

CURRENT AFFAIRS

WEEKLY

WEEK: 3
AUGUST
2022

MAINS

GS-I

- WOMEN HEROES OF INDIA'S FREEDOM STRUGGLE

GS-II

- SIGNIFICANCE OF INDIA'S TALKS WITH NATO
- BANGLADESH RIVER WATER DEAL LIKELY
- MOVING FROM POPULATION CONTROL POLICY TO SUSTAINABLE LIVING
- UNDERSTANDING THE RULES FOR DISPLAYING THE TRICOLOUR
- A SYSTEM THAT HEALS
- CRIMINAL PROCEDURE (IDENTIFICATION) ACT 2022
- NEW ELECTRICITY BILL 2022
- CENTRE LAUNCHED A REHAB PLAN FOR BEGGARS

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- RBI'S CONSUMER CONFIDENCE SURVEY
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- THE AUTO-IMMUNE INFLAMMATION OF BLOOD VESSELS: VASCULITIS EXPLAINED
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- WHAT IT WILL TAKE TO FULFIL INDIA'S SOLAR POWER DREAM?
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- CLIMATE, HEALTHCARE, AND TAX BILL SET TO BECOME LAW IN THE US

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- A golden civilisation beckons from underground at Adichanallur

ART & CULTURE

- Kondapalli Toys, the art of wooden handicraft on 'decline'

GEOGRAPHY

- NASA highlights loss of mangrove cover on Katchal island in the Nicobars

POLITY & GOVERNANCE

- Nethanna Bima, Life insurance scheme for weavers launched
- CSIR gets its first woman chief
- Launch a national Tribal health mission
- Pradhan Mantri Awas Yojana-Urban Extended Till December 2024
- DigiYatra, the contactless passenger processing system

INTERNATIONAL RELATIONS

- Nepal approves India's hydropower board to study, develop West Seti project
- Scotland becomes first country to make period products free for all
- FIFA banned India

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- Fish choke to death in Jakkur lake
- World Lion Day
- Centre notifies India's 31st elephant reserve in Tamil Nadu

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- AGM-88 HARM, the new anti-radar missile
- Novel Langya henipavirus
- Chronic fatigue syndrome
- ICAR develops vaccine for Lumpy Skin Disease in cattle
- F-INSAS, Nipun mines, LCA — the new systems of the Army

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- India, Malaysia begin four-day air exercise
- First South Asian to win Lisbon Triennale Lifetime Achievement Award
- World Sanskrit Day

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— **Disclaimer** —

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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SECTION: A

(MAINS)

CURRENT AFFAIRS

WOMEN HEROES OF INDIA'S FREEDOM STRUGGLE

CONTEXT:

In his ninth Independence Day address to the nation from the ramparts of the Red Fort, Prime Minister Narendra Modi hailed “nari shakti”, and urged people to pledge to not do anything that lowers the dignity of women.

◎ RANI LAXMIBAI

- The queen of the princely state of Jhansi, Rani Laxmibai is known for her role in the First War of India's Independence in 1857.
- She was born as Manikarnika Tambe in 1835 and later married the king of Jhansi.
- The couple adopted a son before the king's death, which the British East India Company refused to accept as the legal heir and decided to annex Jhansi.
- Refusing to cede her territory, the queen decided to rule on behalf of the heir, and later joined the uprising against the British in 1857.
- Cornered by the British, she escaped from Jhansi fort. She was wounded in combat near Gwalior's Phool Bagh, where she later died.



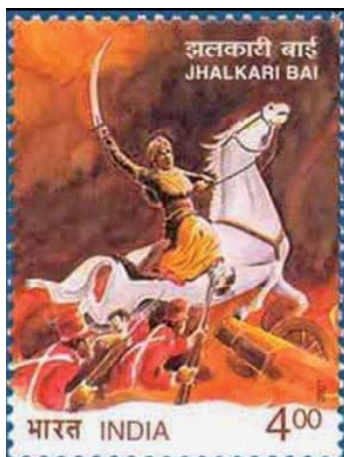
- A soldier in Rani Laxmibai's women's army, Durga Dal, she rose to become one of the queen's most trusted advisers.
- She is known for putting her own life at risk to keep the queen out of harm's way.
- Till date, the story of her valour is recalled by the people of Bundelkhand, and she is often presented as a representative of Bundeli identity.

◎ DURGA BHABHI

- Durgawati Devi, who was popularly known as Durga Bhabhi, was a revolutionary who joined the armed struggle against colonial rule.
- A member of the **Naujawan Bharat Sabha**, she helped Bhagat Singh escape in disguise from Lahore after the 1928 killing of British police officer John P Saunders.
- During the train journey that followed, Durgawati and Bhagat Singh posed as a couple, and Rajguru as their servant.
- Later, as revenge for the hanging of Bhagat Singh, Rajguru, and Sukhdev, she made an unsuccessful attempt to kill the former Punjab Governor, Lord Hailey.



◎ JHALKARI BAI



◎ RANI GAIDINLIU

- Born in 1915 in present-day Manipur, Rani Gaidinliu was a Naga spiritual and political leader who fought the British.

- She was just 16 years old when she was sentenced to life imprisonment by the British colonials. After being released in 1947, she dedicated her work to the betterment of the community.
- Nehru regarded her as the "daughter of the hills" and he titled her 'Rani' for her bravery. It is to be mentioned that she was awarded a Padma Bhushan.



◎ RANI CHENNAMMA

- The queen of Kittur, Rani Chennamma, was among the first rulers to lead an armed rebellion against British rule. Kittur was a princely state in present-day Karnataka.
- She fought back against the attempt to control her dominion in 1824 after the death of her young son.
- She had lost her husband, Raja Mallasarja, in 1816.
- She is seen among the few rulers of the time who understood the colonial designs of the British.



◎ BEGUM HAZRAT MAHAL

- After her husband, Nawab of Awadh Wajid Ali Shah, was exiled after the 1857 revolt, Begum Hazrat Mahal, along with her supporters, took on the British and wrested control of Lucknow.
- She was forced into a retreat after the colonial rulers recaptured the area.



◎ VELU NACHIYAR

- Many years before the revolt of 1857, Velu Nachiyar waged a war against the British and emerged victorious.
- She was born in Ramanathapuram in 1780, she was married to the king of Sivagangai.
- After her husband was killed in battle with the East India Company, she entered the conflict, and won with support of neighbouring kings.
- She went on to produce the first human bomb as well as establish the first army of trained women soldiers in the late 1700s.
- Her army commander Kuyili is believed to have set herself ablaze and walked into a British ammunition dump.



SIGNIFICANCE OF INDIA'S TALKS WITH NATO

CONTEXT

According to the Ministry of External Affairs (MEA), India held its first political dialogue with the North Atlantic Treaty Organization (NATO) in Brussels in December 2019 and has been in touch with the North Atlantic Treaty Organization (NATO) for "quite some time now".

◎ BACKGROUND:

- New Delhi held **its first political dialogue** with the North Atlantic Treaty Organisation (NATO) in Brussels on December 12th, 2019.
- The Indian delegation attempted to **assess cooperation on regional and global issues of mutual interest**.
- The **idea was to ensure the dialogue was primarily political in character** and to **avoid making any commitment to military** or other bilateral cooperation.

What is NATO?

- **North Atlantic Treaty Organization (NATO)**, a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April 4, 1949, sought to create a counterweight to Soviet armies stationed in central and eastern Europe after World War II.
- It was the **US's first peacetime military alliance** outside the **western hemisphere**.
- NATO's essential and enduring purpose is to **safeguard the freedom and security of all its members by political and military means**.
- It is **headquartered in Brussels, Belgium**. There are currently **30 member states**.
- **North Macedonia is the last country to join NATO in 2020**. Recently, **Finland and Sweden have shown interest to join NATO**.

Objectives of NATO:

- **Political objectives:** NATO promotes democratic values and enables members to consult and cooperate on defence and security-related issues to solve problems, build trust and, in the long run, prevent conflict.
- **Military Objectives:** NATO is committed to the peaceful resolution of disputes. If diplomatic efforts fail, it has the military power to undertake crisis-management operations.
 - These are carried out under the **collective defence** clause of NATO's founding treaty - **Article 5 of the Washington Treaty** or under a United Nations mandate, alone or in cooperation with other countries and international organizations.

NATO's "Collective Defence":

- **Collective Defence** means that an attack against one ally is considered as an attack against all Allies. The principle of collective defence is enshrined in **Article 5 of the Washington Treaty**.
- **NATO has only once invoked Article 5**, on September 12th, 2001, following the 9/11 attacks on the World Trade Centre in the US.
- NATO has standing forces on active duty that contribute to the Alliance's collective defence efforts permanently.
- NATO has taken collective defence measures on several occasions, including in response to the **situation in Syria and the Russian invasion of Ukraine**.

Article 5: It is a key provision of the treaty that states that if one member of the alliance is attacked in Europe or North America, it is to be considered an attack on all members. That effectively put Western Europe under the "nuclear umbrella" of the US.

Significance of India's talks with NATO:

- **NATO's engagement with Pakistan and China:** If looked at from the perspective of China and Pakistan's engagement with NATO in bilateral dialogue, the India talk with NATO holds importance.
 - There are views which suggest that, in such a scenario, reaching out to NATO would add a key dimension to India's growing engagement with the US and Europe.
- **Balancing NATO's perception:** Engaging NATO in a political dialogue would provide New Delhi with an opportunity to bring about a balance in NATO's perceptions about the situation in regions and issues of concern to India.
- **Maritime Security:** During talks maritime security appeared as a principal area of conversation in the future, given a substantial common ground with NATO.
- **Convergence in the perspectives:** Both India and NATO share a common perspective on China, terrorism, and Afghanistan, including Pakistan's role in Afghanistan.

Perspective on Extending NATO's Membership to India:

- **Positives:**

- **Newer perspective of Non-Alignment:** India's refusal to join any military bloc at the time of freedom was based on non-alignment, but after the end of the cold-war during 1989-91 the situation changed. NATO has also built partnerships with many neutral and non-aligned.
- **Creation of Deterrence:** Although India is capable enough to secure its borders, an alliance with NATO would create deterrence for China and Pakistan to attack India under the provisions of collective defence, laid in article 5 as discussed above.
- **Military-Strategic Benefits:** India would derive military-strategic benefits from a partnership with the world's most powerful alliance.

- **Negatives:**

- **Conflict within NATO:** NATO members have often found divided on how to share the military burden. Further, NATO members have

also been found to disagree on policies related to Russia, the Middle East, and China.

- **Endangering Relations with Russia:** By becoming a NATO member, India's long-standing and strong ties with Russia may get deteriorated.
- **Threat to Sovereignty:** An alliance with NATO might ask for the establishment of NATO bases on India's territory and it may even be considered an infringement of our sovereignty.

Other Concerns:

- **India does not share a common ground with the grouping of Russia and the Taliban.** Also, **NATO's views on China are mixed.**
- **India's Quad (Australia, India, Japan, and the United States) membership**, is aimed at countering Beijing. An alliance's engagement with China and Pakistan separately through any sort of alliance with NATO is contrary to the premise on which Quad came into existence. It **would leave India with lopsided perspectives on regional and global security matters.**

BANGLADESH RIVER WATER DEAL LIKELY

CONTEXT:

After 11 long years since the last highly potential chance was shattered, hopes resurfaced that Dhaka and New Delhi may sign the long-awaited Teesta water-sharing deal very soon.

◎ BACKGROUND

- The draft of the Teesta water distribution was finalized and signed by the water resources secretaries of both countries in early 2011.
- But the then prime minister Manmohan Singh could not sign it on September 6 that year owing to a last-minute objection from West Bengal State Government.
- India and Bangladesh have 54 transboundary rivers that are part of the drainage system of the **Ganga-Brahmaputra-Meghna (GBM) basin**.
 - ▶ This accord will expire in 2026.
- As a result, the issue of water distribution of the Teesta River will take precedence.
- Apart from this, **Feni, Manu, Muhuri, Khoai, Gomti, Dharla, and Dudhkumar** rivers will also be discussed.

◎ ANALYSIS

What can be expected now?

- There is a strong possibility that an agreement on the **Kushiyara river** that flows from Assam into Bangladesh.
- In 1961, India released plans to build the **Farakka Barrage** seventeen kilometers upstream from the border of Bangladesh.

Historical Background of India and Bangladesh Conflict:



- The purpose of the barrage was to divert water from the Ganges to reduce silt build-up in Calcutta Port.
- Diversion of water from the Ganges had severe consequences on water availability downstream in Bangladesh.
- Changing rainfall and water use patterns upstream in Nepal have since further exacerbated water stress along the Ganges, leading to the inequitable distribution of water based on the requirements of the 1996 treaty.
- Diplomatic relations regarding water cooperation remain contentious.

India and Bangladesh established the Indo-Bangladesh Joint Rivers Commission in 1972.

What is the Teesta River Dispute?

- This dispute is regarding water sharing of River Teesta. Currently, India has more water share than Bangladesh.

About Teesta River:

- The Teesta River originates in the **Teesta Kangse glacier** and flows through the state of Sikkim and West Bengal before entering Bangladesh.
- Teesta River is a tributary of the Brahmaputra River.
 - Brahmaputra River is called Jamuna River in Bangladesh.
- Teesta River crosses the Rangpur region of Bangladesh and joins the Jamuna River at Chilmari.
- Teesta is a 414km long river flowing through the Indian states of West Bengal and Sikkim.
- It is the fourth largest transboundary river shared between India and Bangladesh after Ganga, Brahmaputra, and Meghna River Systems.
- Total catchment area: 1.75 million sq. km.



Teesta River Dispute: Timeline of the Negotiation Events

- **1972:** Joint River Commission (JRC) was established by India and Bangladesh in the Indo-Bangla Treaty of Friendship.
- **1983:** According to the agreement, the Ad-Hoc sharing is valid until 1985.
- **1984:** Bangladesh's share increased based on the hydrological data.
- **1998:** Bangladesh started the **Teesta Barrage** irrigation project (3 cropping seasons per year).
- **2011:** An Interim deal that was supposed to last for 15 years - gave India 42.5% and Bangladesh 37.5% of Teesta water.

Importance of Teesta River to Bangladesh and India:

- According to the report of the **Asian Foundation in 2013**, its flood plain covers about 14% of the total cropped area of Bangladesh and provides direct livelihood opportunities to approximately 73% of its population.
- Teesta is the lifeline of North Bengal and almost six districts of West Bengal are dependent on the waters of Teesta.

Bangladesh's stand on the Teesta River Dispute:

- India already enjoys a share of **55%** of the river water.
- Bangladesh claims **50%** of the water between December and May every year because that's when the water flow to the country drops drastically.
- Over 1 lakh hectares of land in Rangpur - its rice bowl cannot be cultivated for winter crops **due to excessive withdrawal of water by India**.
- Bangladesh demands a fair share of river waters during the **dry season**.

Conclusion:

Bangladesh is a significant neighbouring country of India with a shared history, culture, religion, and many more common elements. Bangladesh is an essential element for India to get connected with North East.

India needs to take proactive steps on the River water agreement considering the strategic importance of Bangladesh.

MOVING FROM POPULATION CONTROL POLICY TO SUSTAINABLE LIVING

CONTEXT:

India being at the third stage of the demographic transition, and experiencing a slowing growth rate due to constant low mortality and rapidly declining fertility, now is the time to focus on improving Human capital and sustainable living for the elderly.

◎ BACKGROUND

- The **United Nations' World Population Prospects (WPP), 2022**, forecasts **India becoming the most populous country by 2023**, surpassing China, with a 140 crore population.
- This is four times the population India had at the time of **Independence in 1947 (34 crore)**.
- Now, at the third stage of the demographic transition, and experiencing a slowing growth rate due to constant low mortality and rapidly declining fertility, India has 17.5% of the world's population.
- As per the latest WPP, India will reach 150 crore by 2030 and 166 crore by 2050.

- However, even after reaching the replacement level of fertility, the population will continue to grow for three to four decades owing to the population momentum.

Factors contributing in unstable fertility rate

- High illiteracy levels
- Rampant child marriage
- High levels of under-five mortality rates
- A low workforce participation of women
- Low contraceptive usage compared to other States

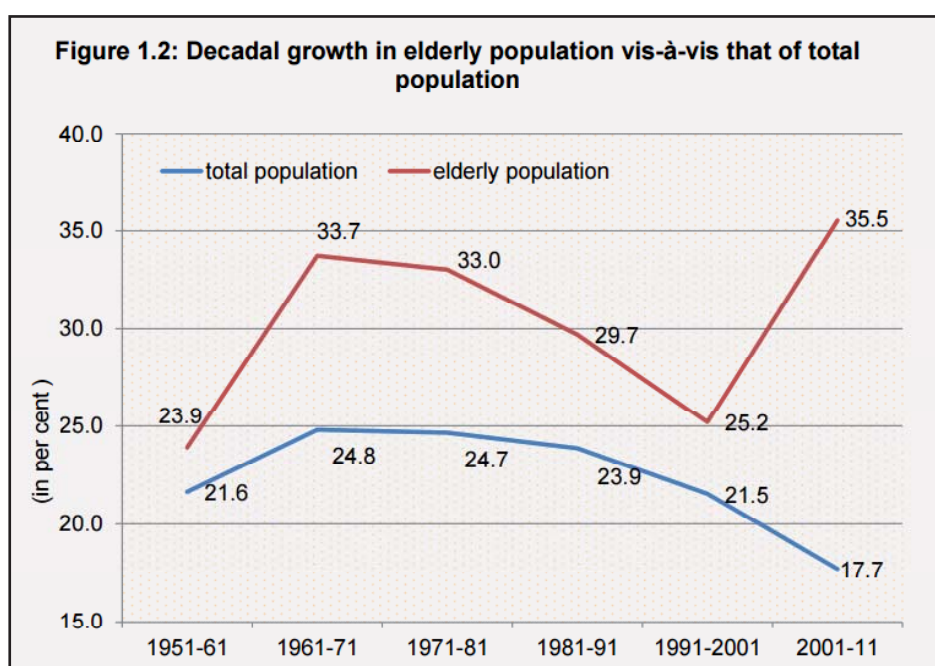
◎ ANALYSIS

What India has gained before?

- India reached a significant demographic milestone when its **total fertility rate (TFR)** slipped to **(2) two**, below the replacement level fertility **(2.1 children per woman)**, as per the National Family Health Survey.

What is the government's strategy to control Population increase in India?

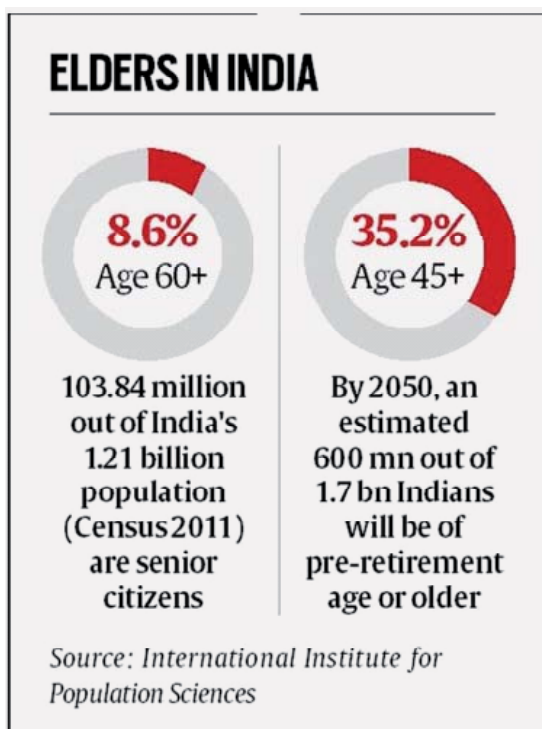
- **National Population Policy 2000** —aims to bring the total fertility rate (TFR) to replacement level by 2010 and to achieve a stable population by 2045, at a level consistent with sustainable economic growth, social development, and environmental protection.



- It envisages achieving replacement-level TFR (about two children per woman) through "promotional and motivational measures" that emphasize quality of life, rather than through numerical targets for the use of specific contraceptive methods, which plagued previous programs.
- The policy talks of better management of public health, education, and sanitation, and focuses on women's employment.
- Other goals are keeping girls in school longer, rising the age at which girls marry **to 18 or 20**, reducing infant and maternal mortality, and achieving universal immunization of children against vaccine-preventable diseases.

What is the present requirement to be focused?

- The focus of action should be on extensive investment in human capital, on older adults to live with dignity, and on healthy population ageing.
- We should be prepared with suitable infrastructure, conducive social welfare schemes and massive investment in quality education and health.



Impacts of demographic transition

- Economic factors:** The deficits in the human capital development and policy failures, the demographic change itself is able to make substantial contribution to the economic changes in the country.

- Inter-state Migration:** The demographic heterogeneity, is also leading to huge inter-state migration.
 - There has been relatively large inflow of migrants from the northern belt having high fertility rate to the southern region with below replacement level of fertility particularly in unskilled occupation.

What are the concerns for India to achieve the sustainable population strategy?

- Male dominant sex-ratio in India:** In 2011, the sex ratio was 943 females per 1,000 males; by 2022, it is expected to be approximately 950 females per 1,000 males.
 - Improvement in sex ratio should be a priority as some communities face severe challenges from a marriage squeeze (an imbalance between the number of men and women available to marry in a specific society) and eventual bride purchase.
- Shift in Disease patterns:** There has been a transition towards **non-communicable diseases** (NCDs), the cause of more than 62% of total deaths.
- Public health finances:** India's public health financing is low, varying between 1% and 1.5% of GDP, which is among the lowest percentages in the world.
- Increase in elderly population:** The share of India's elderly population is now increasing and is expected to be 12% by 2050. After 2050, the elderly population will increase sharply.

CONCLUSION

- India's demographic pattern generates a broad optimism but also strange paradoxes. Undoubtedly the higher population growth in some parts of the country is a matter of concern. It creates unbalanced economic growth pattern and recent experiences show large migration patterns.
- Therefore, further enhancement of demographic advantage depends upon the faster demographic changes in these states. At the same time, the demographic changes provide other major challenges to the nation. It is important that the government and the people at large to pledge for future challenges.

UNDERSTANDING THE RULES FOR DISPLAYING THE TRICOLOUR

CONTEXT:

To commemorate the 75th Independence Day, Indians actively participated in the government's Har Ghar Tiranga campaign, being held under the Azadi Ka Amrit Mahotsav programme.

Flag Code of India:

- According to the Flag Code of India, paragraph 2.2, (effective from January 26, 2002) any person, organisation, private or public, or educational institution can hoist or display the Tricolour on "all days or occasions in accordance with the dignity and honour of the National Flag".
- Dimension:** The flag can be as big or small as one wants, but the ratio of the length to the height (width) of the National Flag shall be **3:2**.
- Material:** After an amendment on December 30, 2021, the material of the flag has been decided as "**handspun and handwoven or machine-made, cotton, polyester, wool, silk or khadi bunting**".
- If the flag is placed in the open or on the house of a member of the public, it may be flown day and night.

