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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.

CURRENT AFFAIRS ANALYST
WEEK- 5 (JANUARY, 2022)

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SECTION: A
(MAINS)

CURRENT AFFAIRS

RAINFALL CHANGES COULD IMPACT GLOBAL MANUFACTURING, SERVICES SECTORS: STUDY

CONTEXT:

Increases in the number and days of rainfall and severity of downpour, due to human-induced climate change, may deal a blow to global economic growth, as per a new study.

- **These changes are likely to take a higher toll on the manufacturing and services sectors.**

⦿ BACKGROUND

> **Rainfall pattern** means the distribution of rain geographically, temporally, and seasonally.

- The study (conducted by researchers from Potsdam Institute for Climate Impact Research) looked at how rainfall patterns hurt the economy.

- The group compared daily rainfall data with subnational economic output from 77 countries between 1979 and 2019.

- It made the following revelations:

  ➤ An increase in the number of days with rainfall exceeding one millimetre led to a substantial decline in growth rates. A rise in extreme rainfall days contributed further to this loss.

  ➤ Extreme daily rainfall is the annual total of rain on days that exceed the 99.9th percentile of the distribution of daily rainfall between 1979 and 2019.

  ➤ Increases in both the number and severity of extreme rainfall days within a given year reduce economic productivity.

  ➤ Increasing wet days and extreme rainfall will likely hit prosperous countries harder. This is because these countries rely more on the manufacturing and services sectors.

⦿ ANALYSIS

Why the rainfall pattern is changing?

- **Global warming:** Global warming leads to a near-term collapse of the **ocean's thermohaline circulation.**

> Thermohaline circulation is a global ocean circulation pattern that distributes water and heat both vertically, through the water column, and horizontally across the globe.

- Due to this collapse of thermohaline circulation, warm surface waters move from the tropics to the **North Atlantic** and extra-warm water surfaces in the **Pacific Ocean** surrounding the equator.

- Thus, Western Europe, some parts of Asia, and many parts of the Americas get warmer than normal, and some parts of Europe get cooler rapidly.

  ➤ El Niño and La Niña are examples of this.

- This latest deviant trend generates dramatic weather impacts, such as

  ➤ rapid cooling in some parts of the world

  ➤ greatly diminished rainfall in agricultural and urban areas

- **Shift in global wind pattern:** UNESCO and other studies found that changes in rainfall pattern could be attributed to the shifts in global wind pattern. These shifts are due to the changes in the ocean surface temperature.

- **Human activity:** Effect of human activity on the surface vegetation is also causing rainfall pattern variation.

- **Deforestation:** Widespread deforestation in parts of Africa and Asia is causing scarce rainfall and subsequent drought.

> **The set pattern of rainfall in India**
>
> - The normal date for monsoon onset over India is June 1 and for monsoon withdrawal is October 15.
>
> - The India Meteorological Department (IMD) closes its monsoon seasonal data on September 30. The rainfall that happens after this period is post-monsoon rainfall.
>
> - This means that for the last 10 years, India's monsoon rainfall pattern has been largely skewed.
>
> - Monsoon is said to withdraw from a region when the following criteria are met:
>
>   ➤ Rainfall activity ceases over the area for five continuous days

> ➤ an anti-cyclone establishes in the lower troposphere around 1.5 kilometres above sea level
> ➤ moisture content reduces
- Similar criteria are followed for the declaration of monsoon withdrawal from the country. The wind patterns over the country change from south-westerly direction to a more westerly direction when the monsoon retreats.

How the changing pattern can impact the manufacturing sector?

◉ The Indian country rely more on the manufacturing and services sectors, thus, it gets impacted from increasing wet days and extreme rainfall.

◉ Increases in both the number and severity of extreme rainfall days within a given year reduce economic productivity.

◉ India's manufacturing industry is heavily dependent on supply chains and supply chains are heavily disrupted during extreme weather events.

Energy Policy Institute at the University of Chicago (Study)

- A study (2021) by *Energy Policy Institute at the University of Chicago* has revealed that hotter years have been routinely linked with reduced economic output in developing countries.
- Plants produce about 2 per cent less revenue for every one-degree rise in annual temperature.
- This is reflected in lower Indian GDP output in hot years and possibly also lower year-on-year growth.
- People are less productive at work and more likely to be absent on hot days

Why manufacturing industry is itself a climate criminal?

◉ Manufacturing – especially of the cheap construction staples steel and cement – accounts for about a third of global greenhouse gas emissions.

◉ That makes manufacturing more polluting than the power or transportation sectors, which receive far more attention in policies and investments.

