat as the first mission ever to successfully soft-land in the vicinity of the lunar south pole.

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Section 0 [PRELIMS]

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- ☞ Rudragiri hillock unique Ramayana fresco
- ☞ Nawab Wajid Ali Shah
- ☞ Centre to rename NHM as PM Samagra Swasthya Mission
- ☞ SC recognises 'Right to silence'
- ☞ Review Progress of MOVCDNER
- ☞ Henley Passport Index 2023
- ☞ Export preparedness index (EPI) 2022
- ☞ Lightning not a 'natural disaster': Centre
- ☞ Sagar Sampark

RUDRAGIRI HILLOCK UNIQUE RAMAYANA FRESCO

Context: Recently, a painting from Kakatiya-era drawn in a natural rock shelter on the Rudragiri hillock depicts several evidences from the Ramayana.

- * The site unveils a combination of **prehistoric rock paintings** from the Mesolithic period and exquisite artwork from the **Kakatiya dynasty**.

Key-findings from the site:

- * The shelters are found in the hillock which earlier was served as **living quarters** for people during the **Mesolithic age around 5000 B.C.**, and they bear witness to the **luminous rock paintings** of that era.



- * Interestingly, two natural caves at the southern end of the hillock also exhibit exceptional murals from the renowned **Kakatiya kingdom**.
- * The first cave, starting from the **southern end of the hillock**, presents a narrative mural portraying the intense battle between the Vanara brothers, **Vali and Sugriva**.
- * In the middle cave, a grand sketch of Hanuman, accompanied by sacred symbols of the **conch (Sankha)** and the **fire altar (Yagna Vedi)** is present. Hanuman is depicted carrying the **Sanjivani hill** in his right hand, symbolising his mission to **save Lakshmana's life**.
- * The third cave houses the **prehistoric rock paintings** from the Mesolithic era.
- * Another interesting finding at this place is a **natural cistern on the slopes** of the hillock for harnessing and storing rainwater for drinking purposes.

About Rudragiri caves:

- * Rudragiri hillock is located in the village of Orvakallu, in **Guntur district** of Andhra Pradesh.
- * Rudragiri forms part of the **Eastern Ghats** hill ranges and is named after **Rudra Deva**.



The Kakatiya Dynasty:

- * Kakatiyas is a dynasty from Andhra Pradesh that flourished in the **12th century CE**. The Kakatiya dynasty ruled from **Warangal (Telangana)** from **CE 1083-1323**.
- * They were known for the **construction of a network of tanks for irrigation** and drinking water and thereby gave a big boost to the overall development of the region.

NAWAB WAJID ALI SHAH

Context: The year 2023 is going to mark the bicentenary of Nawab Wajid Ali Shah, the last king of Awadh.

About Nawab Wajid Ali Shah:

- * 'Wajid Ali Shah', the twelfth and **final King of Awadh**, reigned for nine years, from **February 13, 1847**, until **1856**.
- * His realm, which had been safeguarded by the **East India Company (EIC)** under contract for many years, was acquired by the East India Company on February 11, 1856, two days before his coronation.
- * This was in line with **Dalhousey's Doctrine of Lapse**, in which the British would take over a kingdom if there was misrule also.



- **Doctrine of Lapse:** The doctrine of lapse was a policy of annexation followed by the British Empire in India.
- This policy stated that any territory not under direct British rule would be automatically annexed to the empire.
- As a result, many Indian states were annexed into the British Raj, including **Hyderabad and Junagadh**.

- * The Kingdom of Awadh was annexed in **February 1856**.
- * The Nawab was banished to Garden Reach, then a

suburb of Kolkata, where he received a substantial annuity for the remainder of his life.

- * Despite the reality that Wajid Ali Shah was a capable ruler, British authorities erroneously misrepresented his inability.

Major Contributions:

- * He was a **poet, writer, dancer, and a patron of the arts**.
- * He is recognized for reviving **Kathak** as a significant genre of Indian classical dance.