What is not allowed?

- It is **against rules to display a damaged or dishevelled National Flag**.
- No other flag or bunting shall be placed higher than or above or side by side with the National

Flag; nor shall any object including flowers or garlands, or emblem be placed on or above the flagmast from which the National Flag is flown".

- The Tricolour should **never be used as a festoon, rosette, and bunting** or for a decorative purpose.
- No advertisements should be festooned to the pole** from which it flies.
- A person is forbidden by law to use the national flag "**as a portion of costume or uniform**".
- It cannot be used as an **accessory to be worn below the waist** of any person.
- It shall not be **embroidered or printed on cushions, handkerchiefs, napkins, undergarments or any dress material**".
- The National Flag **cannot be flown on any vehicle** except those of the President, Vice President, Prime Minister, Governor and other dignitaries.
- The flag should also not be used to cover the sides, back, and top of any vehicle.**
- The Tricolour should not be stored in a way that might dirty or damage it.**

HOW TO DISPOSE OF NATIONAL FLAG

BY BURNING

■ Light a fire strong enough to burn the flag but not very intense so that pieces of burnt flag do not fly out. Fold the flag according to rules and carefully place it on fire. During the process, never put the flag on ground.

■ Don't throw away the flag into the fire. Putting the flag on fire without folding it is considered as disrespect.

■ Stand solemnly and silently near the fire until the flag is completely burnt. Make sure that no part of the flag remains unburnt.



By burying

- Choose a clean burial place for the flag.
- Before burying, fold the flag according to rules and preferably put it in a biodegradable box.
- The flag can also be carefully cut along the strips before burial.

Disposal of damaged Flag:

- In case the flag is damaged, the Flag Code instructs not to cast it aside or treat it disrespectfully but "destroy it as a whole in private, preferably by burning or by any method consistent with the dignity of the flag".
- **Paper Flags:** People, who are waving flags made of paper, should not throw these on the ground after the ceremony. The flag "shall not be allowed

to touch the ground or the floor or trail in the water".

Punishment for disrespecting the flag:

- According to Section 2 of the Prevention of Insults to National Honour Act, 1971, whoever in any public place destroys or tramples upon the Indian National Flag, shall be punished with imprisonment for a term which may extend to three years or with a fine, or with both.

A SYSTEM THAT HEALS

CONTEXT:

During the Covid-19 pandemic, the overcrowding of hospitals with anxious patients, the stress on families, desperate for credible advice, brought to the fore the need for family doctors and a resilient primary health system.

◎ BACKGROUND

- Primary healthcare is defined as “a whole-of-society approach to health and well-being centered on the needs and preferences of individuals, families, and communities.”
- However, the pandemic of novel coronavirus showed the fragility of the existing healthcare delivery system of India.
- In India, primary care infrastructure exists as a **network of sub-centres, primary health centres and community health centres**.

Important Government Policies

- National Leprosy Eradication Programme (NLEP)
- Pulse Polio Immunisation programme
- National Rural Health Mission (NRHM)
- Accredited Social Health Activist (ASHA)
- National Health Protection Mission (Ayushman Bharat Yojana/Pradhan Mantri Jan Arogya Yojana—PMJAY)

- However, the focus of services has remained narrow, largely prioritized around **reproductive, maternal and child healthcare**, and **some communicable diseases** (notably, malaria).
- The **National Health Policy (NHP), 2017**, envisages comprehensive primary health care delivered through **health and wellness centres (HWCs)**.
- The policy also commits that two-thirds or more of government spending will be targeted at primary care.
- Additionally, the announcement of **Ayushman Bharat** by the government is a game changer.

Therefore, this brief aims to highlight the current status of primary healthcare services in the country and also suggests **certain appropriate measures** that can be implemented to make the system effective.

◎ ANALYSIS

Why PHC matters?

- Betterment of nation:** Primary health care is a key enabler for **higher life expectancy, better health outcomes** and **lower costs** for the nation.
- Reducing the burden on other segments:** Primary health interventions help **detect diseases early**, well before complications set in, thus pre-empting the need for secondary and tertiary care.
- Universal Health Coverage:** For universal health coverage (UHC) to be truly universal, a shift is needed from health systems designed around diseases and institutions towards health systems designed for people, with people.
- Achievement of health related Sustainable Development Goals (SDGs) and health security.**

The number game:

In the Economic Survey of 2022, India's public expenditure on healthcare stood at 2.1% of GDP in 2021-22 against 1.8% in 2020-21 and 1.3% in 2019-20.

Why India's healthcare system is struggling (constraints)?

- Limited scope:** The existing primary health care model in the country is limited in scope. Even where there is a well-functioning public primary health centre, only services related to pregnancy care, limited childcare and certain services related to national health programmes are provided, which represent only 15 per cent of all morbidities for which people seek care.
- Implementation issues:** The conversion of 150,000 sub centres into HWCs was announced in the budget speech in 2017 and was enshrined in the NHP, 2017.
 - Although less than 4000 such centres were sanctioned in 2017-18, the government is committed to accelerating the pace of sanctioning and putting up HWCs to meet the target in good time.

- **Inadequate quality:** Supply side deficiencies, poor management skills and lack of appropriate training and supportive supervision for health workers prevent delivery of the desired quality of health services.
- **Ignored urban population:** A primary health care model for the growing urban population has not been conceptualized, notwithstanding a few assorted initiatives by some states.
- **Lack of participation/awareness:** Although the National Health Mission focuses on engaging communities through village health, nutrition and sanitation societies, health has not yet become a people's movement.
- **Lack of funding:** Funding for health is inadequate, leading to low spending on primary care.

Developed nations such as the UK, Australia, Canada, Netherlands and Sweden spend a large share of their federal healthcare budgets on primary care.

- **High rate of expenditure:** Citizens have to incur high out-of-pocket expenditure on primary health care, of which the largest expenditure is on drugs.
- **Other major issues include:**
 - low number of institutions
 - shortage of adequately trained and motivated personnel

What measures are required now?

- **Accelerate the establishment of a network of 150,000 HWCs**
 - **Ensuring sufficient coverage:** Operationalize a network of 150,000 HWCs on priority by 2022-23 in order to ensure sufficient coverage of affordable primary care and lower the burden on secondary and tertiary care.
 - **Focusing on facilities:** HWCs should provide services such as screening and management of non-communicable diseases; screening and basic management of mental health ailments; care for common ophthalmic and ENT problems; basic dental health care; geriatric and palliative health care, and trauma care and emergency care.
 - The key features of New India's primary health care system will be:
 - A primary health care nucleus comprising five to six upgraded sub-centres coupled with a primary health centre, and population outreach.

- A team led by a mid-level health service provider, 3 auxiliary nurse midwives (ANMs), accredited social health activists (ASHAs) and a male health worker responsible for comprehensive primary health care services for a population of about 5,000.
- Planning of health facility distribution in districts to ensure that a continuum of care is available on the principles of 'time to care' through a strong referral linkage.
- **Digitization of family records and information** from the community to the facility level.
- Use of **real-time data** to guide public health action and implementation monitoring.
- The HWCs would act as the 'gateway' for access to secondary and tertiary health services.
- **Enable mechanisms for rapid scale up**
 - **Infusion of relevant work streams:** Put in place the following work streams to create 150,000 well-functioning HWCs across the country –
 - Infrastructure
 - human resources (mid-level professional recruitment, training and deployment)
 - deployment and orientation of ANMs and male health workers)
 - an Information and Communication Technology (ICT) system
 - supply chain for drugs and disposables
 - clinical and public health protocols and tools
 - managerial/supervisory processes, and monitoring, evaluation and accountability systems
 - Under Ayushman Bharat, put in place the necessary institutional mechanisms with a focus on health and wellness at the central and state levels for effective, timely and robust system level implementation as well as strong engagement with departments/directorates of health in the states.
- Establish **special national and state level task forces** and 'command centres'.
- Create mechanisms for **rapid scaling up of training**.
- Develop **empowered governance** mechanisms for efficient decision-making, coordination, funds flow, procurement, contracting, recruitment, construction and implementation.
- Mobilize Corporate Social Responsibility (CSR) and Non-Resident Indians for funding HWCs.

- Some HWCs could **also be mobile**, particularly for better access to remote communities.
- **Coordinate action for disease prevention and public health promotion and to address social determinants of health**
 - Provide **preventive services** to improve healthy behaviours for family health and control the incidence of communicable and non-communicable diseases among the population covered by HWCs.
 - **Facilitate partnerships** between **HWC teams and other frontline development teams** (nutrition, education, Swachh Bharat etc.) to engage with communities to address the socio-cultural and environmental determinants of ill health at the local level.
- **Catalyse people's participation for healthy India: Swasth Bharat Jan Andolan**
 - Mandate and motivate HWC teams to **work closely with village health, sanitation**

and nutrition societies, panchayati raj institutions as well as all other **constituents of civil society** in rural and urban spaces. This is vital because people are not just targets of health services but partners and multipliers of health-related activities.

- **Emphasise concurrent learning, operations research and innovation**
 - Undertake a **well-funded research programme** to find the best pathways for effective and context-specific scaling up of primary health care. This is critical because it is well-known that a single model of primary health care may not work for all districts/states in the country.
 - Conduct research to assess the population-level health impact of the programme and effects on out-of-pocket expenses.
 - **Develop urban adaptations** of comprehensive primary care.

CRIMINAL PROCEDURE (IDENTIFICATION) ACT 2022

CONTEXT:

The Criminal Procedure (Identification) Act 2022 has come into force after being passed by Parliament in April 2022.

Criminal Procedure (Identification) Act, 2022:

- The Act is going to replace a colonial-era law, the **Identification of Prisoners Act, 1920**.
- It provides **Legal sanction to the police to take physical and biological samples of convicts** as well as those accused of crimes.
- **Data that can be collected:** Finger-impressions, Palm-Print impressions, Footprint impressions, Photographs, Iris and Retina scans, Physical, Biological samples and their analysis, Behavioural Attributes including signatures, Handwriting or any other examination.
- The police as per **section 53 or section 53A of the Code of Criminal Procedure (CrPC), 1973**, can collect Data.
- **Code of Criminal Procedure (CrPC), 1973** is the **primary legislation** regarding the procedural aspects of criminal law.
- Any person convicted, arrested or detained under any preventive detention law will be required to provide **"measurements" to a police officer or a prison official**.
- The **National Crime Records Bureau (NCRB)** will be the central agency to maintain the records.
 - It will share the data with law enforcement agencies.
 - States/UTs may notify agencies to collect, preserve, and share data in their respective jurisdictions.
 - The data collected will be retained in digital or electronic form for 75 years.
 - Records will be destroyed in case of persons who are acquitted after all appeals or released without trial.
 - However, in such cases, a Court or Magistrate may direct the retention of details after recording reasons in writing.
- It aims to ensure the unique identification of those involved with crime and to help to investigate agencies solve cases.
- **Under both the 1920 Act and the 2022 Bill**, resistance or refusal to give data will be considered an offence of obstructing a public servant from doing his duty.

Identification of Prisoners Act, 1920:

- The Identification of Prisoners Act, 1920 allows police officers to collect certain identifiable information (fingerprints and footprints) of persons including convicts and arrested persons.
- Also, a Magistrate may order measurements or photographs of a person to be taken to aid the investigation of an offence.
- In case of acquittal or discharge of the person, all material must be destroyed.

Need for Replacement of the Previous Act:

- **87th Report of the Law Commission of India**
 - In 1980, the **87th Report of the Law Commission of India** undertook a review of this legislation and recommended several amendments. The report was concerned with coercive measures employed in the investigation process. This was done in the backdrop of the **State of UP vs Ram Babu Misra case**, where the Supreme Court had highlighted the need for amending this law.
- The first set of recommendations laid out the need to amend the Act to expand the scope of measurements to include **"palm impressions", "specimen of signature or writing" and "specimen of voice"**.
- The second set of recommendations raised the need to allow measurements to be taken for proceedings other than those under the Code of Criminal Procedure (CrPC).
- It was felt that with advancements in forensics, there is a need to **recognize more kinds of "measurements"** that can be used by law enforcement agencies for investigation.

"Rogues Galleries"- Practice followed in other countries:

- Police in most of the cities of the U.S.A. and Europe attempt to keep the descriptions of every person arrested by them, in permanent records. These records are popularly known as **'rogues' galleries'**.

Identification of Prisoners Act (repealed)	Criminal Procedure (Identification) Act
Measurements: Fingerprints, footprints, photographs	Measurements: Fingerprints, palm prints, footprints, photographs, iris and retina scans, signatures, physical samples, and biological samples under sections 53/53A CrPC
Authority: Police officer (magistrate, in case of photographs)	Authority: Magistrate
When measurements can be taken: Offences punishable with imprisonment of one year or more	When measurements can be taken: Any offence—on conviction, on arrest, on preventive action
Destruction of measurements: On discharge; on acquittal	Destruction of measurements: After 75 years; on acquittal; on discharge
Biological samples: Cannot be taken	Biological samples: Can be taken for offences punishable with imprisonment of seven years or more (not applicable to crimes against women and children)

DNA Technology (Use and Application) Regulation Bill, 2019:

- The DNA Technology (Use and Application) Regulation Bill, 2019 (pending in Lok Sabha) provides a framework for using DNA technology for this purpose.

Significance of the Act:

- **Availability of Modern Techniques:** The Act will open up the inclusion of modern techniques to capture and record appropriate body measurements. The existing law allowed taking only fingerprint and footprint impressions of a limited category of convicted persons.
- **Help Investing Agencies:** It will help the investigating agencies to gather sufficient legally admissible evidence and establish the crime of the accused person.
- **Making Investigation More Efficient:** It provides legal sanction for taking appropriate body measurements of persons who are required to give such measurements and will make the investigation

of crime more efficient and expeditious and will also help in increasing the conviction rate.

Issues with Law:

- **Violation of Privacy:** Seemingly technical, the legislative proposal undermines the right to privacy of not only persons convicted of a crime but also every ordinary Indian citizen. It has provisions to collect samples even from protestors engaged in political protests.
- **Unawareness among Detainees:**
 - Although it provides that an arrested person (not accused of an offence against a woman or a child) may refuse the taking of samples, not all detainees may know that they can indeed decline to let biological samples be taken.
- **Ambiguous Provisions:** Replacing the 1920 Identification of Prisoners Act, the proposed law considerably expands its scope and reach.
 - The phrase '**biological samples**' has not been elaborated further. Hence, it could involve

bodily invasions such as drawing of blood and hair, and collection of DNA samples. **These are acts that currently require the written sanction of a magistrate.**

- **Violation of Article 20:** Enables coercive drawing of samples and possibly involves a violation of Article 20(3), which protects the right against self-incrimination.
- **Handling of Data:** Provision of preserving the record for 75 years (effectively for life), other concerns include the means by which the data collected will be preserved, shared, disseminated, and destroyed.
 - **Collection can also result in mass surveillance,** with the database under this law being combined with other databases such as those of the Crime and Criminal Tracking Network and Systems (CCTNS).

Crime and Criminal Tracking Network & Systems (CCTNS):

- CCTNS is a Mission Mode Project under the National e-Governance Plan (NeGP) of Govt. of India.

- CCTNS aims at creating a comprehensive and integrated system for enhancing the efficiency and effectiveness of policing through adopting of principle of e-Governance and the creation of a nationwide networking infrastructure for the evolution of an IT-enabled-state-of-the-art tracking system around Investigation of crime and detection of criminals.

◎ **CONCLUSION:**

- In the absence of **strong data protection law**, there are considerable concerns over the privacy and safety of data collected by the authorities. The procedure involving the collection, storage and destruction of vital details of an individual must only be done only after placing stringent punishment for breaches. The long-term storage of data should be covered under stringent data protection laws. At the same time **depriving law enforcement agencies** of the use of the latest technologies would be a **grave injustice to victims of crimes**.
- In the formulation of any law, **a balance has to be struck between the rights of an individual and the imperative need in the interests of society** for the protection and punishment of crime.

NEW ELECTRICITY BILL 2022

CONTEXT:

The Union Power Ministry has introduced the Electricity (Amendment) Bill, 2022 in Lok Sabha to regulate the electricity sector in India.

India's power sector

- India is the **third-largest producer** and **second-largest consumer** of electricity worldwide, with an **installed power capacity of 401.01 GW** as of April 30, 2022.
- 100% FDI allowed in the power sector has boosted FDI inflow in this sector.
- Sources of power generation range from conventional sources such as coal, lignite, natural gas, oil, hydro and nuclear power, to viable non-conventional sources such as wind, solar, agricultural and domestic waste.
- India was ranked fourth in wind power, fifth in solar power and fourth in renewable power installed capacity, as of 2020. India is the only country among the G20 nations that is on track to achieve the targets under the Paris Agreement.

Key provisions under the Electricity (Amendment) Bill:

- **Multiple discoms in the same area: The Bill aims to amend the Electricity Act, 2003.**
 - It provides for multiple distribution licensees (discoms) to operate in the same area of supply.
 - A discom must provide **non-discriminatory open access to its network to all other discoms operating in the same area, on payment of certain charges.**
- **Power procurement and tariff:**
 - Upon grant of multiple licenses for the same area, the power and associated costs as per the existing **power purchase agreements (PPAs)** of the existing discoms **will be shared between all discoms.**
 - **To meet any additional power requirements** - discom may enter into additional PPAs after meeting the obligations of existing agreements. Such additional power need not be shared with other discoms.
 - **In case of multiple discoms in the same area of supply** - **State Electricity Regulatory Commission (SERC)** will specify the **maximum ceiling for tariff.**

• Cross-subsidy Balancing Fund:

- The Bill **grant multiple licenses** for the same area – the **state government will set up a Cross-subsidy Balancing Fund.**

Cross-subsidy refers to the **arrangement of one consumer category subsidising the consumption of another consumer category.**

- Any surplus with a distribution licensee on account of cross-subsidy will be **deposited into the fund.**
- The fund will be **used to finance deficits in cross-subsidy** for other discoms in the same area or any other area.

• License for distribution in multiple states:

- As per the Bill, the **Central Electricity Regulatory Commission (CERC)** will grant licenses for the distribution of electricity in **more than one state.**

• Payment Security:

- The Bill provides that electricity will not be scheduled or despatched if adequate payment security is not provided by the discom.
- The central government may prescribe rules regarding payment security.

• Contract enforcement:

- The Bill empowers the CERC and SERCs to adjudicate disputes related to the performance of contracts.
- These refer to contracts related to the **sale, purchase, or transmission of electricity.**
- Further, the **Commissions will have the powers of a Civil Court.**

• Renewable purchase obligation:

- The electricity bill empowers **State Electricity Regulatory Commissions (SERCs)** to specify **renewable purchase obligations (RPO)** for discoms.
- RPO refers to the mandate to procure a certain percentage of electricity from renewable sources.
- **RPO should not be below a minimum percentage**

prescribed by the central government.

- Failure to meet RPO will be punishable with a penalty between 25 paise and 50 paise per kilowatt of the shortfall.
- Composition of Commissions and APTEL:
- The Bill increases the number of members (including the chairperson) in SERCs from three to four.
- Further, at least one member in both the CERC and SERCs must be from a **law background**.
- **Appellate Tribunal for Electricity** (APTEL) consists of a chairperson and three other members, as **may be prescribed by the central government**.

What are the major challenges faced by the power distribution sector?

- Inadequate Electricity Generation
- Shortage of Inputs
- Poor fiscal health of the DISCOMS and the state governments
- Government monopoly in power distribution sector
- gross inefficiencies leading to large technical and commercial losses
- highly politicised sector

Important Government Scheme

- PM-KUSUM scheme
- Solar Roof Top Scheme

- Solar Parks Scheme
- Green Energy Corridor Phase I and II
- Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY),
- Ujwal DISCOM Assurance Yojana (UDAY), and
- Integrated Power Development Scheme (IPDS).

◎ WAY FORWARD:

- Electricity being a subject of the **Concurrent List** of the Indian Constitution, recommendations from states should be taken into consideration for effective implementation of the provisions of the bill.
- Provisions related to subsidies should be put up in an **elaborate manner** to eliminate any scope of confusion/ conflict.
- Regulations for **private players** (discoms) should be brought in to avoid differential distribution.
- Renewables including wind should be ramped up rapidly.
- Storage must be prioritized for peaking and ancillary (ramping) requirements

◎ CONCLUSION:

Electricity is the backbone of the Indian economy. Government should take every step to conserve sources of electricity and regulate as per the demand of every sector.

CENTRE LAUNCHED A REHAB PLAN FOR BEGGARS

CONTEXT:

‘SMILE-75 Initiative’, an initiative launched by the central government at 75 Municipal Corporations across states in the country to implement the plan for Identifying and rehabilitating the beggars and provide them employment.

◎ BACKGROUND:

- According to the 2011 Census, the total population of person engaged in begging and variants is about 4.13 lakhs.
- Most of them struggle to gain access to basic needs of food, clothing and shelter, which drives them in a loop of poverty.
- West Bengal tops the chart followed by Uttar Pradesh and Bihar at number two and three respectively. Lakshadweep merely has two vagrants according to the 2011 census.
- Among the union territories, New Delhi had the largest number of beggars 2,187 followed by 121 in Chandigarh.
- Recently, the Supreme Court has agreed to examine a plea for decriminalising begging which has been made an offense in various states under Prevention of Begging Act.

About the initiative:

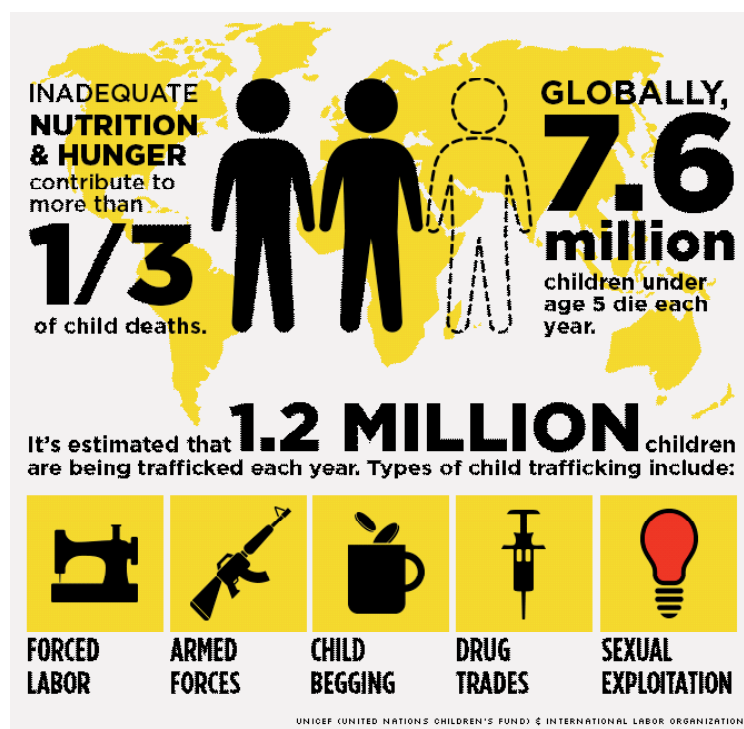
- To mark **75 years of Independence**, union minister for social justice and empowerment has launched

the scheme named ‘**SMILE-75 Initiative**’.

- This initiative will provide the roadmaps which involve carrying out surveys and identifying those begging and steering outreach.
- It will work to mobilize the persons and setting up “**Adhikar grehs**” near areas where engage in begging and connect them to education, skill development and employment opportunities.
- It will be implemented initially by 75 Municipal corporations namely, Delhi, Tirupati, Guwahati, Patna, Ahmedabad, Mumbai, Kolkata and others.
- Ministry had identified **10 cities** for undertaking pilot project on Comprehensive Rehabilitation of persons engaged in the act of Begging.
- Currently, pilot project is on-going in **7 cities** namely Delhi, Bangalore, Hyderabad, Indore, Lucknow, Nagpur and Patna.

SMILE scheme-‘Support for Marginalized Individuals for Livelihood and Enterprise’

- It includes a sub-scheme - ‘**Central Sector Scheme**’ for Comprehensive Rehabilitation of persons engaged in the act of Begging.



- The focus of the scheme is extensively on rehabilitation, provision of medical facilities, counselling, basic documentation, education, skill development, economic linkages and so on.
- Persons engaged in the act of Begging are to be covered under the scheme.
- Total funds allocated for the scheme for **next five years**.
- Scheme is to be implemented on pan-India basis.
- These pilots are being implemented with the support of **State Governments/UTs/Local Urban Bodies and Voluntary Organizations etc.**

◎ SIGNIFICANCE:

It provides comprehensive measures including;

- Survey and identification,
- Mobilization,
- Rehabilitation,
- Provision of medical facilities,
- Awareness generation,
- Counselling, education & skill development and
- Sustainable settlement of persons engaged in begging.

◎ ANALYSIS

Why people are forced to Begging?

- **Physical Factors:** In India there is no adequate provision for treatment and social rehabilitation of blind, deaf, dumb or the physically handicapped. In the absence of any reasonable alternative, such persons are constrained to beg.
- **Economic Factors:** Economic factors which generally prompt people to take to begging. Among these factors poverty, unemployment, under-employment and loss of income are important.
- **Social Factors:** Among the social factors, hereditary occupation, family disorganization and widowhood are causes of begging.
- **Natural Calamities:** Our physical environment may frustrate us drastically at times through famines, earthquakes, drought, cyclones or floods. Sometimes all these natural calamities cause serious damage to property and agriculture and compel people to leave their homes and compel them to take to begging to overcome pangs of hunger.
- **Psychological Factors:** Some times, due to bad psychology of the individual cause beggary Frustration, unwillingness to work and tendency towards isolation are important among these factors.

Benefits of the initiative

- **Employment generation:** The focus of the scheme is extensively on rehabilitation, provision of medical facilities, counselling, basic documentation, education, skill development, economic linkages and so on.
- **Help to poor:** It is estimated that an approximate 60,000 poorest persons would be benefited under this scheme for leading a life of dignity.
- **Against the vicious cycle of poverty:** Begging is one such activity which engages a person onto begging and further to poverty for ever.

National Backward Classes Finance & Development Corporation

- It is a Government of India Undertaking under the aegis of Ministry of Social Justice and Empowerment.
- It was incorporated under **Section 25** of the Companies Act 1956 on 13th January 1992 as a Company not for profit.
- Its objective is to promote economic and developmental activities for the benefit of Backward Classes and to assist the poorer section of these classes in skill development and self-employment ventures.

◎ WAY FORWARD

- **Eradicate Poverty:** Priority should be given to eradication of extreme poverty as many people take to begging owing to poverty, it has become a menace. Later, begging has become part of an organised crime.
- **Rehabilitation:** Small shelters have to be made and they need to be imparted skills that would help them land jobs.
- **Vocational Training:** The government should provide necessary vocational training to rehabilitate them. The expenses incurred should be borne by the government. A government funded organisation should be constituted and personnel trained to oversee the rehabilitation programme.
- **Concerted Effort:** Social issues associated with begging are drug trafficking, criminal activities and sexual exploitation of children. As part of the rehabilitation programme, the corporation has collaborated with a voluntary organisation towards providing food, clothing and medicines. To reduce the economic burden, the government should seek the aid of voluntary organisations. However, the activities of the voluntary organisations should be monitored and evaluated.

- **Aid Agency Needed:** The rehabilitated should be provided free medical diagnosis, financial support and ration to the beggars. Slums may come up in cities and rehabilitation should be carried out in a judicious manner.
- **Create Awareness:** People should discourage beggars. Begging flourishes because people tend to be generous. Awareness programmes need to be conducted for the poor to help them realise how shameful it is to beg.

◎ **CONCLUSION:**

As India is a social welfare state, it is the responsibility of the government to develop policies so that all its citizens can achieve that wholesome life. India is also part of the International Covenant on Civil and Political Rights (ICCPR) which has a provision for right to living with dignity and the lack of any concrete policies to deal with the issue of beggary and homelessness is inconsistent with that provision.

RBI'S CONSUMER CONFIDENCE SURVEY

CONTEXT:

The Reserve Bank of India's (RBI) latest consumer confidence for May 2022 has shown that consumer confidence has improved compared to last year, but the consumer survey index is still below 100, which is in the 'pessimistic' territory.

◎ ABOUT:

- CCS is a **Bi-monthly** exercise, done to indicate the comparison between current economic scenarios in the country with the last survey.
- Consumer confidence for the current period has been consistently improving since July 2021.
- The key parameters like **employment and household income** improved further in the latest round of the survey, though they remained in a 'pessimistic' zone.
- Though the consumer confidence index has improved and stands at **75.9**, it is still in the negative territory, since consumers are now being pessimistic, the survey revealed.
- In March 2022, the consumer confidence index was **71.7**.

An Index **figure below 100** is considered to be in 'pessimistic' zone, but if the index is **above 100**, it indicates 'optimism'.

Key Highlights of the survey

According to the survey, the following are the various variables and consumers' expectations earlier when compared with the current situation:

- Economic Situation:** In March 2022, the economic situation index was at 13.5, and in May 2022, it was at 6.
 - This shows that there is a positive sentiment among consumers, but with deterioration when compared with the previous round of the survey.
- Price Level:** In March 2022, the price level index was at 68.6, while in May 2022 it was at 71.7.
 - This shows that there is a negative sentiment with signs of deterioration when compared with the previous round held in March 2022.
- Employment:** In March 2022, the employment index was at 22.7, while in May 2022 it was at 19.2.
 - This shows that there is a positive sentiment among consumers, but with deterioration when compared with the previous round, the survey revealed.

- Spending:** In March 2022, the spending index was at 64.1 and in May 2022 it was at 66.7.
 - This shows that consumer sentiments were improved when compared with the previous round of survey.
- Income:** In March 2022, the spending index was at 44.3, while in May 2022; it was at 44, shows that there is a positive sentiment among consumers, but with deterioration when compared with the previous round.

◎ ANALYSIS

Why this survey does is important?

- The CCS is a survey that indicates how optimistic or pessimistic consumers are regarding their expected financial situation.
- If the consumers are optimistic, spending will be more, whereas if they are not so confident, then their poor consumption pattern may lead to recession.

What are the implications of the survey?

- Increase in Inflation:** The RBI has projected the CPI inflation for the first quarter of FY23 at 7.5 per cent against 6.3 per cent earlier, while it has estimated it at 7.4 per cent against the 5.8 per cent projected earlier for the second quarter. For the third and fourth quarters, the CPI inflation is projected at 6.2 per cent and 5.8 per cent.
- Increase in Household Income:** According to the survey, the households expect their spending to increase in the next one year with expenses on essentials going up while they plan to cut down on non-essential expenditure.
- Food Inflation:** The Monetary Policy Committee (MPC) stated that continuing shocks to food inflation could sustain pressures on headline inflation.

Consumer confidence survey (CCS)

- The CCS is conducted in **13** Indian cities.
- The RBI's latest round of CCS shows that depression has gripped urban India as far as economic sentiments are concerned.

What can be the future challenges?

- These data of this survey showcase the challenge facing by the Indian economy.
- If the government's strategy for fast economic growth — expecting the private sector to lead India out of this trough by investing in new capacities — is to succeed, then consumer spending (especially on non-essentials) has to go up sharply.
- But for that to happen, household incomes have to go up; and for that to happen, the employment

prospects have to brighten; and for that to happen, again, companies have to invest in new capacities.

◎ CONCLUSION:

The consumer confidence survey by the RBI obtains current perceptions compared to a year earlier and one-year ahead expectations on general economic situation, employment scenario, overall price situation, and own income and spending. Hence it is one of the major sources of survey on economic terms to identify future implications and challenges.

INDIAN ECONOMY @75

CONTEXT:

August 15, 2022 marked 75 years of our country's Independence and of its economy as a self-managed one. In its advancements since, the economy changed structure and evolved with many successes as well as failings.

☐ This brief aims to analyse an overview of how Indian economy has come through over the last 75 years.

◎ BACKGROUND

- India was classified as a 'third-world' country at the time of Independence from British rule in 1947.
- But over the past seven decades, its GDP has grown from just Rs 2.7 lakh crore to Rs 150 lakh crore.
- The nation weathered many crises to be ranked among the biggest economies of the world and the fastest growing major economy on the planet.

◎ ANALYSIS

What is the current status?

- Energy security:** The country is addressing energy security by increasing focus on renewable sources, biofuels and hydrogen, it is promoting domestic manufacturing through schemes such as PLI that provide Rs 1 lakh crore of incentives to local production units.

India's Socio-Economic Trajectory	
Gross Domestic Product (GDP) <ul style="list-style-type: none"> Meaning: the monetary measure of all goods and services produced in a country in a year 	<ul style="list-style-type: none"> GDP rose from ₹ 2.79 lakh crore (at constant prices) in 1950-51 to an estimated 147.36 lakh crore in 2021-22.
Per Capital Net National Income <ul style="list-style-type: none"> Meaning: Net National Product is depreciation deducted from Gross National Product (GDP + income from foreign sources). 	<ul style="list-style-type: none"> India's per capita Net National Income rose from ₹ 12,493 in 1950-51 to ₹ 91,481 in 2021-22 (provisional estimates).
Total Revenue <ul style="list-style-type: none"> Meaning: Centre's total revenue receipts 	<ul style="list-style-type: none"> Rose from ₹ 171.15 crore in 1947-48 to ₹ 20,78,936 crore in 2021-22, as per this year's Budget revised estimates.
Forex Reserves	<ul style="list-style-type: none"> India's foreign exchange reserves rose from ₹ 911 crore in 1950-51 to ₹ 45,42,615 crore on August 5, 2022. The latest figure includes India's Special Drawing Rights and reserve position in the IMF. Currently, India has the fifth largest forex reserves in the world.
Foreign Trade	<ul style="list-style-type: none"> In 1950-51, India's nascent foreign trade stood at ₹ 1,214 crore, with imports slightly exceeding exports. After India's economic liberalisation, the trade deficit widened substantially. In July 2022, foreign trade (merchandise and services) stood at over \$143 billion. However, the overall trade deficit amounted to \$21 billion as imports far exceeded exports.
Foodgrain production <ul style="list-style-type: none"> Leading producer: According to Food and Agriculture Organisation (FAO), India is among the leading producers of milk, pulses and jute, rice, wheat, sugarcane, groundnut, vegetables, fruit and cotton 	<ul style="list-style-type: none"> In 1950-51, foodgrain production stood at 50.8 million tonnes, which rose to an estimated 316.06 million tonnes in 2021-22.

Literacy rate	<ul style="list-style-type: none"> India's literacy rate rose from a mere 18.3 per cent in 1951 to 77.7 per cent in 2017-18.
Sex Ratio <ul style="list-style-type: none"> Meaning: the total female population per 1,000 males 	<ul style="list-style-type: none"> India's sex ratio stood at 946 in the 1951 census. In 2021, the sex ratio read 1,020 females for every 1,000 males, which put India on par with several developed nations.

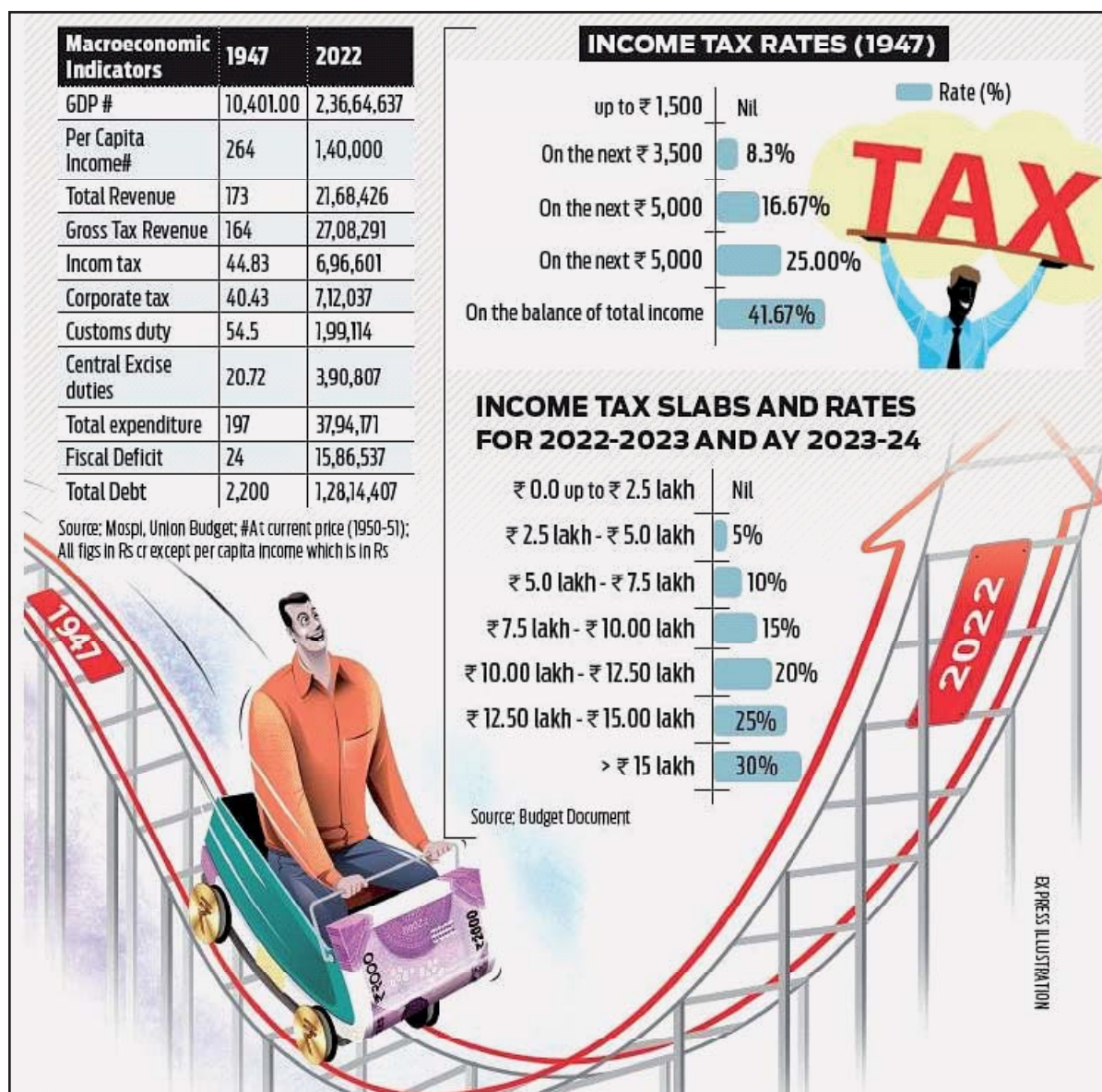
- Digitalisation (India's techade):** The Digital India Movement with the production of semiconductors, 5G networks, and optical fibre networks show has shown great results in education, healthcare and changes in common man's lives.

Important Events during the journey

- Planning Commission & FYPs:** India set up the Planning Commission in 1950 in order to oversee the entire range of planning, including resource

allocation, implementation and appraisal of five-year plans (FYPs).

- Nationalisation:** From 50s to 91, several industries, companies were nationalised by the government.
 - Nationalised airlines—Air India, Air Services of India, Airways (India), Bharat Airways, Deccan Airways, Himalayan Aviation, Indian National Airways, Kalinga Airlines, and the Air India International



Railways	1947	2022
Passenger Tariff	52	44,375
Goods Tariff	57	1,45,275
Total tariff receipt	116	2,02,000
Total working expense	107	1,49,800

In (₹cr)

Source: Budget document, Railway Ministry

Trade	1947	2022
Foreign Trade	792	77,19,655
Exports	403	31,47,022.00
Imports	389	45,72,771.00

In (₹cr)

Source: Budget document, Ministry of Commerce

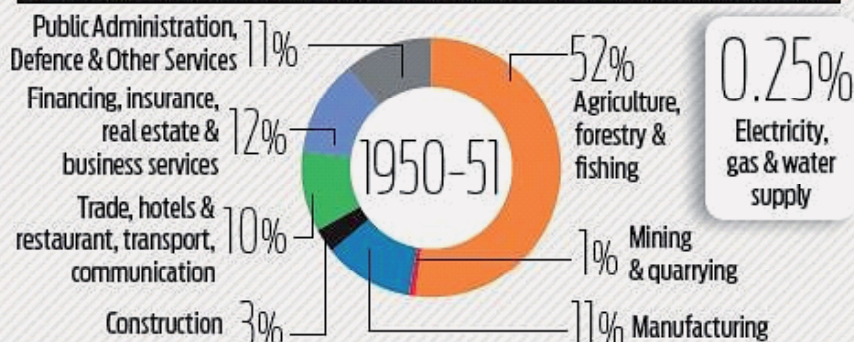
	1947	2022
Exchange rate (INR/dollar)	3.31	76
Forex Reserve (Rs cr)	1612	45,92,504
Inflation* (%)	6.3	6.95
Gross Household Savings (% of GDP)#	6.7	19.6

*Inflation in 1947 is based on Bombay Cost of Living Index

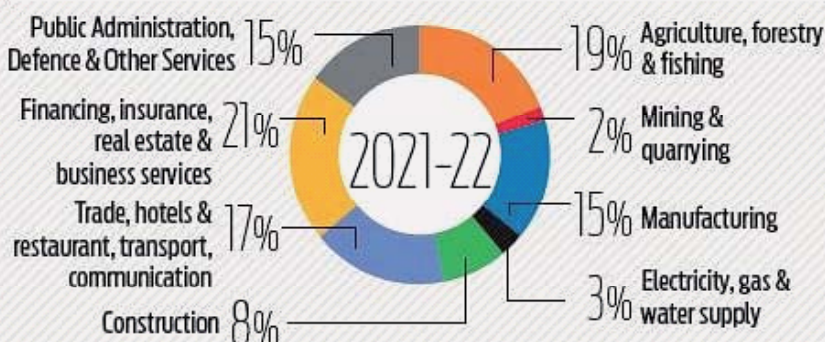
#Figs are for 1950-51 and 2019-20

Source: RBI, Mospi, Budget document

SECTORAL CONTRIBUTION TO GDP 1950-51 (%)



SECTORAL CONTRIBUTION TO GDP 2021-22 (%)



Other key indicators	1947	2022
Steel production (million tonne)	0.4	120
Cement (million tonne)	0.7	300
Power Generating Capacity (GW)	1.36	400
Number of telephone/mobile connections (Million)	8.50	1166
National Highways (km)	19,811*	1,40,995

4,000 units of vehicles were produced in 1950 in India, according to the first five-year plan data

23 MN units of vehicle were produced in 2022, as per Society of Indian Automobile Manufacturers

* Fig pertains to 1950-51 Source: Budget Document, Respective ministries, TRAI

- In 1969, 14 leading banks were nationalized on July 19, 1969.
- **Liberalisation:** The Narasimha Rao government, including then Finance Minister Manmohan Singh, initiated economic reforms in 1991. These reforms aimed to liberalise the economy by doing away with the Licence Raj.
- **Demonetisation & GST:** Two of the most talked about economic events in the 21st century are Demonetisation and Good & Services Tax (GST).

What are the urgent challenges that need to be taken care of?

The urgent challenges are as given below:

• Unemployment

- India's overall unemployment rate is estimated to be between 8-10%; only 49% of working age population participates in the labour force compared to Bangladesh's 59% and China's 68%, while female labour force participation has been consistently declining to just 26%.
- Informal employment dominates (almost 90%) with low pay and lack of social security; a worrying slip back to agriculture from services and manufacturing has been observed in the last few years.

• Income inequality

- Income inequality has steadily mounted in the past three decades.

- The Gini index, which measures the distance from a perfectly equal distribution (0) and extreme inequality (100) in the distribution of income (in India's case, consumption expenditure) among individuals or households, was reported at 35.7 in 2011 (31.7% in 1993), the last year when consumer expenditure was surveyed.

- **Climate Change**

- A challenge that will continuously evolve to the forefront will be tackling climate change. India is amongst the most vulnerable countries and the costs of climate change, be these from pollution or the increased frequency of extreme weather events, have rapidly escalated. The commitment to a net zero carbon emissions economy by 2070 will require significant effort, resources and planning.

THE AUTO-IMMUNE INFLAMMATION OF BLOOD VESSELS: VASCULITIS EXPLAINED

CONTEXT:

Hollywood actor Ashton Kutcher had a “weird, super rare form of vasculitis” that affected his vision, hearing, and equilibrium.