Kathak:

- Kathak is one of the eight major forms of Indian classical dance.
- It is the classical dance form from Uttar Pradesh.
- Kathak developed under the influence of both **Hindu and Muslim cultures**.
- The genre developed during the **Bhakti movement**, the trend of theistic devotion which evolved in medieval Hinduism.
- The Kathakars communicate stories through rhythmic foot movements, **hand gestures, facial expressions and eye work**.
- This performing art that incorporates legends from ancient mythology and great Indian epics, especially from the life of Lord Krishna became quite popular in the courts of North Indian kingdoms.
- Three specific forms of this genre that is **three gharanas (schools)**, which mostly differ in emphasis given to footwork versus acting, are more famous namely, the **Jaipur gharana, the Benaras gharana and the Lucknow gharana**.



- * He was also greatly interested in architecture.
- * He started building the **Qaiser bagh palace** complex as soon as he came to the throne.
- * **Paintings:**
 - ▶ Awadh style of painting is created on paper using watercolours. Some other paintings famous were;
 - ▶ **Miniature Painting:** Miniatures were originally painted on palm leaves, so the work had to be small enough to fit. These paintings often illustrated religious texts such as the Holy Quran, as well as ancient myths.
 - ▶ It originated in India around **750 AD**, during the rule of **the Pala Empire**.
 - ▶ **Mughal Painting:** Mughal also spelled Mogul, style of painting, confined mainly to book illustration and the production of individual miniatures that evolved in India during the reigns of the Mughal emperors (16th–18th Century).

- * He enriched the **light classical form of thumri**.
- * He had received vocal training under great **Ustads** like **Basit Khan, Pyar Khan and Jafar Khan**.

Pyar Khan, Jafar Khan and Basit Khan were the direct descendants of **Mian Tansen**.

CENTRE TO RENAME NHM AS PM SAMAGRA SWASTHYA MISSION

Context: Recently, the Central government has announced to rename National Health Mission (NHM) as Pradhan Mantri-Samagra Swasthya Mission (PM-SSM), during the meeting of the Central Council of Health and Family Welfare (CCHFW).

About National Health Mission:

- * The NHM was launched as **National Rural Health Mission (NRHM)** in 2005.
- * In 2013, the Centre included the urban component in the mission.
- * Last year, the Centre had decided to extend the NHM till **March 2026**, with an overall allocation of **Rs.2.75 lakh crore**.
- * The main programmatic components include Health System Strengthening in rural and urban areas for - **Reproductive-Maternal- Neonatal-Child and Adolescent Health (RMNCH+A)**, and **Communicable and Non-Communicable Diseases**.

- * The NHM envisages achievement of universal access to **equitable, affordable & quality health** care services that are accountable and responsive to people's needs.

PM Samagra Swasthya Mission:

- * The main objective of starting this scheme of the **central government** is to strengthen the healthcare sector of India.
- * Because during the Coronavirus infection in the **last 2 years** it has been seen that the healthcare sector of our country is not strong enough to face any serious medical problem.
- * Under the **Pradhan Mantri Samagra Swasthya Yojana**, the ambitious health schemes to be operated in the country by the central government will be absorbed. So that the best medical facilities can be provided to the general public at the right time.
- * While the NHM was focused on **primary and secondary care**, the PM-SSM is aimed at developing **tertiary care capacities at the district hospital level**.



SC RECOGNISES 'RIGHT TO SILENCE'

Context: Recently, the Supreme Court (SC) mentioned that, all accused have 'Right to silence' and investigators cannot force them to speak up or admit guilt. SC emphasised that the Constitution accords every person a right against self-incrimination.

Key-highlights of the Verdict:

- * The **Right to silence** emanates from **Article 20(3) of the Indian Constitution**, "which states that no one can be compelled to be a witness against himself."
- * The provision gives an accused the right against **self-incrimination, a fundamental canon of law**.
- * Under **criminal law jurisprudence**, it is considered the duty of the prosecution to prove a person guilty beyond reasonable doubt.
- * Until proven otherwise, the **accused remains innocent**.
- * An accused's decision to remain silent can be construed as a **negative inference** in certain circumstances but it cannot absolve the prosecution from its duty to prove the guilt of that person beyond reasonable doubts.
- * Referring to the constitutional **Right of every person to not speak against himself or to remain silent**, the court added that it cannot deprive a person of his **liberty merely because there is a statement that he has not admitted his crimes**.