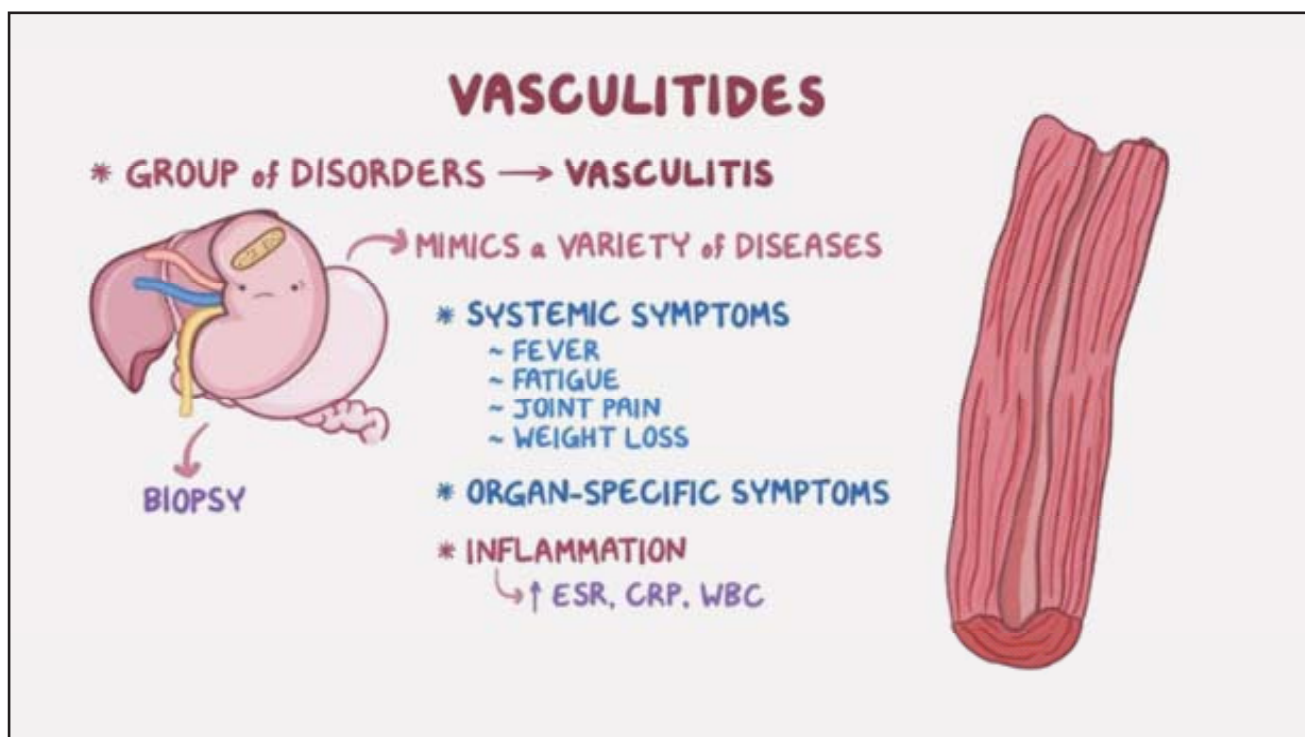
What is vasculitis?

- A **vasculitis** is a group of disorders that destroy blood vessels by inflammation. It is also called angiitis (“inflammation within blood vessels”) or arteritis (“inflammation in arteries”).
- It is an **auto-immune disease** in which the body’s immune system turns on healthy blood vessels, causing them to swell up, narrow down, stretched, or be weak. The blood vessels might close entirely.
- In vasculitis, the body’s immune system turns on healthy blood vessels, causing them to swell up and narrow down.
- The trigger for vasculitis may be an infection or a drug or blood cancer or immune system diseases, although the **precise reason is often uncertain or unknown**.
- Vasculitis can be only a minor problem affecting the skin, or it can be a serious condition that impacts the heart, kidneys or other vital organs.

Causes:

The exact cause of vasculitides (plural of vasculitis) is multifactorial (genes, gender, and environment) and is unknown. Secondary vasculitis is due to a known cause and appears in the course of other defined diseases. **Some causes of secondary vasculitis are listed below:**

- **Infection** - Viruses (Hepatitis B and C, HIV, Varicella zoster, etc.), bacteria (TB, gonorrhoea, streptococci, staphylococci, etc.), fungi, and others (e.g., syphilis)
- **Cancer** - Most malignancies (solid organ tumours, lymphoma, and others).
- **Drugs** - Vaccines and desensitization agents, drugs used for nasal allergies (montelukast and others from this group), propylthiouracil, hydralazine, heroin, cocaine, amphetamine, etc. The vasculitides appear after prolonged exposure to the drug, are usually limited to the skin, and disappear on early withdrawal of the offending agent.



Types of Vasculitis: There are around 20 different disorders that are classified as vasculitis. A few important among them have been given below:

- **Polyarteritis nodosa:** This affects small- to medium-sized blood vessels in many different parts of the body, especially the skin, intestines, kidneys and nerves.
- **Takayasu's arteritis:** This vasculitis affects medium and large-sized arteries, especially the aortic arch and its branches near the heart. It most **commonly affects teenage girls and young women, and it is most common in Asia.**
- **Kawasaki disease:** This vasculitis affects the lymph nodes, skin, mucous membranes, and heart, including the coronary arteries (arteries that supply blood to the heart). It is seen most commonly in children.
- **Behcet's Disease:** Oral and genital ulcers and eye inflammation.
- **Buerger's Disease:** Mainly affects smokers and leads to decreased flow of blood to the hands and feet.
- **Churg-Strauss Syndrome:** Associated with asthma, and sinusitis, and tends to involve the lungs, kidneys, and heart as well.
- **Lecocytoclastic Vasculitis:** Purpura, skin rashes

How is vasculitis treated?

- **Medication:**
 - The treatment primarily focuses on **controlling the inflammation** and **managing any underlying conditions** that may be triggering vasculitis. The medication used depends on the

type of vasculitis that is present.

- **Steroids** and other medicines that **reduce the activity of the immune system** are frequently prescribed. It includes **corticosteroids** to control the inflammation so that the dosage of corticosteroids can be tapered more quickly.
- Health organizations caution that some kinds of vasculitis can become serious problems if not treated.

About Corticosteroids:

- Corticosteroids are man-made drugs that **closely resemble cortisol**, a hormone that your adrenal glands produce naturally.
- Corticosteroids are often referred to by the shortened term "steroids."
- Corticosteroids are different from male hormone-related steroid compounds.
- It **should not be confused with anabolic steroids**, which are sometimes used by athletes/bodybuilders to in enhancing their performance. Recently two of India's track-and-field Tokyo Olympians failed dope tests for using banned anabolic steroids.

• Surgery:

- Sometimes, vasculitis causes a **bulge or ballooning in the wall of a blood vessel**. This bulge may need surgery to reduce the risk of it rupturing.
- Blocked arteries also may require surgical treatment to restore blood flow to the affected area.

CLIMATE CHANGE MAY INCREASE MORTALITY RATE DUE TO EXCESS HEAT BY SIX TIMES: LANCET STUDY

CONTEXT:

Recently, The Lancet Planetary Health journal published a report on Climate change that may increase the mortality rate due to excessive heat by six times by the end of the century.

● ANALYSIS:

- As per the study, the average intensity of hot night events will nearly double by 2090, **from 20.4 degrees Celsius to 39.7 degrees Celsius across 28 cities from East Asia.**
- The frequency and mean intensity of hot nights would increase by more than 30% and 60% by the 2100s, respectively, compared with less than 20% increase in the daily mean temperature.
- It is increasing the burden of disease due to excessive heat that **disrupts normal sleep.**

According to Researchers from the University of North Carolina:

- Less sleep** can lead to **immune system damage and a higher risk of cardiovascular disease, chronic illnesses, inflammation, and mental health conditions.**
 - The results suggest that warming from climate change could have a troubling impact, even under restrictions from the **Paris Climate Agreement** that aims to limit global warming to well below 2 degrees Celsius, compared to pre-industrial levels.
- ### About Paris Climate Agreement:
- The Paris Agreement is a legally binding **international treaty on climate change.**
 - It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016.
 - Its goal is to limit global warming to well below 2 degrees Celsius, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.
 - To achieve this long-term temperature goal, countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century.

Nationally Determined Contributions (NDC):

- It means the contributions that need to be done by each country to achieve the overall global goal.
- The contributions need to be reported every 5 years to UNFCCC.
- The contributions are not legally binding.
- The goal is to make sure that all countries have access to technical expertise and financial capability to meet the climate challenges.

COP 21: India

- India needs to grow rapidly to meet the aspiration of 1.25 Billion population, and out of this 300 Million people are without access to energy.
- India has pledged to reduce emissions intensity per unit GDP.
- Aiming to reach 40% of installed capacity from non-fossil fuels.
- Targeting 175 GW of renewable energy generation by 2022.
- Planning to enlarge forest cover to absorb 2.5 Billion tonnes worth of carbon dioxide.
- Reducing dependence on fossil fuels through levies and reduction in subsidies.

● CONCLUSION:

- The Lancet study provides novel evidence for the significant mortality risks and burden in association with night-time warming across three countries in East Asia.
- The projection at least a doubling intensity of hot night with higher increase in mortality burden due to hot nights, suggesting a growing role of night-time warming in heat-related health effects in a changing climate.

WHAT IT WILL TAKE TO FULFIL INDIA'S SOLAR POWER DREAM?

CONTEXT:

The Government of India has aimed to expand India's renewable energy installed capacity to 500 GW by 2030, from which 280 GW is expected to come from 'Solar PV'.

- ☐ This makes the deployment of nearly 30 GW of solar capacity necessary every year.

◎ BACKGROUND:

- Starting from less than 10 MW in 2010, India has added significant solar PV capacity over the past decade, achieving over 50 GW by 2022.
- By 2030, India is targeting about 500 GW of renewable energy deployment, out of which 280 GW is expected from solar PV. This necessitates the deployment of nearly 30 GW of solar capacity every year until 2030.

State of Solar energy in India:

- India has surpassed **50 GW of cumulative installed solar capacity**, as on 28th February 2022.
- Of the 50 GW installed solar capacity, an overwhelming **42 GW comes from ground-mounted Solar Photovoltaic (PV) systems**, and only 6.48 GW comes from Roof Top Solar (RTS); and 1.48 GW from off-grid solar PV.
- India's capacity **additions rank the country fifth in solar power deployment**, contributing nearly 6.5% to the global cumulative capacity of 709.68 GW.

Challenges:

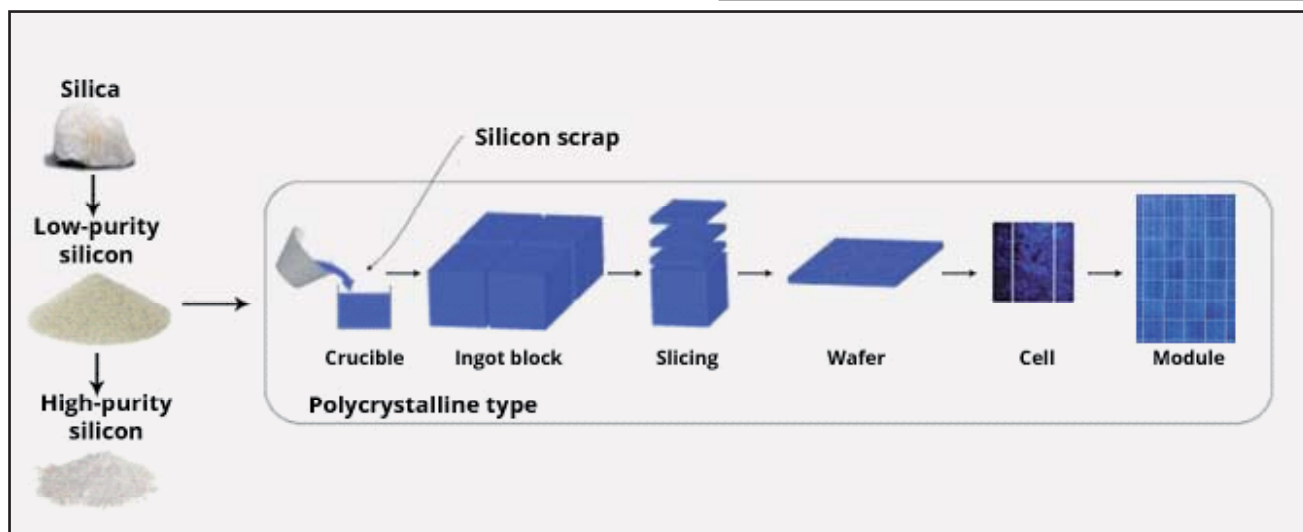
- Dependence on Imports:** Indian solar companies **depend heavily on imports**, as India presently does not have enough module and cell manufacturing

capacity. The demand-supply gap gets widened as we move up the value chain.

- ☐ **Limited manufacturing capacity:** India currently manufactures only **3.5 GW of solar cells** and has a **limited solar module manufacturing capacity of 15 GW**.
 - This is because, out of the 15 GW of module manufacturing capacity, **only 3-4 GW of modules are technologically competitive** and worthy of deployment in grid-based projects.
 - **India has no manufacturing capacity for solar wafers and polysilicon ingots**, and currently **imports 100% of silicon wafers** and around **80% of cells** even at the current deployment levels.

About polysilicon Ingots:

- Polysilicon**, a high-purity form of silicon, is a key raw material in the solar photovoltaic (PV) supply chain.
- To produce solar modules, polysilicon is melted at high temperatures to form **ingots**, which are then **sliced into wafers** and **processed into solar cells and solar modules**.
- Polysilicon is produced from metallurgical grade silicon by a chemical purification process, called the **Siemens process**.



- **Raw Material Supply:** The dependence is not restricted to silicon wafers. Raw materials like **silver and aluminium metal pastes** which are crucial for making electrical contacts are **almost 100% imported**.
 - Silicon wafer, the most expensive raw material, is not manufactured in India.
- **Poor investment in research:** India has not invested enough in creating centres to try and test solar technologies in a cost-effective manner. E.g., **IMEC Belgium or the Holst Centre in the Netherlands**.
- **Usage of Older Technology:** Indian manufacturers depend on older Al-BSF technology (Aluminium Back Surface Field Solar Cells), which has low efficiencies of 18-19% at the cell level and 16-17% at the module level.
 - Presently cell manufacturing worldwide has moved to **PERC (22-23%), HJT (~24%), TOPCon (23-24%)** and other newer technologies, yielding module efficiency of >21%.

Land Issues:

- Producing more solar power for the same module size means more solar power from the same land area.
- Land, the most expensive part of solar projects, is scarce in India — and the Indian industry has no choice but to move towards newer and superior technologies as part of expansion plans.
 - In such a scenario, **floating solar plants** offer a great deal of potential by utilizing the surface of water bodies, for example, Ramagundam Floating Solar PV Project at Ramagundam, Telangana.

Government Initiatives:

The **government has recognized this demand-supply gap** and is rolling out various policy initiatives to push and motivate the industry to work towards self-reliance in both for solar cells and modules. Some of the initiatives are:

- **PLI scheme to Support Manufacturing:** The Scheme has provisions for supporting the setting up of integrated manufacturing units of high-efficiency solar PV modules by providing Production Linked Incentive (PLI) on sales of such solar PV modules.
 - The PLI scheme was conceived to scale up domestic manufacturing capability, accompanied by higher import substitution and employment generation.

- **Levying Custom Duties on Import of Solar Cells & Modules:** The Government has announced the imposition of **Basic Customs Duty (BCD)** on the import of solar PV cells and modules.
 - It includes a 40% duty on the import of modules and a 25% duty on the import of cells.
- **Domestic Content Requirement (DCR): Central Public Sector Undertaking (CPSU) Scheme Phase-II, PM-KUSUM, and Grid-connected Rooftop Solar Programme Phase-II,** wherein government subsidies are given, it has been mandated to source solar PV cells and modules from domestic sources.
 - It is mandatory to procure modules only from **an approved list of manufacturers (ALMM)** for projects that are connected to state/ central government grids; so far, only India-based manufacturers have been approved.
- **Modified Special Incentive Package Scheme (M-SIPS):** It's a scheme of the Ministry of Electronics & Information Technology.
 - The scheme mainly provides a subsidy for capital expenditure on PV cells and modules 20% for investments in Special Economic Zones (SEZs) and 25% in non-SEZ.
- **Solar Parks Scheme:** The scheme facilitates and speeds up the installation of grid-connected solar power projects for electricity generation on a large scale. All the States and Union Territories are eligible for getting benefits under the scheme. The capacity of the solar parks shall be 500 MW and above.
- **Central Public Sector Undertaking (CPSU) Scheme:** A scheme for setting up 12 GW Grid-Connected Solar PV Power Projects by Central Public Sector Undertakings with domestic cells and modules is under implementation.

Required measures

- **Strong industry-academia collaboration:** It will result in the development of home-grown technologies which could assist the industry and its participants in an innovative manner.
- **Boosting Local Manufacturing:** India should move up the value chain by making components locally that could drive the price and quality of both cells and modules.
- **Creation of PV manufacturing Parks:** India needs to set up industry-like centres to work on specific technology domains with clear roadmaps and deliverables for the short and long term.

◎ CONCLUSION:

- Although India is making big strides in the development of solar PV modules for power generation, it is **still more of an assembly hub** than a manufacturing one, and in the long term, it would be beneficial to move up the value chain by **making components** that could **drive the price and quality of both cells and modules**.
- Some tax barriers and commercial incentives in the form of PLI schemes may offer a good start but **they aren't enough to become a manufacturing hub** and **fulfil India's solar dream**. A **multipronged strategy** that offers a pathway to achieve the goals requires, trained human resources, development of home-grown technologies, process learning, and substantial investments in several clusters.

BILL TO SET UP CARBON MARKETS PASSED IN LS

CONTEXT:

The Energy Conservation (Amendment) Bill, 2022 passed in Lok Sabha that will bring the establishment of carbon credit markets and also bring large residential buildings under the energy conservation regime.

● ANALYSIS:

- The Bill seeks to amend the Energy Conservation Act, 2001.
- The Act promotes energy efficiency and conservation.
- It provides for the regulation of energy consumption by equipment, appliances, buildings, and industries.

- The Energy Conservation Act 2001 was enacted to provide for the efficient use of energy and its conservation.
- This act provides for the establishment and incorporation of the Bureau of Energy Efficiency (BEE).

Key features of the Energy Conservation (Amendment) Bill:

- **Obligation to use non-fossil sources of energy:**
 - The central government will decide the energy consumption standards.

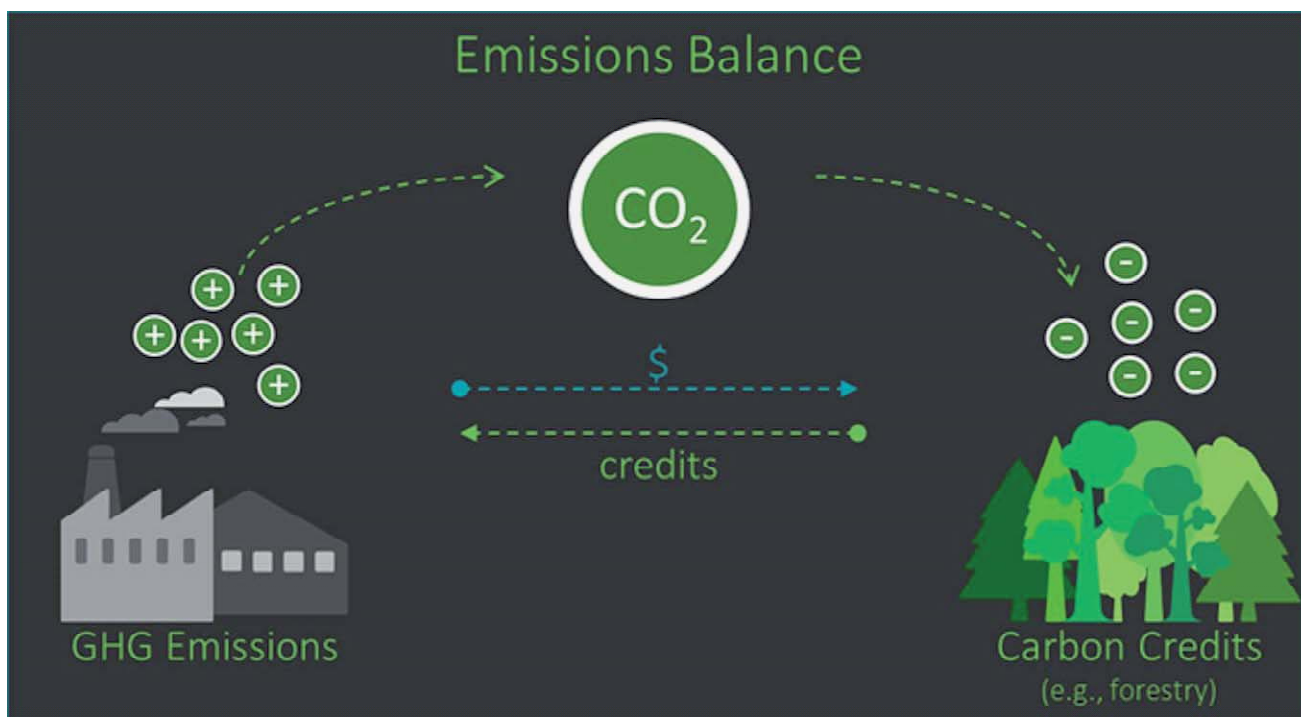
- The government may require the designated consumers to meet a minimum share of energy consumption from **non-fossil sources**.
- Different consumption thresholds may be specified for different non-fossil sources and consumer categories.
- Designated consumers include:
 - Industries such as mining, steel, cement, textile, chemicals, and petrochemicals.
 - transport sector including Railways
 - Commercial buildings

• Penalties under the Act:

- Failure to meet the obligation for use of energy from non-fossil sources will be **punishable with a penalty of up to Rs 10 lakh**.
- It will also attract an **additional penalty of up to twice the price of oil equivalent of energy consumed above the prescribed norm**.

• Carbon Trading:

- The Bill **empowers** the central government to specify a **carbon credit trading scheme**.



- ▶ Carbon credit implies a **tradeable permit** to produce a specified amount of carbon emissions.
- ▶ The central government or any authorised agency may issue carbon credit certificates to entities registered under and compliant with the scheme.
- ▶ The entities will be entitled to purchase or sell the certificate.
- ▶ Any other person may also purchase a carbon credit certificate on a voluntary basis.
- **Energy conservation code for buildings:**
 - ▶ The central government will decide on energy conservation code for buildings.
 - ▶ The code prescribes **energy consumption standards in terms of area**.
 - ▶ The Bill amends this to provide for an '**energy conservation and sustainable building code**'.
 - ▶ This new code will provide norms for **energy efficiency and conservation, use of renewable energy, and other requirements for green buildings**.
- **Applicability to residential buildings:**
 - ▶ Under the Energy Conservation (Amendment) Act, the energy conservation code applies to commercial buildings:
 - Erected after the notification of the code
 - Having a minimum connected load of 100 kilowatts (kW) or contract load of 120 kilovolt ampere (kVA).
 - ▶ It will also apply to the office and residential buildings.
 - ▶ The Bill also empowers the state governments to lower the load thresholds.
- **Standards for vehicles and vessels:**
 - ▶ The energy consumption standards may be specified for equipment and appliances which consume, generate, transmit, or supply energy.
 - ▶ The Bill expands the scope to include vehicles (as defined under the Motor Vehicles Act, 1988), and vessels (includes ships and boats).
- **Penalties under the Act:**
 - ▶ The failure to comply with standards will be punishable with a **penalty of up to Rs 10 lakh**.
 - ▶ Non-compliance in case of vessels will attract an additional penalty of up to **twice the price of oil equivalent of energy consumed** above

the prescribed norm.

- ▶ **Vehicle manufacturers in violation of fuel consumption norms will be liable to pay a penalty of up to Rs 50,000 per unit of vehicles sold.**

• **Regulatory powers of SERCs:**

- ▶ **State Electricity Regulatory Commissions (SERCs)** will adjudge penalties under the Energy Conservation (Amendment) Act.
- ▶ **SERCs** may also make regulations for discharging their functions.

Composition of the governing council of BEE:

- The Energy Conservation (Amendment) Act provides for the setting up of the Bureau of Energy Efficiency (BEE).
- The Bureau has a governing council with members between 20 and 26 in number. These include:
 - ▶ Secretaries of six departments
 - ▶ Representatives of regulatory authorities such as the Central Electricity Authority and Bureau of Indian Standards
 - ▶ Up to four members representing industries and consumers.
- The Bill instead provides that the number of members will be between 31 and 37. It increases the number of secretaries to 12.
- It also provides for up to seven members representing industries and consumers.

Objective of the Energy Conservation (Amendment) Act:

- To reduce India's power consumption via fossil fuels and minimize the nation's carbon footprint.
- To develop India's Carbon market and boost the adoption of clean technology.
- To meet its Nationally Determined Contributions (NDCs), as mentioned in the Paris Climate Agreement, before its 2030 target date.

Measures to reduce India's Carbon Footprints:

- **Domestic Solar Manufacturing:** In Budget 2022-23, the government allocated Rs 19,500 crores to facilitate domestic solar manufacturing in India.
- **Biomass Co-firing:** Use of 5-7 % biomass pellets for co-firing in thermal power plants.
- **Blending of Fuel:** To promote the blending of fuel, an additional differential excise duty of Rs 2/ litre is to be levied on unblended fuel.

- **Battery Swapping Policy:** To achieve clean transport, a new battery swapping policy is to be formulated for electric vehicles
- **Green Bonds:** Issue Green Bonds - fixed-income financial methods to fund projects with positive environmental effects - to raise capital for green infrastructure. Such sovereign green bonds can be used in climate adaptation projects which lack private funding.

◎ CONCLUSION:

Energy conservation helps to reduce the carbon footprint in the universe. It will regulate the use of non-fossil sources, including biomass and ethanol, for energy and feedstock, along with the use of green hydrogen and green ammonia.

CLIMATE, HEALTHCARE, AND TAX BILL SET TO BECOME LAW IN THE US

CONTEXT:

The U.S. Senate approved a bill titled the Inflation Reduction Act (IRA) 2022. The IRA has a special focus on climate, healthcare, and tax provisions to address inflation.

◎ BACKGROUND:

- The bill is a scaled-down version of President Biden's Build Back Better Act (BBBA), which failed to get approval from the Senate. It was the key component of President Biden's domestic agenda. The Inflation Reduction Act (IRA) 2022 has a special focus on climate, healthcare, and tax provisions to address inflation.
- It is a massive spending-and-tax bill that includes \$433 billion in investments in health care, clean energy, and climate change and tax provisions to address inflation. It is considered as the most consequential climate law ever passed in the US.

Key Highlights of the Legislation:

- **Power to negotiate drug prices:** The most popular element of the Bill is giving Medicare the power to negotiate drug prices. The legislation represents a historic expansion of Medicare's power that was fiercely opposed by the pharmaceutical industry. **It has the potential to lower drug costs.**
- **Close Tax Loopholes:** A new excise tax provision will raise an annual revenue of \$70 billion.
 - The Bill imposes a new excise tax on stock buybacks.
- **Lower the Federal Deficit:** This measure would **reduce the federal deficit by a net \$101.5 billion** over the next decade.
- **Greater Focus on Compliance and Enforcement:** The largest amount of funding would be increasing the level and number of audits performed. Over 80,000 additional IRS personnel could be hired, which would double the Service's current workforce.
- **Climate Change Tax Incentives:** The bill includes modifications to current credits and creates new tax credits to address climate change. These include credits for the purchase of new and used electric vehicles.
- **Tax deduction to low and middle-income households:** It provides a tax deduction to low and middle-income households to go electric and seeks to lower the energy bills of American households.
 - The legislation imposes a 15% minimum tax on large corporations, but there are no individual

income tax hikes included in the Inflation Reduction Act.

- **Assistance for clean energy Transition:** The Bill aims at the largest American investment aimed toward making the U.S. a leader in clean energy.
 - It includes packages worth **\$369 billion for the clean energy transition.**
 - The Bill provides significant investment in renewable energy through heavy tax credits for wind and solar energy projects and electric vehicles.
- **Bolster domestic production:** It aims to bolster the domestic production of heat pumps and critical minerals. Tax on large and profitable companies to meet the green investment
- **Methane fee:** It imposes a fee on methane leaks from oil and gas drilling. At the same time, the Bill also aims at more investments in fossil fuels.

Why does the U.S. want to invest in addressing climate change?

- **To address extreme weather events and climate change:** The U.S has been engulfed with threats of extreme climate events. This includes heatwaves, wildfires, cyclones, floods, and hurricanes that have become frequent and intense in the past few years.
- **Build Back Better Act (BBBA):** Climate action has been a priority since Joe Biden came into office. He introduced the **Build Back Better plan** which was a multi-trillion deal with key provisions for climate change.
- **The U.S. aims to achieve its climate targets through the Bill:**
 - It will help the nation get **closer to its climate target** of reducing 50-52% emissions below 2005 levels by 2030.
 - The investments in the Bill could **reduce greenhouse gas emissions** by 31 to 44% by 2030.

Issues with the bill:

- **Bill doesn't talk about global climate finance**
- **Backing fossil fuel sector**

- Does not take into account the communities that are dependent on fossil fuel
- Handcuffs the expansion of oil and gas with renewable energy development.
- Insufficient to meet targets agreed in Paris Agreement: It is a mere step toward achieving the climate target agreed upon in the Paris Agreement, where Article 2 states global temperature should be limited to below 2°C.

Similar climate packages announced by other countries:

- **"Invest in Kisida" by Japan:** It has been brought in May 2022, aiming for a \$1.1 trillion investment to bolster the Japanese economy. As part of the plan, the country aims to transition to clean energy and achieve a 46% reduction in greenhouse gas emissions by 2030.
- **"Fit for 55" by European Union:** In June 2021, the European Union (EU) proposed a similar 'Fit for 55' plan to reduce emissions by 55% by 2030. The plan is yet to meet its fate by becoming a law.

◎ CONCLUSION:

- This Bill **could be a turning point for global climate action** as the US is one of the largest emitters of greenhouse gases globally. However, **it does not address any issues of global climate finance** which is a major impediment to global climate action. It can be considered as **baby steps toward achieving the climate target** agreed upon in the Paris Agreement, where Article 2 states global temperature should be limited to below 2°C.
- The bill may not be addressing the climate crisis holistically, but such **historic initiatives** by the US, which is also the largest contributor to greenhouse gas emissions **can be a benchmark for other large emitters** to push their climate action programs.

Section: B

(SPECIALS)

CURRENT AFFAIRS

INDIA @75

◎ INTRODUCTION

"India is the cradle of human race, the birthplace of human speech, the mother of history, the grandmother of tradition."

- Mark Twain

Seventy-five years ago, India gained Independence from British rule and went on to become one of the largest democracies in the world. In January 1950, India became a republic. While this was much to celebrate, but India has inherited then was an economy battered by colonial exploitation and the horrors of partition. For a country that started its space program with rocket parts being transported to the launch site on a bicycle and ox carts, it now plans to send humans to space.

Let us go down the memory lane, tracing India's progress in various fields.



◎ BACKGROUND

- With the end of Mughal rule, India broke into hundreds of princely states. The British – which was instrumental in the fall of the Mughal Empire – held control over the princely states and created the British Indian Empire.
- However, most Indians were extremely dissatisfied with the exploitative foreign rule.
- The educated Indians realised that the British always gave priority to their colonial interests and treated India only as a market.
- They advocated for the political independence of India.
- Initially, its aim was to create a platform for civic and political dialogue between Indians and the British Raj and thus obtain a greater share in government for educated Indians.
- Later, under the leaders like Mahatma Gandhi, Jawarhal Nehru, Subhas Chandra Bose, and Sardar Vallabhai Patel, the Congress party

played a central role in organising the mass movements against the British.

About the Indian Freedom struggle

- India has went through many hurdles and showcase their opposition to British Raj by several movements in every section of the society like;



• Kheda Satyagraha

- Champaran Movement
- Civil Disobedience movement and Dandi March
- Individual Satyagraha and many more;

These movements had led the Britishers to view India's demands which lead to several agreements and pacts; which later become foundation for India's Independence:

- Gandhi-Irwin Pact
- Poona Pact
- Government of India act, 1935
- The communal Award
- Cripps mission
- August offer etc.

Though India got Independence in 15th August 1947, the major challenges started thereafter as the wounds of partition, a country with Poverty and malnourishment with loss of all resources left us in a grim situation. Though our leaders pledged to overcome from these issues and worked in the path of progress. India has achieved many milestones since then. Let us look at some;

India's Achievements

• Political Achievements:

- **Right to vote:** From the very first day after Independence, India gave every adult the right

to vote. In the US, the right to vote for every individual was given about **150 years** after their independence.

- ▶ **First general elections:** India took a democratic leap by conducting its first general elections in 1951, with Congress registering a thumping victory by winning 364 of the 489 seats. Jawaharlal Nehru became India's first prime minister.
- ▶ **First Asian Games:** India hosted the first-ever Asian Games in the year **1951** in **New Delhi**.
- ▶ **Simla Agreement: India and Pakistan** signed the pact in 1972 "to settle their differences by peaceful means through bilateral negotiations".
- **Economic achievements:** After independence, the Planning Commission propelled the vision of the Planning Committee to overcome the British legacy, the double burden of poverty and inequality.
 - ▶ The national movement saw planning and the public sector as necessities, not just to regenerate **industry and agriculture** but redistribute the benefits of development to all sections.
 - ▶ **White Revolution:** In 1970, India saw the White Revolution (Operation Flood) — the world's biggest dairy development program, pioneered by Verghese Kurien. It transformed India from a milk deficient nation into the **world's largest milk producer**.
 - ▶ Few other developments in its path includes; **1991 economic reforms, Green revolution, Demonetisation and implementation of Banking reforms**.
- **Environmental achievements:**
 - ▶ Globally India has become an initiator and an achiever in the field of environmental conservation now.
 - ▶ Since, world is in quest of exploiting its natural resources and now in a way to exhaust them completely, all pledged to shift to renewable energy, which India is abundant to all its forms.
 - ▶ This has opened path for India to become a global leader in this field. Few initiatives include; **one Sun one world, one grid** and **nationally determined Contributions (NDCs)**.
- **Relations with foreign countries:** After independence India become **liberator to Bangladesh** and Negotiated by joining hands with countries to its neighbourhood namely, **Nepal, Bhutan and Sri Lanka**.

- ▶ With the strategy to connect to the world maintaining cooperation was India's International Relations targets.
- ▶ The US and India also celebrate the 75th anniversary of diplomatic relationship and remained to maintain its **rules based order** and **Open Indo-Pacific strategy**.
- ▶ India has now friendly relations with **Japan, South Korea, USA, UK, Russia** and France which accounts for world's 40% of the economy.
- **Science and Development:** It built the **Central Scientific and Industrial Research (CSIR)** laboratories, the five Indian Institutes of Technology (IITs), the Indian Statistical Institute (ISI) and numerous scientific institutions.
 - ▶ **Space research** is one such field in which India became **sixth largest** global power.
 - ▶ **Pokhran 1:** India conducted its first nuclear test, codenamed "Smiling Buddha", in the year 1974. With this, India broke into the list of five nuclear-powered nations.

India's struggle: Downfalls and challenges

Although in its journey to achieve the above achievements, India has to face several challenges and downfalls which can be enlisted as below;

- **1962 Sino-India war:** The trigger for the war between **India and China** was a border issue, with the Chinese side refusing to accept the McMahon Line and Line of Actual Control. The war ended with China declaring a ceasefire in a month.
- **Chipko Movement:** The **Chipko Andolan** was a forest conservation movement in India. It began in 1973 in Reni village of Chamoli district, Uttarakhand.
- **Emergency:** Due to prevailing "internal tensions", then Prime Minister Indira Gandhi declared a state of Emergency that lasted from **1975 to 1977**. It resulted in the suspension of elections and curbing of civil liberties.
- **1976 mass sterilisation:** The campaign was initiated by Sanjay Gandhi and saw about 6.2 million men sterilised in a year, with about 2000 dead owing to botched-up surgeries.
- **Operation Blue Star:** It was the codename for military action to remove militant leader Jarnail Singh Bhindranwale and his followers from the **Golden Temple** complex in Amritsar.
- **Bhopal gas tragedy:** The Bhopal disaster was a gas leak incident on the night of December 3, 1984 at the Union Carbide India Limited pesticide plant in Bhopal, Madhya Pradesh that killed more than

3000 people and left thousands with disabilities.

- ◉ **Babri Masjid demolition:** On December 6, 1992, the disputed Babri Masjid at Ayodhya was demolished by Hindu nationalist groups leading to riots across India. Over 2,000 people were killed in the riots.
- ◉ **1999 Kargil war:** India launched 'Operation Vijay' after Pakistani forces infiltrated inside LoC. The war ended in July, with India successfully recapturing Tiger Hill.
- ◉ **2002 Gujarat riots:** The burning of a train in Godhra on February 27, 2002, triggered one of the worst communal riots in the history of India, leaving 1,044 dead, 223 missing and 2,500 injured.
- ◉ **2004 tsunami:** A huge tsunami triggered by a massive undersea earthquake in the Indian Ocean killed an estimated 10,000 people in India, affecting the states of Andhra Pradesh, Tamil Nadu and Andaman.
- ◉ **J&K bifurcation and end of special status:** On August 6, 2019, the Parliament passed a bill dividing Jammu and Kashmir into two union territories of J&K and Ladakh and also adopted a resolution scrapping special status of the state under Article 370.

◉ WAY FORWARD FOR INDIA

Focus of India @100 years of Independence in the Prime Minister's speech

- ◉ Under the banner of **Azadi Ka Amrit Mahotsav**, 75th year's Independence Day is truly special in a number of ways.
- ◉ This Mahotsav (or the grand celebration) is dedicated to the people of India who have not only been instrumental in bringing India thus far in its evolutionary journey but also hold within them the power and potential to enable Prime Minister Narendra Modi's vision of activating India 2.0, fuelled by the spirit of Aatmanirbhar Bharat.
- ◉ National pride and self-esteem were dominant themes as the Prime ministers urged the country to rid itself of the need to look for approval from abroad.
- ◉ India is now aspiring to complete all its targets and become enriched politically, economically, sustainable environmental growth and in its Technological advancements till its 100th year of independence in **2047**.

◉ CONCLUSION

Despite of India's achievements and rich cultural history, it needs to achieve its full potential and must also hold it and sail with the rest of the world in meeting the benchmarks of democratic rights, equitable distribution of wealth and access to health and education. India might not need approval from other countries, but it needs to do better on rights and freedoms, welfare and justice, growth and development, and in building a more egalitarian society.

Section: C

(Prelims)

CURRENT AFFAIRS

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A GOLDEN CIVILISATION BECKONS FROM UNDERGROUND AT ADICHANALLUR

◎ **CONTEXT:** ADICHANALLUR HAS BEEN RENOWNED FOR A TREASURE TROVE OF ARCHAEOLOGICAL FINDINGS EVER SINCE DR. JAGOR FROM BERLIN FIRST EXCAVATED IT IN 1876.

◎ **ABOUT:**

- Excavations have been resumed after nearly one-and-a-half decades, in the southern wedge of Tamil Nadu.
- It has yielded a wealth of materials, including gold, metals and human remains that will help archaeologists reconstruct the framework of a civilisation.



Adichnallur

- Adichnallur lies in the Thoothukudi district of Tamil Nadu.
- The urn-burial site was first brought to light during a "haphazard excavation" by a German archaeologist in 1876.
- Following this, an Englishman Alexander Rae excavated the site between 1889 and 1905.
- Over the years, the site has gained attention because of three important findings: the discovery of an ancient Tamil-Brahmi script on the inside of an urn containing a full human skeleton, a fragment of broken earthenware, and the remains of living quarters.
- In 1903-04, British archaeologist Alexander Rea unearthed a treasure of over 9,000 objects here.



KONDAPALLI TOYS, THE ART OF WOODEN HANDICRAFT ON 'DECLINE'

◎ CONTEXT:

Kondapalli in Andhra Pradesh is famous for toy-making, and many families eke out their livelihood with this 400-year-old art.

Kondapalli Toys

- Kondapalli toys take their name from the suburban town of Vijayawada city – Kondapalli, of Krishna District in Andhra Pradesh.
- These toys are made of locally sourced **Ponuku wood softwood (Tella Poniki)**.
 - The wood is first carved out and then the edges are smooth finished.

This 400-year-old art was registered as one of the **geographical indication handicraft** from Andhra Pradesh as per **Geographical Indications of Goods (Registration and Protection) Act, 1999**.

- These toys were one of the variety of toys assembled in the houses during the festivals of Sankranti and Navratri and is referred as **Bommala Kolu**.
- The later step involves colouring with either oil or water-colours or vegetable dyes and enamel paints are applied based on the type of the toys.
- The artisans live in Bommala Colony (translates to Toys Colony). The families who make the toys are referred as **aryakshatriyas** (also known as nakarshalu), who the local people say find mention in the **Brahmanda Purana**, an ancient text.



Threat to the art

The Kondapalli toys, an art of wooden handicraft is on the verge of extinction. The three main reasons for that are

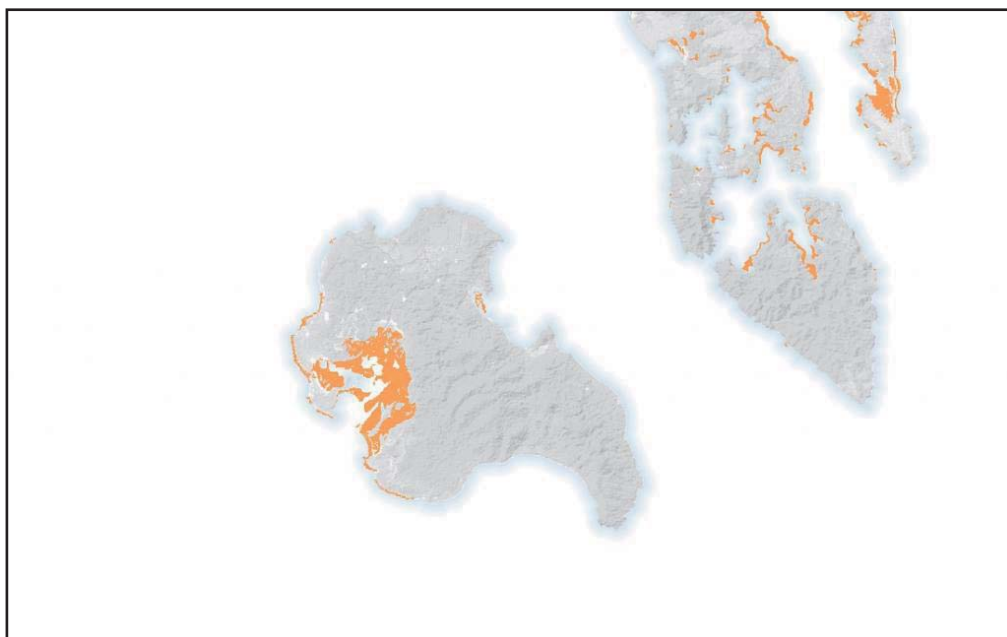
- insufficient availability of wood
- drastic fall in sales of toys
- financial burdens on the artisans

NASA HIGHLIGHTS LOSS OF MANGROVE COVER ON KATCHAL ISLAND IN THE NICOBARS

◎ **CONTEXT:** The United States National Aeronautics and Space Administration (NASA) recently highlighted the loss of mangrove cover on Katchal Island, a part of India's Nicobar archipelago.

◎ **ABOUT:**

- The NASA Earth Observatory showed a map of the island August 8, 2022, shot from a satellite. It depicted tidal wetland loss from 1999 through 2019 in orange colour.



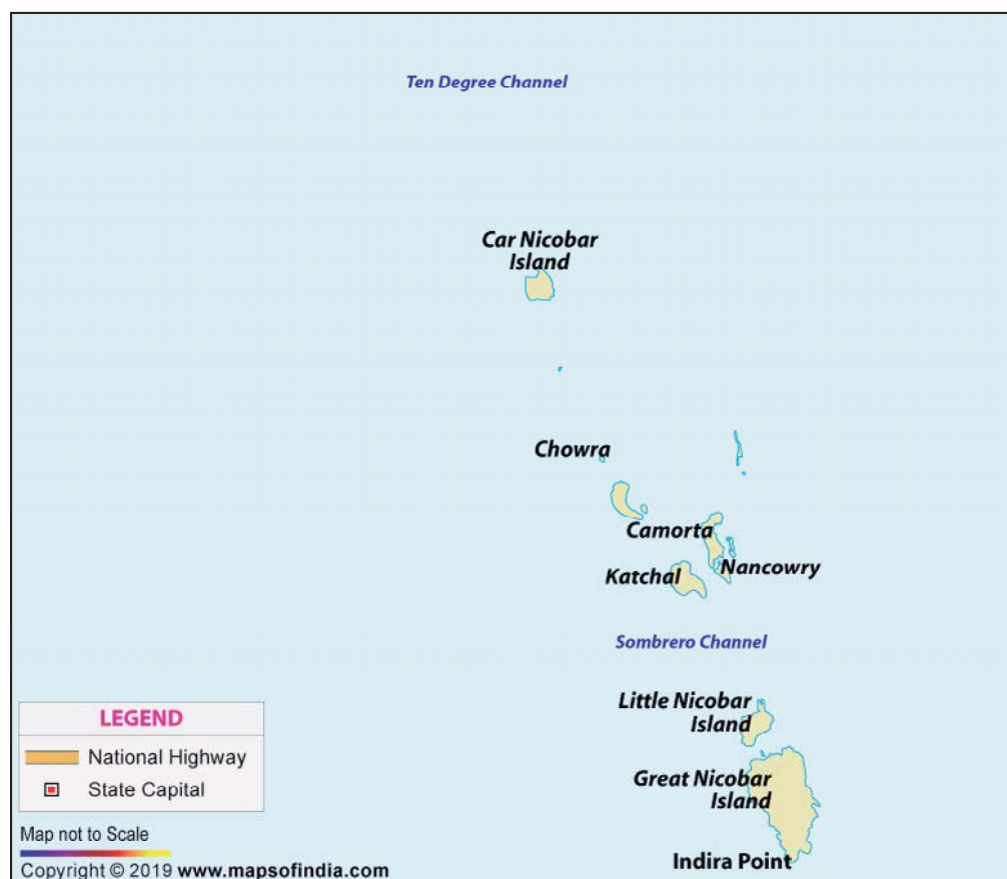
- The map above shows the real extent of tidal wetlands lost between 1992 and 2019 on Katchal Island in the Nicobar Islands in the eastern Indian Ocean.
- After the **magnitude-9.2 Aceh-Andaman earthquake** in December 2004, the islands experienced up to 3 meters (10 feet) of land subsidence.
- This submerged many mangrove ecosystems, resulting in a loss of more than 90 percent of mangrove extent in some areas.