Constitutional Provisions:

- **Article 20:** It grants protection against **arbitrary and excessive punishment** to an accused person, whether citizen or **foreigner or legal person** like a company or a corporation. It contains **three provisions** in that direction:
 - ▶ It contains provisions related to **No ex-post-facto law, No double jeopardy, No self-incrimination**.
 - ▶ **No self-incrimination:** No person accused of any offence shall be compelled to be a witness against himself.
 - ▶ The protection against **self-incrimination** extends to both **oral evidence** and **documentary evidence**.
- However, **it does not extend to:**
 - ▶ Compulsory production of material objects,
 - ▶ Compulsion to give thumb impression, specimen signature, blood specimens, and
 - ▶ Compulsory exhibition of the body.
- Further, it extends only to **criminal proceedings** and not to **civil proceedings or proceedings** which are not of criminal nature.



REVIEW PROGRESS OF MOVCDNER

Context: A two-day Stakeholder Workshop Meeting was organized to review the progress of Phase-III of the Mission Organic Value Chain Development for North Eastern Region (MOVCDNER).

What is MOVCDNER?

- * It is a **Centrally Sponsored Scheme** which aims to develop end to end organic value chains in North Eastern States.
- * Realizing the potential of organic farming in the North Eastern Region of the country Ministry of Agriculture and Farmer Welfare has launched a Central Sector Scheme for implementation in the states of **Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura, during the 12th plan period**.
- * The scheme aims at development of certified organic production in a value chain mode to link growers with consumers and to support the development of entire value chain starting from inputs, seeds, certification, to the creation of facilities for **collection, aggregation, processing marketing and brand building initiative**.

HENLEY PASSPORT INDEX 2023

Context: Recently, Henley Passport Index 2023 has been released which assess the world's passports according to the number of destinations their holders can access without a prior visa.

About the Index:

- Released by: Henley and Partners.
- The index includes **199 different passports** and **227 different travel destinations**.

Key Findings:

- Singapore** is on the Top with most powerful passport in the world, with its citizens able to visit **192 travel destinations** out of **227 around the world visa-free**.
- Germany, Italy, and Spain** occupy the second place.
- Japan** remained at the third position with countries like **Austria, Finland, France, Luxembourg, South Korea, and Sweden**.
- India's Performance:** India has climbed seven places on Henley Passport Index 2023 to 80th rank from 87 last year.

In 2014, India ranked 76 with 52 countries allowing Indian passport holders visa free access but its performance has not been linear.

Henley Openness Index:

- An exclusive new research has also been released named as '**Henley Openness Index**' which measures "**how many nations does a country allow visa-free access to**".
- Here, India was ranked **94 out of a total of 97 ranks** for allowing only **four countries visa-free access**.
- The Top 20 '**most open**' countries are all small island nations or **African states, except for Cambodia**.
- At the bottom of the Index were four countries for scoring zero for not permitting visa-free access for any passport — namely, **Afghanistan, North Korea, Papua New Guinea, and Turkmenistan**.

EXPORT PREPAREDNESS INDEX (EPI) 2022

Context: Recently, the third edition of the report titled '**Export Preparedness Index (EPI) 2022**' for States/UTs of India was released.

About the Report:

- Released by:** NITI Aayog
- Aim:** To evaluate the export performance and pending potential of the Indian States and Union Territories.
- Export Preparedness Index (EPI)** is a comprehensive tool which measures the export preparedness of the States and UTs in India.
- The index undertakes a **comprehensive analysis of States and UTs** across export-related parameters in order to identify their strengths and weaknesses.
- Developing the methodology for the index is an evolving process which constantly incorporates stakeholder feedback.
- Significance:**
 - Exports are vital for simulating economic growth and development in a country, which necessitates understanding the factors which influence export performance.