◎ **KEY FINDINGS:** Tidal wetlands

- High-resolution mapping of losses and gains of Earth's tidal wetlands found that 4,000 square kilometres of tidal wetlands were lost between 1999 and 2019.
- Mangroves had the highest ratio of loss to gain among the three types of tidal wetlands it studied. The other two were tidal flats and marshes.
- Some 27 per cent of the losses and gains were directly caused by human activity.
 - Humans can alter wetlands through development, water diversion projects, or by converting the land to agriculture or aquaculture.
- Other causes of wetland change were sea level rise, shoreline erosion, storms, altered sediment flow and subsidence.
 - These can be either indirectly caused by humans or the result of natural coastal processes.

Katchal Island

- The Island of Katchal, was earlier referred to as '**Tihnyu**' in the local language.
- Katchal is home to both indigenous and non-indigenous people and comprises of the **Nicobarese Tribes**, which are the original inhabitants along with **migrated Tamilians**, who joined towards the end of the British rule.
- A special permission is required to visit to the Island and is not open to tourists or outsiders without the permission and supervision of the local administration.
- The Katchal Island is the largest Island among all the other Nicobar Islands and was comprised of 35 villages prior to the Tsunami.
- The **highest peak** within the Island of Katchal is around 835 feet high.
- There are about 5 different languages spoken within this Island, including **Tamil, Telugu, Nicobari, Hindi and Santhali**.
- The Government of India has declared the Nicobar Islands to be an **Aboriginal Tribal Reserve Area**, to protect the tribes and natives from any kind of outside exploitation or over modernization of the zone, restricting even tourists without permission.
- The small and large hills of the Katchal Island are **made of Calcareous Sandstone and marble slates** and in the beautiful tropical forest of Katchal one will find lots of Pythons, Black Monkeys and Pigs.
- The main **source of earning** and the base of their economy used to lie only in the trade of Coconut, Betelnut or Arecanut product and bi-products, especially for the natives and village dwellers.



NETHANNA BIMA, LIFE INSURANCE SCHEME FOR WEAVERS LAUNCHED

◎ CONTEXT:

The Telangana government recently launched 'Nethanna Bima,' a life insurance scheme for handloom and power loom weavers, marking National Handloom Day.

About the Scheme:

- 'Nethanna Bima', a first-of-its-kind scheme in the country. It would extend life insurance coverage to handloom and powerloom weavers.
- The scheme provides economic assurance to handloom and power loom weaver families.
- The insurance coverage scheme would benefit more than 80,000 weavers across the State.
- Under the scheme, **Rs 5 lakh** would be deposited in the nominees' account in case of unfortunate death of an eligible beneficiary (weaver).
- The State government has entered into an agreement with **Life Insurance Corporation (LIC)** for implementing the scheme.
- The scheme is implemented by the LIC, while the annual premium amount of the beneficiaries will be paid by the government on their behalf to the insurance company.

About National Handloom Day

- **Ministry:** The National Handloom Day is celebrated across the country under the aegis of the Ministry of Textiles.
- **Largest economic sectors:** The handloom sector is one of the largest economic sectors in the country.
- **Swadeshi Movement:** The handloom sector played an important role during the Swadeshi Movement, which was launched as part of the Indian independence movement, on August 7, 1905.
- **Boost Domestic production:** The movement was started to curb dependency on foreign goods and to boost domestic production.
- **Khadi:** The movement started production of khadi in almost every household.
- When at the stroke of the midnight hour India got independence, Pandit Jawaharlal Nehru unfurled the Indian flag made of khadi at Princess Park near India Gate.

CSIR GETS ITS FIRST WOMAN CHIEF

◎ CONTEXT:

Dr N Kalaiselvi has become the first woman to be appointed Director General of the Council of Scientific and Industrial Research (CSIR).

About N Kalaiselvi:

- Hailing from a small town in Tirunelveli district of Tamil Nadu, Kalaiselvi has risen through the ranks in the CSIR and also became the first woman scientist to head the CSIR-Central Electrochemical Research Institute (CSIR-CECRI) in 2019.

- She will also hold charge as Secretary, **Department of Scientific and Industrial Research (DSIR) of the Ministry of Science and Technology.**
- Kalaiselvi's research interests include lithium and beyond lithium batteries, supercapacitors and waste-to-wealth driven electrodes and electrolytes for energy storage and electrocatalytic applications.
- Kalaiselvi also made key contributions to the National Mission for Electric Mobility.
- She succeeds Shekhar Mande and has been appointed for two years.



About CSIR:

- It was set up in 1942 as an autonomous body (under the Societies Registration Act, 1860).
- CSIR is now the largest government funded multi-disciplinary industrial research and development (R&D) organisation in India.
- It comes under the administrative supervision of the Ministry of Science and Technology, Government of India.
- The R&D activities of CSIR include aerospace engineering, structural engineering, ocean sciences, life sciences, metallurgy, chemicals, mining, food, petroleum, leather and environmental science.
- CSIR is headquartered in New Delhi.
- **CSIR@80: Vision and Strategy 2022** - New CSIR for New India: Under this, the CSIR's vision is to pursue -
 - Science which strives for global impact,
 - The technology that enables innovation-driven industry,
 - The technology that fosters multidisciplinary leadership, catalysing inclusive economic development for the people of India.

LAUNCH A NATIONAL TRIBAL HEALTH MISSION

◎ CONTEXT:

The health of the Tribal in India is in a dismal state. On the occasion of International Day of the World's Indigenous Peoples, let us explore the need of a tribal health mission to bring revolution for the tribal people of India.

As per the Lancet, "Indigenous and Tribal Peoples' Health" (2016), India has the second highest infant mortality rate for the tribal people, next only to Pakistan.

Health status of Tribals in India

- Tribal people are concentrated in 809 blocks in India. Such areas are designated as the **Scheduled Areas.**
 - Half of India's tribal population, nearly five and a half crore, live outside the Scheduled Areas, as a scattered and marginalised minority.

- They are the most powerless.
- The health status of tribal people has certainly improved during the last 25 years as seen in the decline in the under-five child mortality rate from 135 in 1988 in the National Family Health Survey (NFHS)-1 to 57 in 2014 (NFHS-4).
- However, the percentage of excess of under-five mortality among STs compared to others has widened.

What threatens the health and survival of tribal adults?

- **Child malnutrition** is 50% higher in tribal children: 42% compared to 28% in others.
- **Malaria and tuberculosis** are three to 11 times more common among the tribal people.
 - Though the tribal people constitute only 8.6% of the national population, half of the total malaria deaths in India occur among them.
- While malnutrition, malaria and mortality continue to plague tribal people, gradually, the more difficult to treat **non-communicable diseases** such as **hypertension and diabetes**, and worse, mental health problems such as **depression and addiction leading to cancer and suicide are increasing**.

Challenges

- **Lack of health facilities:** Tribal people heavily depend on **government-run public health care institutions**; there is a 27% to 40% deficit in the number of such facilities, and 33% to 84% deficit in medical doctors in tribal areas.

- "Public Health and Hospital" is a **state subject**.
- The primary responsibility of ensuring availability of healthcare facilities including access to healthcare facilities in **tribal dominated areas lies** with the respective State Governments.
- However, **Ministry of Health and Family Welfare**, Government of India provides technical and financial support to the States/UTs to strengthen the public healthcare facilities through National Health Mission (NHM).

- **Lack of involvement:** There is hardly any participation of the tribal people – locally or at the State or national level – in designing, planning or delivering health care to them.
- **Lack of data:** There is hardly any segregated national data on tribal health.

Required measures

- **Health plan:** Launch a **National Tribal Health Action Plan** to bring the status of health and healthcare at par with the respective State averages in the next 10 years.
- **Address gap in health sector:** Address 10 priority health problems, the health care gap, the human resource gap and the governance problems.
- **Adequate funding:** Allocation of additional money so that the per capita government health expenditure on tribal people becomes equal to the stated goal of the National Health Policy (2017), i.e., 2.5% of the per capita GDP.
- **Mission mode implementation:** The Health Minister and the 10 States with a sizable tribal population should take the initiative.

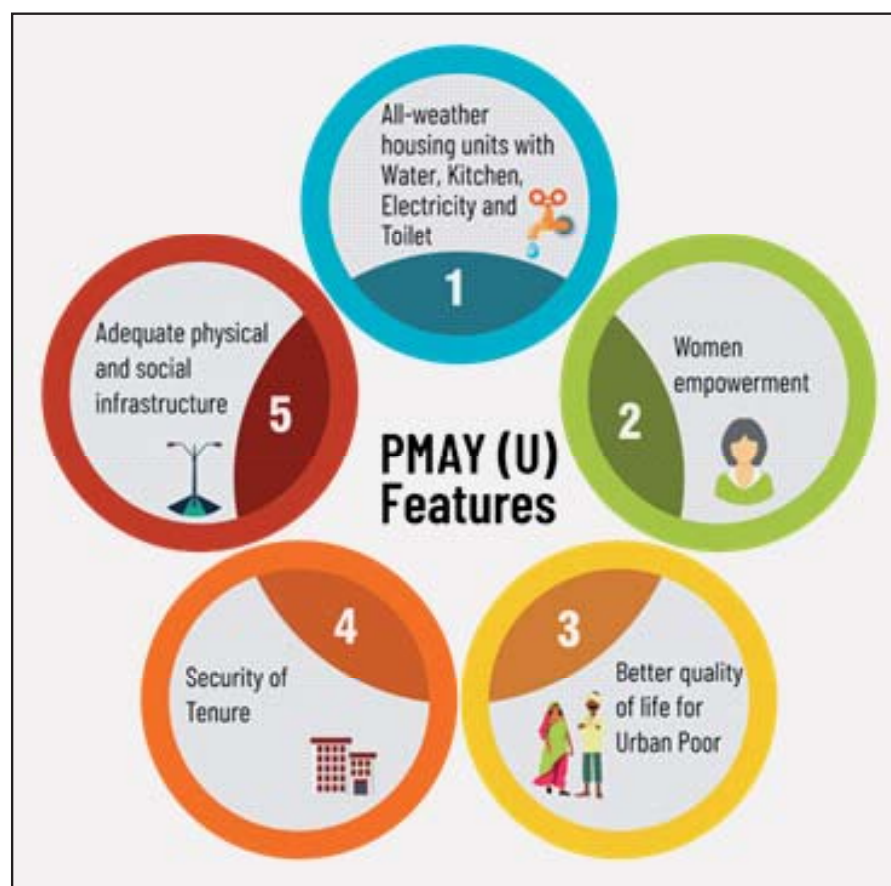
PRADHAN MANTRI AWAS YOJANA-URBAN EXTENDED TILL DECEMBER 2024

◎ **CONTEXT:** The Cabinet has extended the Pradhan Mantri Awas Yojana-Urban (PMAY-U) scheme till December 31, 2024.

■ Earlier it has been targeted to be completed till March 31, 2022.

◎ **BACKGROUND**

- PMAY-U Housing for all is a major flagship programme being implemented by the government to provide all-weather pucca houses to all eligible beneficiaries in the urban areas across the country.
- The issue of providing houses to all eligible urban dwellers in saturation mode was brought into focus and the scheme of PMAY-Urban was conceptualised. In 2017, the original projected demand was 100 lakh houses.
- The Pradhan Mantri Awas Yojana (Urban) Programme launched by the Ministry of Housing and Urban Poverty Alleviation (MoHUPA).
- Housing for All Mission for urban area is being implemented during 2015-2022 and this Mission will provide central assistance to implementing agencies through States and UTs for providing houses to all eligible families/beneficiaries by 2022.



Beneficiaries

- Beneficiaries include **economically weaker section (EWS), low-income groups (LIGs) and Middle Income Groups (MIGs)**.

- A beneficiary family will comprise **husband, wife, unmarried sons and/or unmarried daughters**.
- The **ownership** of houses is provided **in the name of female member or in joint name**.

About the Scheme

- **Coverage:** The Mission covers the entire urban area consisting of **Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities** or any such authority under State legislation which is entrusted with the functions of urban planning & regulations.
- **Implementation:** Mission is implemented as **Centrally Sponsored Scheme (CSS)** except for the component of credit linked subsidy which will be implemented as a Central Sector Scheme.

Centrally Sponsored Scheme (CSS) vs. Central sector scheme

- **Centrally Sponsored Schemes** are different from **Central Sector Schemes** in the sense that Central Sector Schemes are implemented by **Centre** directly while Centrally Sponsored Schemes are implemented by **states**.
- CSS are extended by the Union Government to States under **Article 282** of the Constitution.

Phases of the Mission

- It has been implemented in phased manner as under;

Phase I (April 2015-March 2017)	Phase II (April 2017-March 2019)	Phase III (April 2019-March 2022)
to cover 100 Cities selected from States/UTs as per their willingness	to cover additional 200 Cities	to cover all other remaining Cities

- Mission with all its component has become effective from the date 17.06.2015 and will be implemented up to March 2022 but now extended till December 2024.

Four Verticals under the Scheme

- **In Situ Slum Redevelopment (ISSR):** This vertical will be implemented with the concept "**Land as a resource**" with private sector participation for providing houses to eligible slum dwellers.

Slum: It is a compact area of at least 300 people or about 60 - 70 households of poorly built congested tenements in an unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities

- **Affordable Housing through Credit Linked Subsidy (CLSS):** Beneficiaries of **EWS, LIG, MIG (I & II)** seeking housing loans from Banks, Housing Finance Companies and other such institutions for acquiring, new construction or enhancement of houses are **eligible for an interest subsidy of:**
 - 5% on loan amount up to Rs. 6 Lakh
 - 4% on loan amount up to Rs. 9 Lakh

- 3% on loan amount up to Rs. 12 Lakh
- **Affordable Housing through Partnership (AHP):** An affordable housing project can be a mix of houses for different categories but it will be **eligible for Central Assistance, if at least 35% of the houses in the project are in the EWS category.**
- **Beneficiary-led individual house construction (BLC): Central Assistance up to Rs. 1.5 lakh per EWS house is provided to eligible families** belonging to EWS categories for individual house construction/ enhancement.

Government initiatives for implementation of the scheme

- **CLSS Awas Portal (CLAP):** It is a **common platform** where all stakeholders i.e., **MoHUA, Central Nodal Agencies, Primary Lending Institutions, Beneficiaries and Citizens** are integrated in a real-time environment.
- **Affordable Rental Housing Complexes (ARHCs):** It is a sub-scheme under PMAY-U. This will provide ease of living to urban migrants/ poor in the Industrial Sector as well as in non-formal urban economies to get access to dignified affordable rental housing close to their workplace.

DIGIYATRA, THE CONTACTLESS PASSENGER PROCESSING SYSTEM

◎ CONTEXT:

The Delhi International Airport Ltd (DIAL) recently announced the soft launch of the Centre's DigiYatra initiative, rolling out the beta version of its app for Android platforms.

About DigiYatra:

- DigiYatra is the passenger processing system based on facial recognition technology.
- It has been piloted at the Delhi airport and has had the required infrastructure set up at the airport's Terminal 3.
- DigiYatra envisages that travellers pass through various checkpoints at the airport through paperless and contactless processing, using facial features to establish their identity, which would be linked to the boarding pass.
- With this technology, the entry of passengers would be automatically processed based on the facial recognition system at all checkpoints – including entry into the airport, security check areas, aircraft boarding, etc.

Key Pillars:

Digi Yatra platform will be built on 4 key pillars, like

- Connected Passengers
- Connected Airports
- Connected Flying
- Connected Systems

(see figure on next page)

Availing the DigiYatra facility:

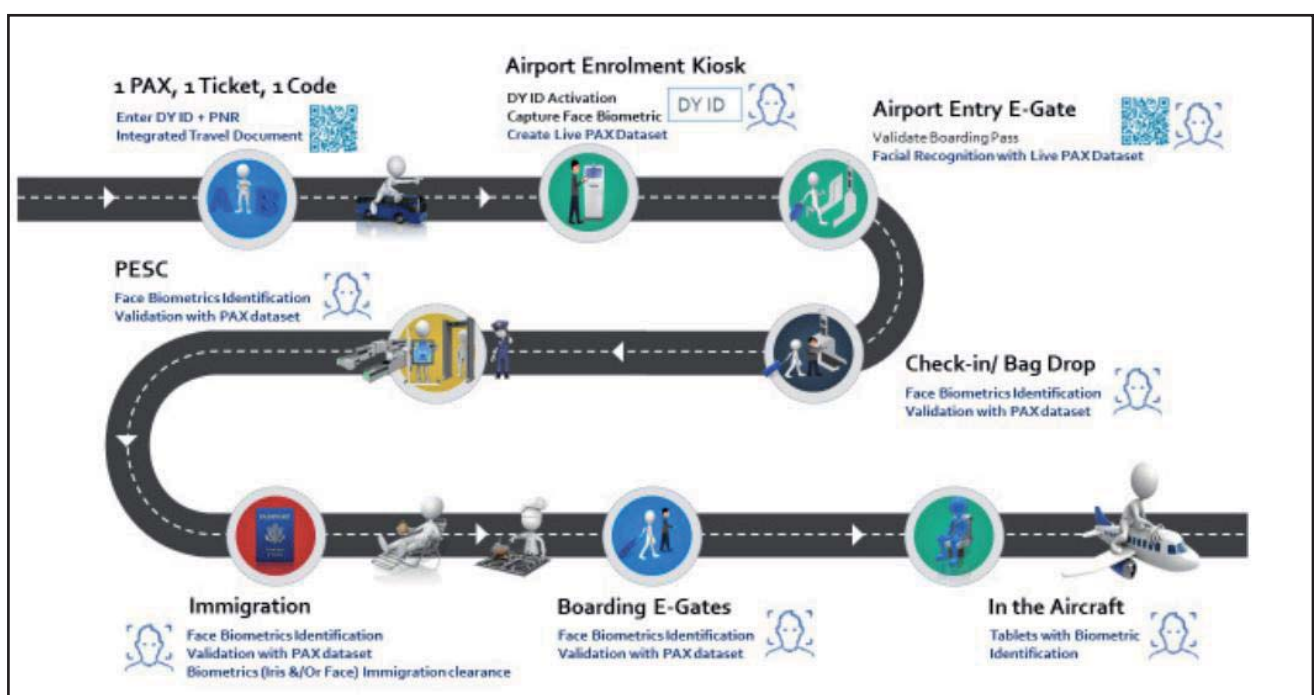
- To use this facility, passengers will need to first download the **DigiYatra app**.
 - The Android version of the app is out, while the iOS version is expected to be released in the coming weeks.



- Users can register on the app using Aadhaar credentials, followed by a selfie with the Aadhaar card.
- After this, vaccination details using CoWIN credentials will have to be added to the app.
- Then, the person will have to scan his or her boarding pass with the QR code or Bar code, after which the credentials will be shared with the airport.

Processes at airport

- At the entry point E-Gate the Pax will scan his boarding pass or e-ticket (Print or a soft copy in mobile).



- On scanning the bar code/ QR code the system will validate the passenger details and flight details.
- Digi Yatra ID will verify the identity by Face Recognition.
- On successful verification of Ticket and Digi Yatra ID, e-Gate will open. Also, Face with ticket PNR is made in to a single token for the rest of the journey at the airport.
- Passenger will gain entry to security area and aircraft boarding through e-Gate operated on Facial Recognition System

How is DigiYatra being implemented?

- The project is being implemented by the **DigiYatra Foundation**.
- It is a joint-venture company whose shareholders are the Airports Authority of India (26% stake) and Bengaluru Airport, Delhi Airport, Hyderabad Airport, Mumbai Airport and Cochin International Airport.
 - These five shareholders equally hold the remaining 74% of the shares.
- The DigiYatra Foundation will be the custodian of the passenger ID validation process.
- It will also define the criteria for compliance and guidelines for the local airport systems. There will be regular audits of the various compliances and guidelines.

Benefits:

- Passengers need not show boarding pass or ID at multiple check points.
- Minimum human intervention. Less queuing time.
- The security is enhanced as the system will map the passenger with the PNR. Only bona fide passenger will be allowed entry at every check point.
- Airport operator will have real time information on Passenger load and resource planning becomes better.
- Airlines will be benefitted by knowing the passenger position in the airport.
- Airport throughput will be enhanced.

NEPAL APPROVES INDIA'S HYDROPOWER BOARD TO STUDY, DEVELOP WEST SETI PROJECT

◎ CONTEXT:

Nepal recently approved India's hydropower board to study and develop 1,200MW hydropower projects in western Nepal.

West Seti project:

- The projects include 750MW West Seti Hydropower Project and 450MW Seti River (SR-6), a joint storage project.
- The Nepal Investment Board (NIB) has approved a Memorandum of Understanding with Indian developer National Hydro Electric Power Corporation Pvt Ltd, a Government of India Enterprise
 - For conducting a feasibility study of the joint development of hydropower involving 750 MW West Seti Hydropower Project and 450 MW Seti River – 6 Project, a combined capacity of 1200 MW.
- It is planned on West Seti river/basin in Seti, Nepal.



India -Nepal power relations:

- Nepal is rich in power sources with around 6,000 rivers and an estimated potential for 83,000 MW. India has formally approached Nepal on many occasions.
- India is viewed as a feasible market for Nepal, but there has been some uncertainty in Nepal over India's inability to deliver projects on time. India has undertaken to harness or expressed intent to harness major rivers in the north.
- An ambitious Mahakali treaty was signed back in 1996, to produce 6,480 MW, but India has still not been able to come out with the Detailed project Report.
- The Upper Karnali project, for which the multinational GMR signed the contract, has not made any headway for years.
- West Seti, therefore, has the potential to be a defining model for Nepal India's power relations in future.

Problems with project implementation

- In Nepal, there has been some concern about India's capacity to complete projects on schedule.
- An ambitious Mahakali treaty was signed in 1996, with a capacity of 6,480 MW, but India has yet to release the Detailed Project Report.
- The Upper Karnali project, for which the multinational GMR signed the contract, has made no headway for years.
- One of the main reasons for the delays in these projects was a lack of agreement on a power purchase agreement with India.
- The Himalayan Region's seismic sensitivity is also a major consideration.