Key-highlights of the Report:

- Tamil Nadu** has been ranked the '**One**' State in **Export Preparedness Index (EPI)** for 2022.
- It is followed by **Maharashtra and Karnataka**.
- Gujarat** has been pushed to the **fourth** slot this time.
- The report also mentioned that **Karnataka and Tamil Nadu** have the highest number of **GI products** being exported.
- EPI assesses the performance of the **States and UTs** across four pillars – **Policy, Business Ecosystem, Export Ecosystem, and Export Performance**.
- Each pillar is composed of sub-pillars, which in turn capture a state's performance using relevant indicators.
 - Policy Pillar** evaluates states and UTs' performance based on its adoption of the export-related policy ecosystem at a state and district level as well as the institutional framework surrounding the ecosystem.
 - Business Ecosystem** assesses the prevailing business environment in a state/UT, along with the extent of business-supportive infrastructure, and a state/UTs' transport connectivity.
 - Export Ecosystem** focuses on the export-related infrastructure in a state/UT along with the trade support provided to the exporters, and the prevalence of Research and Development in the state/UT to foster innovation.
 - Export Performance** is an output-based indicator which gauges the growth of a state's export over the previous year and analyses its export concentration and footprint on the global markets.



LIGHTNING NOT A 'NATURAL DISASTER': CENTRE

Context: The Union government is not in favour of declaring lightning a natural disaster as deaths caused by it can be avoided through education and awareness.

- According to centre, India is among the only **five countries** in the world with an **early warning system** for lightning and the forecast is available from **five days to up to 3 hours**.

What is lightning?

- It is the natural process of "an electrical discharge of very little duration and high voltage between a cloud and the ground or within a cloud," accompanied by a bright flash, a loud sound, and occasionally thunderstorms.
- There are **three categories of lightning**-
 - Intracloud (IC)**, which is flashes within a cloud
 - Cloud to cloud (CC)**, where lightning jumps from one cloud to another
 - Cloud to ground (CG)**, where lightning strikes from the ground. This is the most well understood kind of strike and the riskiest to life.

Lightening VS. Thunder:

- Lightning is extremely hot**—a flash can heat the air around it to **temperatures five times** hotter than the sun's surface.
- Thunder:** This heat causes surrounding air to rapidly expand and vibrate, which creates the **pealing thunder** we hear a short time after seeing a lightning flash.

About the Scenario:

- There have been demands by States such as **Bihar and West Bengal** that deaths due to lightning be covered as a **natural disaster**.
- According to **present norms**, cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloudburst, pest attack, frost and cold waves are considered disasters that are covered under the **State Disaster Response Fund**.
- If Lightning will also get included in the list of recognised natural disaster, the victims will be entitled to compensation from the **State Disaster Response Fund (SDRF)**.
- As much as **75% of funds to SDRF** are contributed by the Centre.

The Data analysis:

- According to the **National Crime Records Bureau (NCRB)**, in the year 2021, as many as **2,880 people** died due to lightning.
- The deaths comprised **40% of all accidental deaths** caused by "**forces of nature**".
- While **2,862 people died in 2020**, the number stood at 2,876 in 2019.
- There has been an increase in the proportion of such deaths compared to the total accidental deaths caused by events related to nature.

The **National Platform for Disaster Risk Reduction Conference (NPDRR)** in March has informed that the frequency of lightning was maximum in **northeast States and in West Bengal, Sikkim, Jharkhand, Odisha and Bihar** but the **number of deaths** is higher in central Indian States of **Madhya Pradesh, Maharashtra, Chhattisgarh and Odisha**.

How a natural disaster is being defined?

- A disaster, as defined by the **Federal Emergency Management Agency (FEMA)**, is "**a non-routine event that exceeds the capacity of the affected area to respond to it in such a way as to save lives; to preserve property; and to maintain the social, ecological, economic, and political stability of the affected region.**"
- Definitions of the different types of disasters are provided along with a classification system based on their common and unique features like **onset, duration, effect (immediate aftermath), and recovery period**.
- Criteria:** Major Disaster Declarations can be made for any naturally occurring disaster or **regardless of cause, any damage caused by fire, explosions or floods when it is estimated that damages will outstrip local and state resources**.
- Relief can include **public and individual emergency assistance and permanent work**.



SAGAR SAMPARK

Context: Recently, the Union Minister of Ports, Shipping and Waterways inaugurated the indigenous Differential Global Navigation Satellite System (DGNSS) 'SAGAR SAMPARK'.

What is Sagar Sampark?

- It is an indigenous **Differential Global Navigation Satellite System (DGNSS)**.