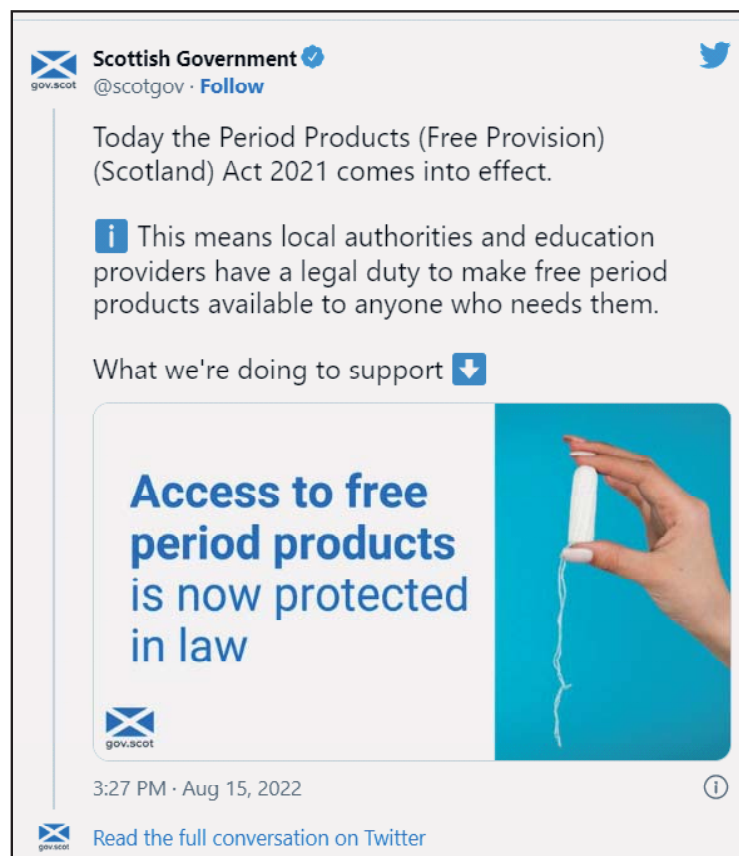
SCOTLAND BECOMES FIRST COUNTRY TO MAKE PERIOD PRODUCTS FREE FOR ALL

◎ CONTEXT:

The Scottish government has become the first in the world to legally protect the right to access free period products when its Period Products Act came into force recently.

© **ABOUT:**

- Scotland is the first country to offer period products free of charge on a national scale. Others, including New Zealand and Kenya, distribute products for free in public schools.
- Scotland has become **the first country in the world** to make period products free for all.
- There is now a **legal duty on local authorities** to provide free items such as tampons and sanitary pads to “anyone who needs them”.
- Products will be **distributed through councils and education providers** as the Period Products Act comes into force.
- The bill was **introduced by Labour MSP Monica Lennon**, who has been campaigning to end period poverty since 2016.
- Under the new law, schools, colleges and universities as well as local government bodies must make a range of period products available for free in their bathrooms.
- The Scottish government already invested millions of pounds since 2017 to fund free period products in educational institutions, but the law makes it a legal requirement.

**What is period poverty?**

- Period poverty is when those on low incomes can't afford, or access, suitable period products.
- With average periods lasting about five days, it can cost up to £8 a month for tampons and pads, and some women struggle to afford the cost.

Mobile app

- A mobile phone app also helps people find the nearest place — such as the local library or community center — where they can pick up period products.

- Providing access to free period products is fundamental to equality and dignity, and removes the financial barriers to accessing them.

NOTE: In India, there is also a serious problem of period poverty with millions of women still using cloth during their menstruation days risking their health. There is still a considerable amount of taboo around the topic and the government has been spreading awareness in the matter.

FIFA BANNED INDIA

◎ **CONTEXT:**

FIFA has suspended the All India Football Federation (AIFF) with immediate effect owing to undue third-party interference in AIFF which is a violation of FIFA's statutes.

What events led to the ban?

- The current set of troubles for Indian football began after the erstwhile AIFF president, Praful Patel, who was also a FIFA council member, refused to relinquish his post as the head of football in the country.
- His excuse for not exiting the stage was the long-drawn out pandemic, coupled with a court case regarding the AIFF constitution.
- But in May, the Supreme Court intervened, and removed Patel from his post.
- The SC also appointed a Committee of Administrators (COA) to run the AIFF.
- The setting up of this COA is where the contentious relationship with FIFA began, which eventually led to the ban.

Third party interference

- FIFA also noted that AIFF had been ordered (by the Supreme Court) to hold elections before the AIFF constitution was finalised, that there would be an interim mandate of three months before the constitution was finalised, and that the defined electoral college would include [former] players.
- FIFA also observed that the CoA would continue to play a role in this interim period.
- All of this, they say, is a "flagrant violation" of their rules against third party interference (by political or judicial machinery of a country).

What are the implications of the suspension?

■ **No U17 Women's World Cup**

- Scheduled to be held across Odisha, Goa and Maharashtra in October this year, the Cup hosting privileges of India have been revoked.
- This tournament was initially meant to be hosted in 2020, but the pandemic had created a delay and subsequent cancellation of that edition.
- Now FIFA say they will continue to assess the next steps.

■ **National teams and clubs banned from international competition**

- The Indian national teams - senior and junior, men's and women's, cannot take part in any AFC or FIFA affiliated matches or tournaments till the suspension is lifted.
- This includes the 2023 Asian Cup and the qualification campaigns for future World

and Asian Cups.

- For clubs meanwhile, this means they cannot take part in any of the AFC run continental championships - the AFC Champions League, the AFC Cup, and the AFC Women's Club Championship.
- In fact, Gokulam Kerala are already in Uzbekistan for the latter, which they cannot now participate in.

What happens now?

The Supreme Court will take up the case again soon after the central government of India sought an urgent hearing on the matter post FIFA's suspension of AIFF.

FISH CHOKE TO DEATH IN JAKKUR LAKE

◎ CONTEXT:

Several fish were found dead at Jakkur lake in North Bengaluru, allegedly due to entry of sewage along with rainwater after the recent rains in the city.

About Jakkur Lake:

- Jakkur Lake is located in the Northern part of Bangalore. The lake falls within **Hebbal Valley** as part of the **Yellamallappa Chetty lake series in northern Bangalore**.
- A 7-acre constructed wetland in the north of the lake has mostly been left to grow naturally. This **wetland accounts for approximately 4.4% of the total lake area**.
- There is a bund created with an outlet into the lake. There are species of plants in the wetland such as **Typha, Alligator weed, and Water Hyacinth**.
- It is observed that the **growth of Hyacinth increases** when the inflow of sewage water increases.

Reason behind the deaths of Fish:

- The fish in the lakes are dying as a result of the polluted water.
- As **urbanization** gathered momentum, since the 1990s, changes in land-use pattern combined with encroachments, domestic sewage, garbage, and effluent discharge has taken a toll on the scenic freshwater lake until it slowly turned into a dump for the city's waste.
- Aquatic organisms need **dissolved oxygen (DO)** to respire. It is necessary for aquatic animals, other microorganisms, and underwater plants. Dissolved Oxygen is defined as the amount of gaseous oxygen dissolved in the water.
- The **chemical sewage contains** a raw material that is utilized by **aquatic plants and algae** for their development and thus they increase in number which **blocks the penetration of sunlight**.
- As the **aquatic plants and algae** are increased in amount, the **level of dissolved oxygen decreases** which in turn creates a **lack of oxygen availability** and that **affects the fishes** and **other aquatic organisms** and may **kill them** as they uptake the oxygen from water.
- Due to the waste present in the water, the microorganisms present in the sewage consume all the dissolved oxygen, thereby **depriving the fishes of the dissolved oxygen**, and ultimately **fishes die due to lack of availability of oxygen**.

Additional Reasons/Information:

- **Microbial activity increases Biological Oxygen Demand (BOD).** BOD is the amount of dissolved oxygen needed by bacteria in decomposing the organic wastes present in water. It is expressed in milligrams of oxygen per litre of water. The **higher value of BOD indicates a low DO** content of water.
- When there is **high turbidity in the water body** then it can lead to the **clogging of the gills** of fishes and then their death.
- **Eutrophication can also cause the death of fish.** It increases the presence of an algae bloom and that can lead to oxygen depletion, resulting in the deaths of aquatic organisms.

Eutrophication refers to the addition of artificial or non-artificial substances, such as nitrates and phosphates, through fertilizers or sewage, to a freshwater system. It can be anthropogenic or natural. It leads to an increase in the primary productivity of the water body or **"bloom" of phytoplankton**.

- ▶ If there is an **increase in sulfur dioxide level in the water body**, then it has the potential of killing fish.
- ▶ **Keeping sewage out or only releasing it into water bodies after undergoing treatment and routine harvesting of the wetlands** are the possible measures that can be put to use to avoid such happenings in the future.

WORLD LION DAY

◎ **CONTEXT:** World Lion Day is observed on 10 August annually.

World Lion Day

- Lions are known as the "king of beasts" or king of the jungle". They are the second largest cats in the world after tigers.
- In 2020, the population of Asiatic lions has increased by almost 29% in Gujarat's Gir forests.
- Geographically, the distribution area of the lions also increased by 36%.

About Asiatic lions

- They belong to the category of Pantherine cats.
- The Asiatic Lions in Gujarat is restricted to Gir National Park in the state.
- It is listed as 'Endangered' under the IUCN Red List.
- It is listed in Schedule-I of the Wildlife (Protection) Act, 1972.
- In the initial stage, the lions were spread from the east of the Indus River to West Bengal and also to Narmada River in Central India.
- Until the 19th century, it occurred in Saudi Arabia,, eastern Turkey, Iran, Mesopotamia.
- Since the turn of the 20th century, it is restricted to the Gir Forest National Park and surrounding areas.
- The lion is one of five pantherine cats inhabiting India, along with the Bengal tiger (P. tigris tigris), Indian leopard (P. pardus fusca), snow leopard (P. uncia) and clouded leopard (Neofelis nebulosa).
- It was also known as the "Indian lion" and the "Persian lion".

ASIATIC LION: A SNAPSHOT

APPROX HEIGHT 110 CM	LENGTH 200-280 CM	WEIGHT 110-190 KG	AVE LIFE SPAN 16-18 YEARS	STATUS ENDANGERED	SIZE RELATIVE TO A 6 FT MAN
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DISTRIBUTION



Lion population at GIR NATIONAL PARK



3.5%
OF WORLD'S
ASIATIC
LION
POPULATION
HAS BEEN
WIPED OUT IN
3 WEEKS

THE LAST LIONS

ASIATIC LIONS AND WHY THE RECENT SPATE OF LION DEATHS IN GIR IS A MATTER OF CONCERN

SUSPECTED REASONS

- Canine Distemper Virus (CDV) infection (detected in four dead lions)
- Babesia protozoal infection (detected in eight lions)



REASONS TO WORRY

- CDV killed 1,000 lions in Tanzania in the 1990s
- These infections are contagious and may spread to the remaining lion population
- Presence of all the lions at one place could be dangerous in case of a viral epidemic

*UNOFFICIAL FIGURE; **IN THREE WEEKS, OTHER DEATHS UNKNOWN

NEWS creative

Gir National Park and Wildlife Sanctuary

- It is also known as Sasan Gir, a forest and wildlife sanctuary near Talala Gir in Gujarat, India.
- It is part of the Kathiawar-Gir dry deciduous forest ecoregion.
- The seven major perennial rivers of the Gir region are Hiran, Shetrunji, Datardi, Shingoda, Machhundri, Godavari and Raval.
- The four reservoirs of the area are at four dams, one each on Hiran, Machhundri, Raval and Shingoda rivers, including the biggest reservoir in the area, the Kamleshwar Dam, dubbed 'the lifeline of Gir'.

Asiatic Lion Conservation Project

- It has been launched by the **Ministry of Environment, Forest and Climate Change** with an aim to protect and conserve the world's last ranging free population of Asiatic Lion and its associated ecosystem.
- The project activities is envisaged in a manner to cause habitat improvement, scientific interventions, disease control and veterinary care supplemented with adequate eco development works for the fringe population in order to ensure a stable and viable Lion population in the Country.
- It is a 3 year-long conservation project launched in 2018

CENTRE NOTIFIES INDIA'S 31ST ELEPHANT RESERVE IN TAMIL NADU

◎ CONTEXT:

Government announced one more elephant reserve (ER) in the country in Tamil Nadu.

Important facts on Elephant

- The Indian elephant **Elephas maximus** occurs in the central and southern Western Ghats, North-east India, eastern India and northern India and in some parts of southern peninsular India.
- It is included in **Schedule I** of the Indian Wildlife (Protection) Act, 1972 and in **Appendix I of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES)**.
- Indian Elephant has also been listed in the **Appendix I** of the **Convention of the Migratory species** in the recently concluded **Conference of Parties of CMS 13 in Gujarat in 2020**.
- It occurs in **16 of the 28 states in the country** and is showing an increasing trend across its distributional range.

Population Update

- According to the latest elephant census conducted in 2017, the population of elephants in India has reached up to about **27,312**.
- According to the 2017 census, **Karnataka had the highest number of elephants** (6,049), followed by Assam (5,719) and Kerala (3,054).

Project Elephant

- **Project Elephant** was launched by the Government of India in the year 1992 as a Centrally Sponsored Scheme with following objectives:
 - To protect elephants, their habitat & corridors
 - To address issues of man-animal conflict
 - Welfare of captive elephants
- The Project is being mainly implemented in 16 States / UTs , viz. Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Jharkhand, Karnataka, Kerala, Maharashtra, Meghalaya, Nagaland, Orissa, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.
- The Ministry of Environment, Forest and Climate Change provides the financial and technical support to major elephant range states in the country through Project Elephant.

Elephant Range	Elephant Reserve with date of notification	State
Eastern India (South West Bengal- Jharkhand-Odisha)	1. Mayurbhanj ER(24.10.02)	W. Bengal
	2. Singhbhum ER (26.9.01)	Jharkhand
	3. Mayurbhanj ER (29.9.01)	Odisha
	4. Mahanadi ER (20.7.02)	Odisha
	5. Sambalpur ER (27.3.02)	Odisha
	6. Badalkhol-Tamorpingla (15.9.2011)	Chhattisgarh
North Brahmaputra (Arunachal – Assam)	7. Kameng ER (19.6.02)	Arunachal
	8. Sonitpur ER (6.3.03)	Assam
South Brahmaputra (Assam- Arunachal)	9. Dihing-Patkai ER (17.4.03)	Assam
	10. South Arunachal ER (29.2.08)	Arunachal
Kaziranga (Assam- Nagaland)	11. Kaziranga – Karbi Anglong ER (17.4.03)	Assam
	12. Dhansiri-Lungding ER (19.4.03)	Assam
	13. Intanki ER (28.2.05)	Nagaland
	14. Singphan ER (16.8.18)	Nagaland
Eastern Dooars (Assam- W. Bengal)	15. Chirang-Ripu ER (7.3.03)	Assam
	16. Eastern Dooars ER (28.8.02)	W. Bengal
E. Himalayas (Meghalaya)	17. Garo Hills ER (31.10.01)	Meghalaya
Nilgiri –Eastern Ghat (Karnataka- Kerala- Tamilnadu-Andhra)	18. Mysore ER (25.11.02)	Karnataka
	19. Dandeli ER (26.3.15)	Karnataka
	20. Wayanad ER (2.4.02)	Kerala
	21. Nilgiri ER (19.9.03)	Tamil nadu
	22. Rayala ER (9.12.03)	Andhra
	23. Agasthiyamalai (12.08.22)	Tamil Nadu
South Nilgiri (Kerala- Tamilnadu)	24. Nilambur ER (2.4.02)	Kerala
	25. Coimbatore ER (19.9.03)	Tamilnadu
Western Ghat (Tamilnadu- Kerala)	26. Anamalai ER (19.9.03)	Tamilnadu
	27. Anamudi ER (2.4.02)	Kerala
Periyar (Kerala- Tamilnadu)	28. Periyar (2.4.02)	Kerala
	29. Srivilliputtur ER(19.9.03)	Tamilnadu
Northern India (Uttaranchal- U.P.)	30. Shivalik ER (28.10.02)	Uttarakhand
	31. Uttar Pradesh ER (9.9.09)	U.P.

About New Reserve:

- The new reserve will be spread over an area of 1,197 square kilometres in **Agasthiyamalai**.
- This will be the 31st ER in the country after Singphan ER in Nagaland was notified in 2018.

World Elephant Day

- **World Elephant Day (August 12)** is an international annual event, dedicated to the preservation and protection of the world's elephants.
- **Objective:** To create awareness on elephant conservation, and to share knowledge and positive solutions for the better protection and management of wild and captive elephants.
- The current population estimates indicate that there are about 50,000 - 60,000 Asian elephants in the world.
 - More than 60% of the population is held in India.
- Elephant is the Natural Heritage Animal of India and India also celebrates this day to spread awareness towards conservation of the species.

AGM-88 HARM, THE NEW ANTI-RADAR MISSILE

- ◎ **CONTEXT:** **US has supplied some "anti-radiation missiles" to Ukraine, which could be used by Ukrainian Air Force aircraft.**

AGM-88 HARM missile:

- The acronym 'HARM' in the AGM-88 HARM air-to-surface missile stands for **High-Speed Anti-Radiation Missile**.
- It is a tactical weapon fired from fighter aircraft, and has the capability to detect and home into radiation emitted by hostile radar stations that have surface-to-air detection capabilities.
- **Developed & produced by:** The missile was originally developed by the **Dallas-headquartered Texas Instruments**, but is now produced by the major **American defence contractor Raytheon Corporation**.
 - An advanced version of the weapon is manufactured by Dulles, Virginia-based Northrop Grumman.
- **Size:** The AGM-88 HARM is 14 metres in length, but only 10 inches in diameter.
- **Weight:** It weighs around 360 kg and carries a fragmentation type warhead that is optimised for radar targets.
- **Range:** The missile has a range of more than 100 km.

Important Features

- It also has an anti-radar homing seeker broadband RF antenna and receiver, and a solid state digital processor.
- The AGM-88 can detect, attack and destroy a target with minimum aircrew input.
- The proportional guidance system that hones in on enemy radar emissions has a fixed antenna and seeker head in the missile nose.
- A smokeless, solid-propellant, dual-thrust rocket motor propels the missile.



NOVEL LANGYA HENIPAVIRUS

◎ CONTEXT:

Cases of a novel Langya henipavirus (LayV) have been reported in Shandong and Henan provinces of China.

About novel Langya henipavirus (LayV):

- The new type of Henipavirus (also named Langya henipavirus, LayV) was found in throat swab samples from febrile patients in eastern China.
- This newly discovered Henipavirus, may have come from animals, is associated with some febrile cases.
- **Symptoms:** The infected people have symptoms including fever, fatigue, cough, anorexia, myalgia, and nausea.
- **Treatment:** There is currently no vaccine or treatment for Henipavirus and the only treatment is supportive care to manage complications.

■ Other similar virus:

- Nipah and Hendra virus also belong to the same genus, henipavirus, from the Paramyxoviridae family.
- Paramyxoviridae is a family of single-stranded Ribonucleic acid (RNA) viruses that cause different types of viral infections.
- These viruses are found in bats, rodents and shrews and are known to infect humans and potentially cause fatal diseases.
- Around 25 small wild animals were also screened and the virus was also found in animals like goats and dogs.

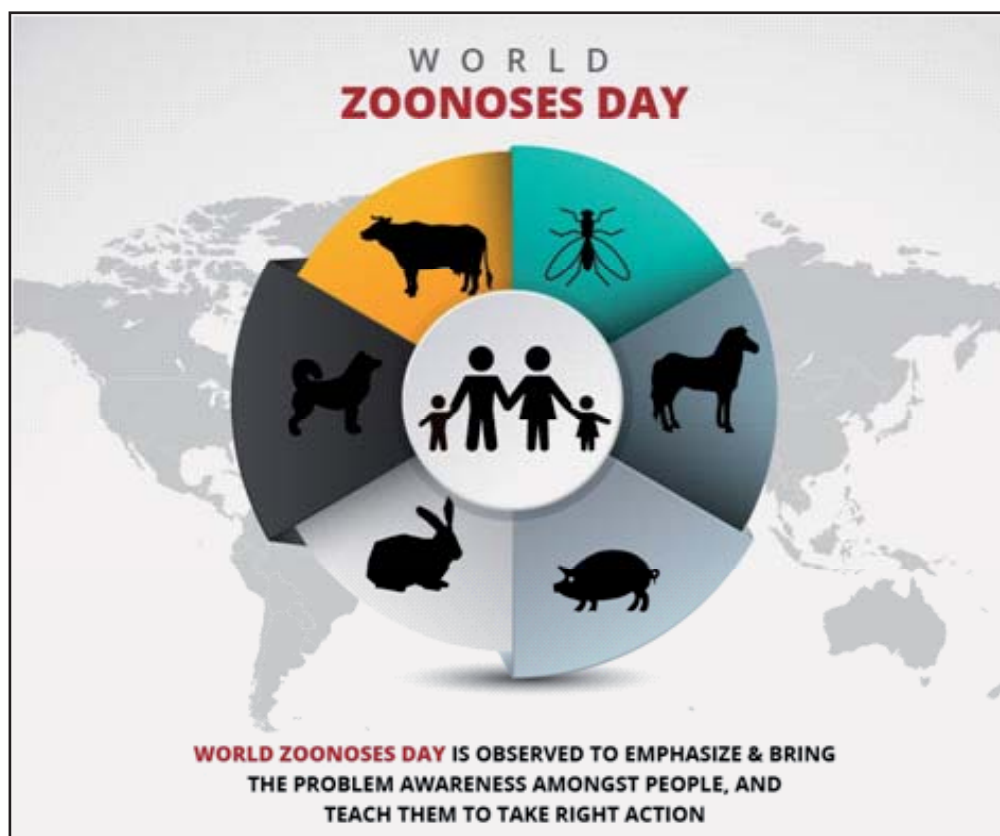
What is Zoonosis?

- Zoonotic diseases originate in animals and can spread to humans.
- Infections occur through bites or contact with the infected animal's bodily fluids.
- Virus, bacteria, fungi, prions or parasites cause zoonosis.
- Rabies, Ebola, certain strains of Swine flu, leptospirosis, brucellosis, anthrax, Zika and

Ebola viruses, rickettsioses, plague, chikungunya, dengue and Japanese encephalitis, are the most notorious zoonotic diseases.

Origin of World Zoonosis Day

- World Zoonosis Day was instituted on 6 July 1885 to educate and raise awareness about zoonotic diseases that can transmit from animals to humans.
- It commemorates French biologist Louis Pasteur, who administered the first dose of the first vaccine against rabies.