- * The Differential Global Navigation Satellite System is a **terrestrial based enhancement system** which corrects the errors and inaccuracies in the **Global Navigation Satellite System (GNSS)** allowing for more accurate positioning information.
- * It is now able to transmit corrections of **GPS and GLONASS**.
- * The error correction accuracy has been improved from **5 to 10 meters** to less than **5 meters for 100 Nautical Miles (NM)** from Indian coastlines.
- * It will significantly improve the accuracy of **GPS positioning and reduces errors** caused by atmospheric inferences, satellite clock drift, and other factors.

Global Navigation Satellite System (GNSS)

- A **Global Navigation Satellite System (GNSS)** consists of a constellation of satellites orbiting the Earth in very specific trajectories.
- GNSS is often generically referred to as GPS (Global Positioning System) but that acronym actually refers specifically to the United States constellation. There are several GNSS constellations provided by governments around the world, including:
 - BeiDou – China
 - Galileo – European Union
 - GLONASS – Russia
 - GPS - United States
 - IRNSS – India (also known as NavIC)
 - QZSS – Japan

Significance:

- * Sagar Sampark at **six locations** will assist the **Director General of Lighthouses and Lightships (DGLL)** to provide radio aids to ships for marine navigation.
- * The system will provide accurate information to the ships for safe navigation and will reduce the risk of **collisions, groundings, and accidents in the port and harbour areas**.
- * This will lead to the safe and efficient movement of vessels.

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Section D [QUIK BYTE]

- ☞ India approves procurement of 26 Rafale jets
- ☞ Nomadic Elephant- joint Exercise
- ☞ Cultural Property Agreement with US
- ☞ EC to issue online airtime vouchers
- ☞ Government launches portal to help small-time investors
- ☞ Air Independent Propulsion system for installation on Scorpenes
- ☞ Duchenne's Muscular Dystrophy
- ☞ Radioisotope thermoelectric generator

[SPECIES IN NEWS]

- ☞ Hoolock gibbon: India's only 'Ape'
- ☞ 'Cicada species' proved an Indian identity
- ☞ Gambusia

[LOCATION IN NEWS]

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India approves procurement of 26 Rafale jets



As the **Prime Minister** went to France visit, the **Defence Acquisition Council (DAC)** has accorded approval for the procurement of **26 Rafale-M fighters** to operate off the aircraft carriers and **three additional Scorpene-class diesel-electric submarines from France.**

What are Rafale Jets?

- The Rafale Marine fighters are the **naval variant** of the **Rafale fighter jets**, 36 of which are operated by the Indian Air Force.
- **Manufactured by:** France's Dassault Aviation.
- The Rafales are **advanced twin engine, multirole fighter jets.**
- They are equipped with latest weapon systems — including **Meteor-beyond visual range air-to-air missiles, Hammer air to surface smart weapon system, Scalp cruise missiles — and are fitted with modern sensors**, and radar to detect and track and attack targets.
- The jets can carry exceptionally high payloads.

Russian MiG-29Ks

- The Navy currently operates the MiG-29Ks from its aircraft carrier **INS Vikramaditya.**
- The Russian MiG-29Ks are a carrier-based multirole fighter aircraft and can have a maximum speed over twice the speed of sound (about 2,000 kmph) and can climb to an altitude of over 65,000 feet.

Nomadic Elephant- joint Exercise



Indian and Mongolian troops are going to take part in the **15th edition of a bilateral military exercise** in **Ulaanbaatar** from **July 17 to 31, 2023.**

About:

- '**Nomadic Elephant**' is an **annual training exercise** which is conducted alternatively in Mongolia and India
- This is aimed at exchanging best **practices and developing interoperability**, the Ministry of Defence.
- The primary theme of the exercise will focus on **counter-terrorism operations in mountainous terrain under United Nations mandate.**
- Soldiers of the Mongolian Armed Forces Unit 084 and the Indian Army's Jammu and **Kashmir Light Infantry Regiment** will participate in the exercise
- The last edition of the exercise was held at the **Special Forces Training School, Bakloh, and Himachal Pradesh in October 2019.**

Cultural Property Agreement with US



Recently, as many as **105 trafficked antiquities** have been returned to India by the United States.

- The **Ministry of Culture** will sign a **Cultural Property Agreement** with the US for “**smooth repatriation**” of all such antiquities smuggled out of the country.