CHRONIC FATIGUE SYNDROME

◎ CONTEXT:

Recently, a woman from Bengaluru has filed a petition in the Delhi High Court to stop her Noida-based friend, who has been suffering from Chronic Fatigue Syndrome since 2014, from travelling to Europe to undergo a physician-assisted euthanasia.

Chronic Fatigue Syndrome:

- Chronic Fatigue Syndrome is also known as myalgic encephalomyelitis (ME/CFS).
- According to the US Centres for Disease Control and Prevention (CDC), it is a serious and debilitating disease that affects the nervous system, the immune system and the body's production of energy.

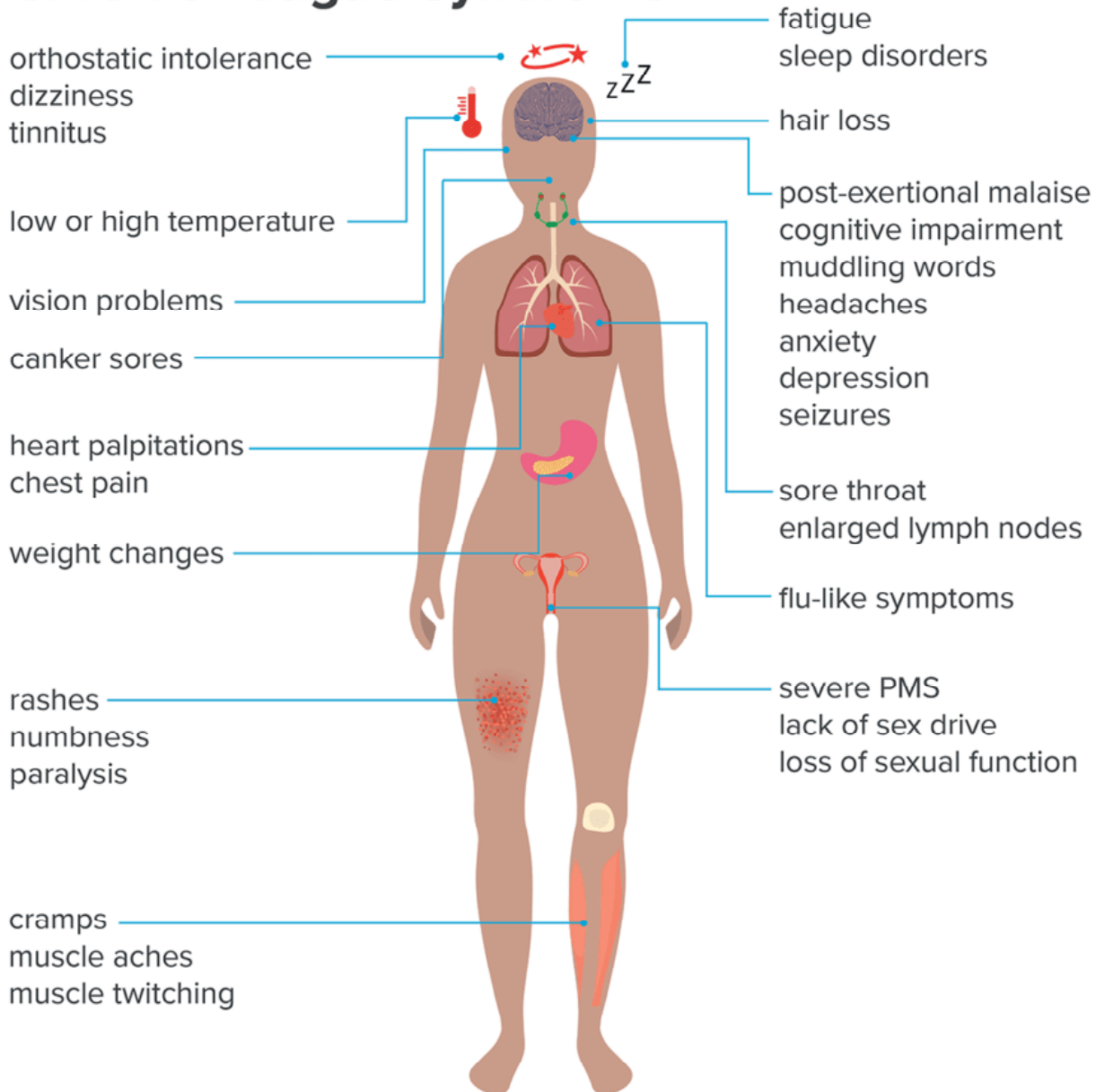
Causes of ME/CFS

It's not known what causes ME/CFS, but there are a number of theories – for example, it may be triggered by an infection, or certain factors could make you more likely to develop the illness.

MEDICAL NEWS TODAY

Effects on the Body

Chronic Fatigue Syndrome



Suggested causes or triggers for ME/CFS include:

- viral infections, such as glandular fever
- bacterial infections, such as pneumonia
- problems with the immune system
- a hormone imbalance
- genes – ME/CFS seems to be more common in some families

Diagnosis: There is no specific test for the disease, and doctors have to rely on medical examinations, blood and urine tests. ME/CFS can affect anyone, from children to adults of all ages.

Symptoms:

- The biggest telltale symptom is a significantly lowered ability to do activities that were performed before the illness.
- The fatigue is not relieved by sleep or rest and exercising usually makes the symptoms worse.
- Other symptoms include trouble sleeping, difficulty in thinking, memory retention and concentration, dizziness/lightheadedness, headaches, muscle pain, joint ache, flu-like symptoms, tender lymph nodes and digestive issues.
- The most recognizable symptom is post-exertional malaise (PEM).
- Patients often describe it as a "crash" in physical/mental energy following even minor activities like grocery shopping or brushing teeth.

Treatment:

- As of yet, there is no specific cure or approved treatment. Instead, doctors recommend ways to deal with the symptoms of the disease.
- Treatments include:
 - cognitive behavioural therapy (CBT)
 - energy management
 - medicine to control symptoms such as pain and sleeping problems
 - Some people with ME/CFS will improve over time, especially with treatment.
 - Many people with ME/CFS will need to adapt their daily routine and pattern of activities on a long-term basis. There may be periods when your symptoms get better or worse.

ICAR DEVELOPS VACCINE FOR LUMPY SKIN DISEASE IN CATTLE

◎ CONTEXT:

In a major breakthrough, two institutes of Agri research body ICAR have developed an indigenous vaccine for Lumpy Skin Disease in cattle which have spread across many States in the last few months.

Rising Concern:

- Rajasthan, followed by Gujarat, Punjab, Himachal Pradesh, Andaman & Nicobar and Uttarakhand are reporting higher rate of deaths of cattle.

Development of Vaccine:

- ICAR-National Research Centre on Equines (ICAR-NRCE), Hisar (Haryana), in collaboration with ICAR-Indian Veterinary Research Institute (IVRI) Izatnagar, Uttar Pradesh has developed the vaccine.
- It is a **homologous live-attenuated LSD vaccine "Lumpi-ProVacInd"**.

About Indian Council of Agricultural Research (ICAR):

- The **Indian Council of Agricultural Research (ICAR)** was established on 16 July 1929 as a registered society under the **Societies Registration Act, 1860**.
- It is an autonomous organisation under the **Department of Agricultural Research and Education (DARE)**, Ministry of Agriculture and Farmers Welfare, Government of India.

- It is headquartered at New Delhi. With 102 ICAR institutes and 71 agricultural universities spread across the country this is one of the largest national agricultural systems in the world.
- It is the apex body for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country.
- The ICAR has played a pioneering role in ushering Green Revolution and subsequent developments in agriculture in India through its research and technology development that has enabled the country to increase the production of foodgrains by 5.6 times, horticultural crops by 10.5 times, fish by 16.8 times, milk by 10.4 times and eggs by 52.9 times since 1950-51 to 2017-18.

Lumpy Skin Disease

- LSD is endemic **to Africa** and parts of **West Asia**, where it was first discovered in 1929.
- In Southeast Asia the first case of LSD was reported in Bangladesh in July 2019.
- In India, which has the world's highest 303 million heads of cattle, the disease has spread to **15 states within just 16 months**.
- In India it was first reported from **Mayurbhanj, Odisha in August 2019**.

Key Points

- Lumpy skin disease (LSD) is a viral disease of cattle and water buffalo.
- **Virus:** Poxvirus Lumpy skin disease virus (LSDV).
- The virus is one of three closely related species within the genus capripoxvirus, the other two species being **Sheep pox virus** and **Goat pox virus**.



■ Symptoms:

- It appears as nodules of two to five centimetre diameter all over the body, particularly around the head, neck, limbs, udder (mammary gland of female cattle) and genitals.
- The lumps gradually open up like large and deep wounds.
- Other clinical signs include general malaise, ocular and nasal discharge, fever, and sudden decrease in milk production.
- **Effect:** According to the Food and Agriculture Organization (FAO) the mortality rate is less than 10%.

- **Vectors:** It spreads through mosquitoes, flies and ticks and also through saliva and contaminated water and food.
- **Prevention:** Control and prevention of lumpy skin disease relies on four tactics - movement control (quarantine), vaccination, slaughter campaigns and management strategies.
- **Implications:** This will have a devastating impact on the country, where most dairy farmers are either landless or marginal landholders and milk is among the cheapest protein sources.

F-INSAS, NIPUN MINES, LCA — THE NEW SYSTEMS OF THE ARMY

◎ CONTEXT:

The Government handed over two new weapons – the Nipun mines, the Landing Craft Assault (LCA) and the F-INSAS system to the Army.

F-INSAS system:

- F-INSAS stands for **Future Infantry Soldier As A System**, a programme for infantry modernisation aimed at increasing the operational capability of the soldier.
- As part of the project, soldiers are being equipped with modern systems that are lightweight, all-weather-all-terrain, cost-effective and low maintenance.
- The full-gear of the F-INSAS system includes an **AK-203 assault rifle**, which is a Russian-origin gas-operated, magazine-fed, select-fire assault rifle with range of 300 metre.
- It also includes a ballistic helmet, ballistic goggles, a bulletproof jacket, elbow-pads, and knee pads.
- It is being made at **Korwa near Amethi in a Russia-India joint venture**.



- It looks to transform the soldiers deployed in the border areas into '**a self-contained fighting machine**'.
- F-INSAS also includes a **hands-free head-set** which will help enhance the operational capabilities of an infantry soldier and improve communication effectively.
- The project was conceptualised in the early 2000s by the **Defence Research and Development Organisation (DRDO)** in line with the targets of the Army's Infantry Soldier Modernisation Programme with an aim to optimise the soldier's performance across the full spectrum and duration of a military operation.

Nipun mines:

- Nipun mines are indigenously designed and developed anti-personnel mines, termed by the DRDO as '**soft target blast munition**'.
- These mines act as the **first line of defence** against the infiltrators and advancing enemy infantry.
- Anti-personnel mines are meant to be used against humans as against anti-tank mines that are aimed at heavy vehicles. They are smaller in size and can be deployed in large numbers.
- These mines are developed with the joint collaboration of the **Armament Research and Development** Establishment, a part of DRDO and an Indian firm.



Landing Craft Assault:

- The Landing Craft Assault (LCA) is a replacement for the boats with 'limited capabilities' operating **in Pangong Tso lake**.
- The LCA is much more versatile and has overcome the limitations of launch, speed and capacity.
- The LCA is touted to be the **replacement for boats for carrying personnel in battle operations**.
 - These lightweight assault carriers can carry up to 35 troops.
- It has enhanced the capability to operate across the water obstacles in Eastern Ladakh.
- LCA has been indigenously **developed by M/s Aquarius Ship Yard Limited, Goa**.



Section: D

(QUICK BYTES)

CURRENT AFFAIRS

US NAVY SHIP ARRIVES FOR REPAIR AT L&T SHIPYARD IN TAMIL NADU

- ◎ **CONTEXT:** In a first, a U.S. Navy Ship, Charles Drew, arrived in India for carrying out repairs and allied services at Larsen & Toubro's (L&T) Shipyard at Kattupalli, Chennai.
- ◎ **ABOUT:**
- The US Navy had awarded a contract to the L&T Shipyard for undertaking maintenance of the ship.
 - The event signifies the capabilities of the country's shipyards in the global ship repairing market.
 - Indian shipyards offer wide ranging and cost-effective ship repair and maintenance services, using advanced maritime technology platforms.
 - United States' Military Sealift Command's Lewis and Clark-class dry cargo ship USNS Charles Drew provides critical support to the U.S. Navy fleet operating in the Indo-Pacific Region.

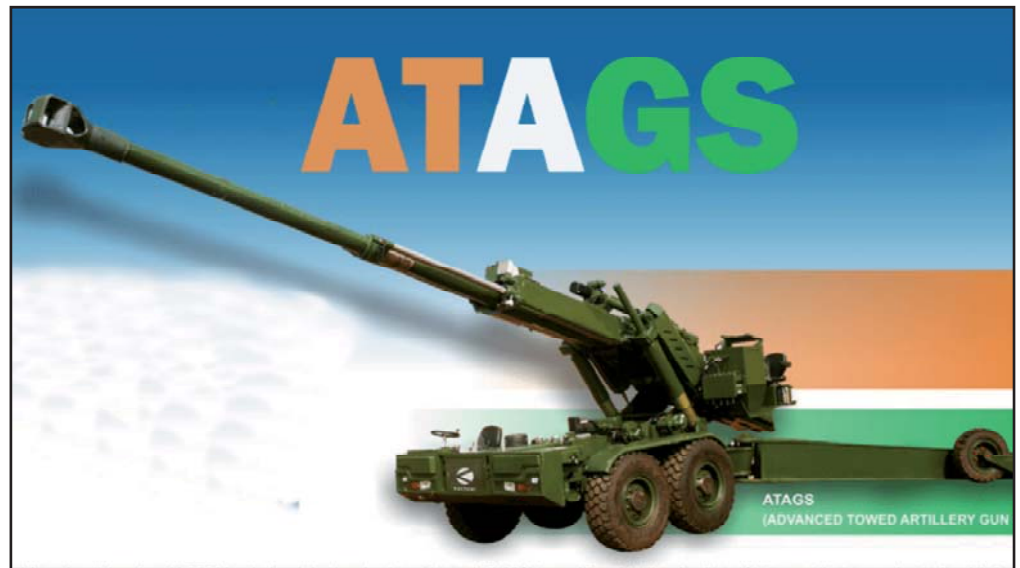


ATAGS, THE INDIGENOUS HOWITZER

- ◎ **CONTEXT:** In a first, an indigenously developed howitzer gun, ATAGS, became part of the 21-gun salute during the Independence Day ceremony at the Red Fort.

Advanced Towed Artillery Gun System (ATAGS) howitzer:

- The Advanced Towed Artillery Gun System (ATAGS) howitzer is the first in the world to have a range of 45 km. It's self-propelled and can be towed easily.
- The ATAGS is an indigenous 155 mm x 52 calibre howitzer gun developed by the Defence Research and Development Organisation (DRDO) with its Pune-based facility Armament Research and Development Establishment (ARDE) being the nodal agency.
- The ATAGS project was started in 2013 by DRDO to replace older guns in service in the Indian Army with a modern 155 mm artillery gun.
- A howitzer is an umbrella term for a category of long-range artillery guns.



The 21-gun salute tradition

- When the National Anthem is played by the Military Band after the unfurling of the Tricolour at the Red Fort by the Prime Minister, a 21-volley gun salute is fired by a ceremonial battery from an artillery regiment.
- The tradition of gun salutes originates from the Western navies where guns from the ports and those from incoming ships used to be fired in a particular manner to convey that there was no belligerent intention.
- This tradition was carried forward as a way of paying respects or for according official welcome to the Crown, royals, military commanders and heads of states.
- India inherited the tradition from the British rulers who had gun salutes comprising 101 volleys, 31 volleys and 21 volleys, and so on depending on the hierarchy.
- In India, artillery gun salutes are fired on the Republic Day, the Independence Day and also at the time of oath taking ceremony of the President, among other occasions.

Section: E

(MISCELLANEOUS)

CURRENT AFFAIRS

EX, VAJRA PRAHAR

- ◎ **CONTEXT:** India and the US commenced a military exercise named “Ex Vajra Prahar 2022” in Himachal Pradesh’s Bakloh recently.

About the Ex Vajra Prahar 2022:

- It was the **13th Edition** of the **Indo-US Joint Special Forces exercise**.
 - The 12th edition was conducted at Joint Base Lewis McChord, Washington (USA) in October 2021.
- This joint **annual exercise** is hosted **alternatively between India and the US** to share the best practices and experiences in areas such as joint mission planning and operational tactics.
- This joint exercise is a **significant step in strengthening the traditional bond of friendship** between the special forces of both nations as well as improving bilateral defence cooperation between India and the US.
- The US contingent is **represented by personnel from the 1st Special Forces Group (SFG) and Special Tactics Squadron (STS)** of US Special Forces and the Indian Army contingent is formed by drawing Special Forces personnel under the aegis of SFTS.

INDIA, MALAYSIA BEGIN FOUR-DAY AIR EXERCISE

- ◎ **CONTEXT:** An Indian Air Force (IAF) contingent has left for Malaysia to participate in a bilateral exercise ‘Udarashakti’ with the Royal Malaysian Air Force (RMAF).

Exercise Udarashakti:

- It is a **bilateral air force exercise** between India and Malaysia.
- **Purpose:** The exercise will give a chance to both countries to share and learn best practices and an opportunity for both to discuss mutual combat capabilities.
- The **exercise witnessed different aerial combat exercises** between the two air forces to augment security in the region and to help in strengthening defence cooperation between the two countries.
- In **Udarashakti 2022**, Indian Air Force is taking part in air exercise with **Su-30 MKI and C-17 aircraft**.
- On the other hand, Malaysian Air Force is taking part with **Su 30 MKM aircraft**.

WORLD SANSKRIT DAY

- ◎ **CONTEXT:** World Sanskrit Day is celebrated on Sawan Poornima in the Hindu calendar. In 2022, it is celebrated on 12th August.

World Sanskrit Day:

- It was first celebrated in 1969 when the government decided to illuminate the world about the language that is deeply rooted in the Hindu culture.
- The auspicious occasion of Raksha Bandhan was decided as the day to commemorate the language.

Significance

- Sanskrit is also referred to as the mother of all languages in India.
- Sanskrit is one of the most ancient languages that make up the holy scriptures of the Hindu culture. The origins of the language are long debated and are surrounded by multiple theories. Many believe that the language dates back to roughly 3,500 years old.
- A linguist named Panini wrote a grammar guide, containing eight chapters, officially establishing it as a language. Some religious beliefs suggest that Sanskrit used to be a language of the gods and hence has no beginning or end. Scriptures mention the language to originate in the second millennium BCE, around the time when the Rig Veda was composed.
- World Sanskrit Day aims at popularising and reviving this old medium of communication and promoting its use.

Key facts about Sanskrit language

- This language has an organised grammatical structure. Even the vowels and consonants are arranged in a scientific pattern.
 - It is said that a person can express himself or herself in Sanskrit in one word only.
- In Karnataka, there is a village where everyone speaks in Sanskrit. Name of the village is Mattur in Shimoga district.
- Sanskrit is declared an official language of Uttarakhand.
- In classical music, that is in Carnatic and Hindustani, Sanskrit is used

FIRST SOUTH ASIAN TO WIN LISBON TRIENNALE LIFETIME ACHIEVEMENT AWARD

◎ CONTEXT:

Renowned Bangladeshi architect, researcher and educator Marina Tabassum became the first person from the global south and first south Asian to win the prestigious Lisbon Triennale Millennium bcp Lifetime Achievement Award.

About Marina Tabassum:

- Marina Tabassum is known for her architectural designs that break away from commercialism and deeply embed environmental concerns.
- The Bait Ur Rouf mosque in Dhaka is one of her many celebrated works. The mosque is 'distinguished by its lack of popular mosque iconography, its emphasis on materials, space, and light, and its capacity to function not only as a place of worship but also as a centre for its under-served community on Dhaka's periphery.'
- Driven by specific cultural and geographical context, her works address pressing contemporary issues.
- Her work shows how architects can challenge the climate crisis and bring about social change in an experimental, respectful and inspiring manner.
- She has also designed bamboo houses at the Rohingya refugee camps, at Ukhiya near Cox's Bazar which are 'low impact, mobile housing which can be delivered at the lowest cost possible.'
- Marina Tabassum's unique practice touches on the spiritual fundamentals of architecture.
- She will receive an original artwork by the Portuguese artist and sculptor Carlos Nogueira as award during the Lisbon Triennale.

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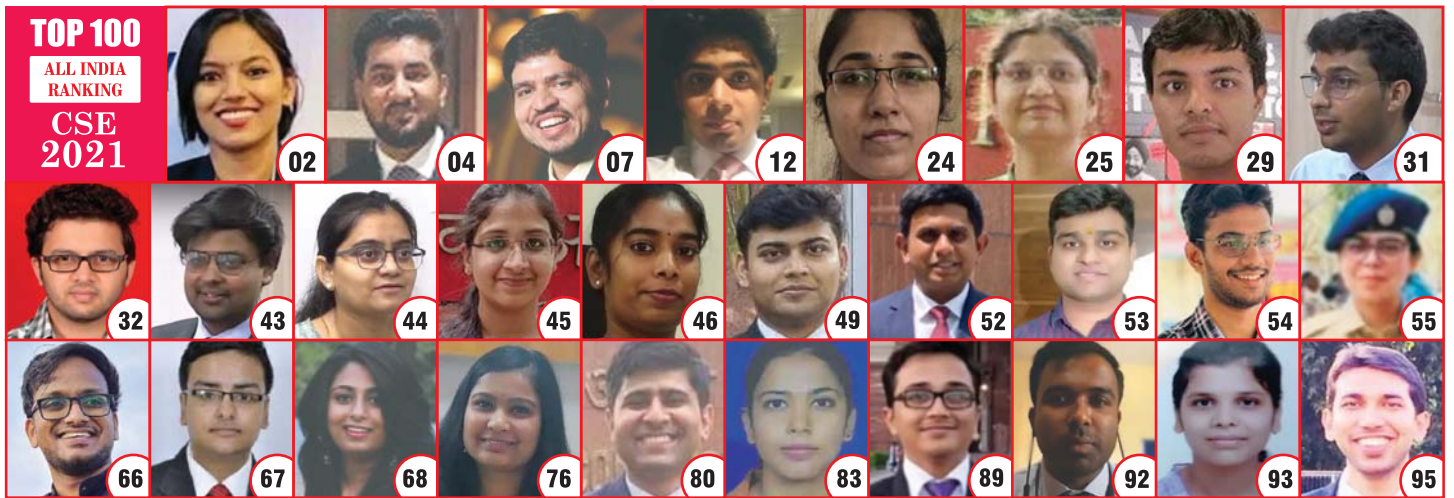
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