About:

- Around **50 artefacts** relate to religious subjects (Hinduism, Jainism and Islam) and the rest are of cultural significance.
- These include;
 - ▶ A **terracotta Yakshi plaque** belonging to the 1st century BC, which was stolen from ‘eastern India’;
 - ▶ A red sandstone **Dancing Ganesha** from the 9th century, with its provenance in central India;
- A **10th century Kubera**, also belonging to central India, and several other valuable antiquities and objects in mediums such as **marble, terracotta and sandstone**.

EC to issue online airtime vouchers



Recently, the **Election Commission (EC)** has made the **process of allotting airtime to political parties** for campaigning on **Akashvani and Doordarshan** entirely online.

About:

- The **scheme for allotment of time on public broadcasters** during campaigning holds a statutory basis under **Section 39A** of the **Representation of People Act, 1951**.
- Till now, the **political parties** had to send their representatives to the commission’s offices to collect the **time vouchers** during elections.
- After this initiative the political parties have to instead of collecting physical vouchers for the airtime, they will henceforth be issued digital time vouchers through an **Information Technology (IT) platform**.
- Under this scheme, an **equitable base time** is allotted to each national party and recognised State party uniformly on **DD and Akashvani** and the **additional time to be allotted to the parties** is decided on the basis of their performance in the last Assembly election or the Lok Sabha election.
- The actual date and time during which the telecasts and broadcasts would be made by the authorised representatives of any party is predetermined by the **Prasar Bharati** in consultation with EC and in the presence of party representatives.

Government launches portal to help small-time investors

The **Ministry of Home Affairs** has launched a portal to **refund the money** of **small-time investors** of **four cooperative societies** linked to the **Sahara group of companies**.

**About the initiative:**

- **1.7 Crore investors** will benefit in first phase and claims up to ₹10,000 will be settled first.
- The money will be returned to the **Aadhaar-linked bank accounts** of the investors **within 45-days**.
- The **four cooperative societies** are Sahara Credit Cooperative Society Limited, Saharayn Universal Multipurpose Society Limited, Humara India Credit Cooperative Society limited and Stars Multipurpose Cooperative Society located at Lucknow, Bhopal, Kolkata and Hyderabad respectively.
- All these cooperative societies were registered under the **Multi-State Cooperative Societies Act, 2002** between March 2010 and January 2014.

Small-time investor:

- An individual person investing in small **quantities of stock or bonds**. This group of investors makes up a minimal fraction of total stock ownership.

Air Independent Propulsion system for installation on Scorpene

As India begins negotiations with France for three more **Scorpene-class submarines**, Naval Group has already working on qualifying the **Defence Research and Development Organisation- developed (DRDO) Air Independent Propulsion (AIP) system** for installation on the Scorpene.

About:

- The Navy has drawn up plans to install **Air Independent Propulsion (AIP)** modules on all **Scorpene submarines** as they go for their refit beginning with **INS Kalvari** likely by end next year to enhance their endurance.
- The **indigenous AIP module** has been tested on shore and recently DRDO and Naval Group signed an agreement to integrate the **AIP module on the Scorpene**.

What is Air Independent Propulsion?

- AIP is mostly implemented as an auxiliary source, with the **traditional diesel engine** handling surface propulsion.
- Most of these systems generate electricity, which in turn drives **an electric motor for propulsion or recharges the boat's batteries**.
- AIP allows longer submergence than a conventionally propelled submarine.

Duchenne's Muscular Dystrophy

A team of doctors from Tamil Nadu along with scientists from Japan have developed a **disease-modifying treatment** for '**Duchenne Muscular Dystrophy (DMD)**.'

About the disease:

- DMD is a rare genetic disease, using a food additive — a **beta-glucan** produced by **N-163 strain of yeast *Aureobasidium pullulans***.



- This genetic disorder is characterized by progressive muscle degeneration and weakness due to the alterations of a protein called dystrophin that helps keep muscle cells intact.
- DMD is one of four conditions known as **dystrophinopathies**.
- The other **three diseases** that belong to this group are:
 - ▶ **Becker Muscular dystrophy** (BMD, a mild form of DMD)
 - ▶ **an intermediate clinical presentation** between DMD and BMD
- **DMD-associated dilated cardiomyopathy** (heart-disease) with little or no clinical skeletal, or voluntary, muscle disease

Radioisotope thermoelectric generator



India's space agency, ISRO, is jointly developing a **nuclear-powered engine** along with **Bhabha Atomic Research Center (BARC)**.

About:

- A **radioisotope thermoelectric generator**, or RTG, uses the fact that radioactive materials (such as plutonium) generate heat as they decay into non-radioactive materials.
- The heat used is converted into electricity by an array of *thermocouples* which then power the spacecraft.
- A thermocouple is a device which converts thermal energy directly into electrical energy.
- Basically, it is made of two kinds of metal that can both conduct electricity.
- They are connected to each other in a closed loop.
- If the two metals are at different temperatures, an electric potential will exist between them.
- When an electric potential occurs, electrons will start to flow, making electric current.
- This is a much different technique than that used by nuclear power stations on Earth.
- That process is called *fission*, and gets very high efficiency rates by literally "splitting" unstable radioactive materials (such as uranium) into smaller parts.

SPECIES IN NEWS

Hoolock gibbon: India's only 'Ape'

Recently, as the meeting of **Global Gibbon Network (GGN)** held in China, the conservation status of **India's only ape** was a cause for concern at a **global event on gibbons**.

About the Species:

- Gibbons, the **smallest and fastest of** all apes, live in **tropical and subtropical forests** in the south-eastern part of Asia.
- The hoolock gibbon, unique to India's northeast, is one of **20 species of gibbons on Earth**.



- The estimated population of **hoolock gibbons** is **12,000**.
- The current conservation status of gibbon species is alarming – all 20 species are at a high risk of extinction.
- **Western Hillock Gibbon:**
 - ▶ Its range extends into **seven states** covering **Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura**.
 - ▶ **Protection Status:** The western hoolock gibbon is '**Endangered**' according to the IUCN Red List found in India.
- **Eastern hoolock gibbon:**
 - ▶ It inhabits specific pockets of **Arunachal Pradesh and Assam** in India, and in southern China and north-east Myanmar outside India.
 - ▶ It is listed as **Vulnerable** under the **IUCN Redlist**.
- In India, both the species are listed on **Schedule 1 of the Indian (Wildlife) Protection Act 1972**.

'Cicada species' proved an Indian identity



According to the research led by Travancore Nature History Society, the discovery that involved correcting the mistaken identity of *Purana cheeveeda* with *Purana tigrina* (indigenous to India) has been corrected.

- Approximately **250 kinds of cicadas** are known to occur in India. They are distributed across many genera and *Rustia* is only one of them.

Historical background:

- *Purana tigrina* was first described in 1850 from the **Malabar Coast** of south-western India by the **English entomologist Francis Walker**.
- It occurs in primary lowland rainforest but is more often found in secondary forest, **felled areas, parks and gardens**.

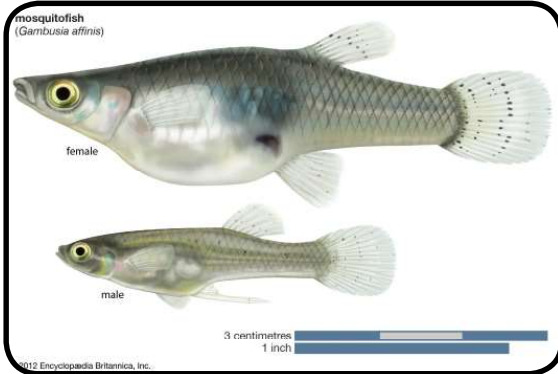
Do you know?

- **Cicada species** make their sound by expanding and contracting a membrane called a **tymbal**.
- They use their sound to attract females.

About the Species:

- *Purana tigrina* is a species of cicada found in **Southeast Asia**.
- It was described from **Malabar, South India**.
- It is a common species in the Malayan Peninsula and on Bunguran Island in the South China Sea.
- The body length of a male is **22.5–29 mm** and that of the female somewhat less at 18–23 mm.
- They have a **greenish-ochraceous head and thorax**, and brownish-ochraceous abdomen.
- The head and thorax are marked in black.

Gambusia



Recently, **Andhra Pradesh** has released **10 million Gambusia fish (mosquitofish)** in waterbodies to control malaria, dengue.

About the Species:

- ***Gambusia affinis (Gaffinis)*** is native to the waters of the south-eastern United States and a single full grown fish eats **about 100 to 300 mosquito** larvae per day.
- Mosquitofish has been part of various malaria control strategies in India since 1928, including the **Urban Malaria Scheme**.
- The fish are generally understood to be a **good biological control method** against mosquito breeding but is not a sole solution to control Malaria.
- Multiple countries, including India have listed '**Gambusia**' as **invasive species**.
- However, the fish continues to be a prominent part of the country's malaria control programmes and the fish continue to be released into freshwater bodies across the country, like **Andhra Pradesh, Chandigarh and Uttar Pradesh**

LOCATION IN NEWS

Sriharikota



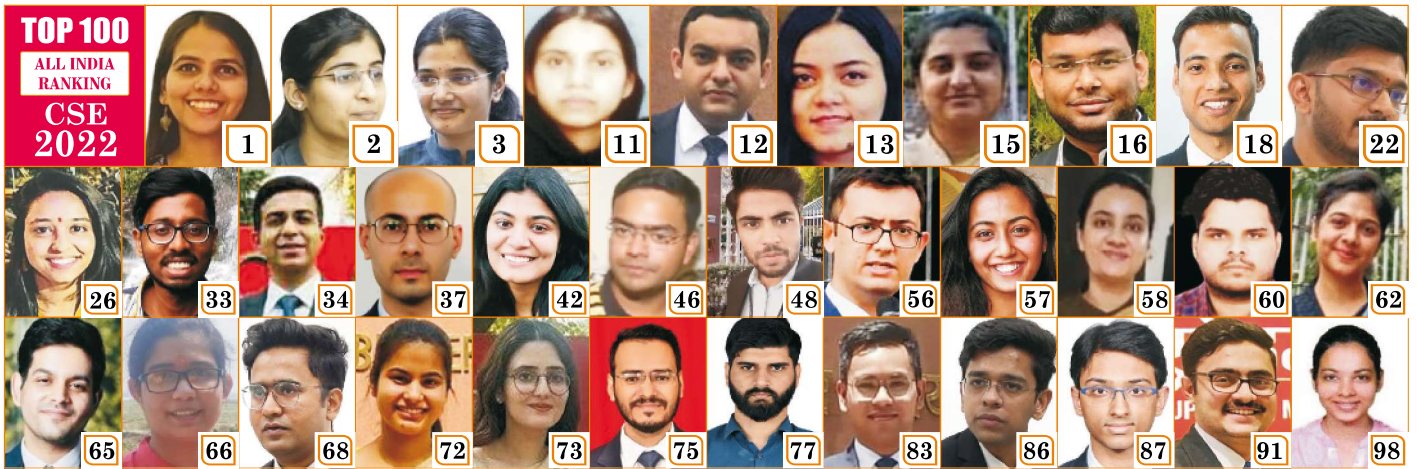
India's third lunar, the **Chandrayaan-3**, took off from the Satish Dhawan Space Center (SDSC) **in Sriharikota** — a **spindle-shaped island** on the east coast of Andhra Pradesh.

About the location:

- Sriharikota is a **barrier island** off the Bay of Bengal coast located in the Shar Project settlement of Tirupati district in Andhra Pradesh, India.
- It houses the Satish Dhawan Space Centre, one of the two satellite launch centres in India (the other being Thumba Equatorial Rocket Launching Station, Thiruvananthapuram).
- Sriharikota separates the **Pulicat Lake** from the Bay of Bengal and is where the town of Pulicat is located.

Reasons to choose the location:

- There are two primary reasons for selecting **Sriharikota as the launch site**.
- One, it is on the **east coast** which facilitates the launching of the rockets in an easterly direction.
- Two, **its proximity to the equator**.
- By launching a rocket eastwards, one can take **advantage of Earth's rotation**.
- For a launch site close to equator the magnitude of the velocity imparted due to Earth's rotation is **about 450 m/s**, which can lead to substantial increase in the payload for a given launch vehicle.



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