◉ And the manufacturing sector is set to grow, as the global population climbs and countries further develop.

What are the other major consequences of changed rainfall?

◉ **Affected agricultural sector:** The world's agriculture, especially third world agriculture, depends upon the seasonal rainfall pattern. India has different agro-climatic zones.

Agro-Climatic Zones

India is blessed with large arable land with 15 agro-climatic zones, having almost all types of weather conditions, soil types and capable of growing a variety of crops.

- **Western Himalayan Region:** Jammu and Kashmir, Himachal Pradesh and the hill region of Uttarakhand
- **Eastern Himalayan Region:** Arunachal Pradesh, the hills of Assam, Sikkim, Meghalaya, Nagaland, Manipur, Mizoram, Tripura, and the Darjeeling district of West Bengal
- **Lower Gangetic Plain Region:** West Bengal (except the hilly areas), eastern Bihar and the Brahmaputra valley
- **Middle Gangetic Plain Region:** Parts of Uttar Pradesh and Bihar
- **Upper Gangetic Plains Region:** Central and western parts of Uttar Pradesh and the Hardwar and Udham Nagar districts of Uttarakhand
- **Trans-Ganga Plains Region:** Punjab, Haryana, Chandigarh, Delhi and the Ganganagar district of Rajasthan
- **Eastern Plateau and Hills:** Chhotanagpur Plateau, extending over Jharkhand, Orissa, Chhattisgarh and Dandakaranya
- **Central Plateau and Hills**: Bundelkhand, Baghelkhand, Bhander Plateau, Malwa Plateau, and Vindhyachal Hills
- **Western Plateau and Hills**: Southern part of Malwa plateau and Deccan plateau (Maharashtra)
- **Southern Plateau and Hills**: Interior Deccan and includes parts of southern Maharashtra, the greater parts of Karnataka, Andhra Pradesh, and Tamil Nadu uplands from Adilabad District in the north to Madurai District in the south
- **Eastern Coastal Plains and Hills:** Coromandal and northern Circar coasts of Andhra Pradesh and Orissa
- **Western Coastal Plains and Ghats:** Malabar and Konkan coastal plains and the Sahyadris
- **Gujarat Plains and Hills:** Hills and plains of Kathiawar, and the fertile valleys of Mahi and Sabarmati rivers
  - ➤ **Western Dry Region:** West of Aravalli (Rajasthan)
  - ➤ **Island Region:** Andaman-Nicobar and Lakshadweep

- **Food insecurity:** Recent erratic changes in rainfall pattern lead toward low agriculture production, thus creating food insecurity for an ever-increasing world population.

- **Migration:** Rainfall pattern variability would certainly cause mass human migration.

- **Increased disasters:** Flood, drought, and famine are the consequences of these changing patterns.

Why this study assumes significance for India?

- The study offers important lessons for India as the country aims to become a manufacturing hub.

  - The sector currently contributes roughly 17 per cent to GDP.

  - Its share in employment was 7.3 per cent in 2020-2021.

- According to India Brand Equity Foundation projections, India can add more than $500 billion annually to the global economy.

- But the manufacturing sector is vulnerable to climate change. The sector is heavily dependent on supply chains and supply chains are heavily disrupted during extreme weather events.

⊙ WAY FORWARD

If this trend of changed rainfall pattern continued, environmental managers need to make new decisions about the management of water and land. They need to accurately understand the inter-annual variability of rainfall and a possibility of runs of dry and wet years, which may cause important changes in runoff, sedimentation, soil erosion, or changes in communities of vegetation and animals, and of the viability of large water resource developments.

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ISSUES RELATED TO BORDER MANAGEMENT

CONTEXT:

Recent developments at India's border warrant a comprehensive review of border management to ensure the all-weather security of its borders.

⊙ **BACKGROUND**

- India has 14,880 kilometres of land border running through 92 districts in 17 States and a coastline of 5,422 kilometres touching 12 States and Union Territories.

- India also has a total of 1197 islands accounting for 2094 kilometres of additional coastline. There are 51 Bangladeshi enclaves (area involved 7,110.02 acres) in India and 111 Indian enclaves (area involved 17,158.13 acres) in Bangladesh.

- In fact, barring Madhya Pradesh, Chhattisgarh, Jharkhand, Delhi and Haryana, all other States in the country have one or more international borders or a coastline and can be regarded as frontline States from the point of view of border management.

- From **Sir Creek** to the **Bay of Bengal,** India's land borders present a geographical diversity of a unique kind.

- Much of its borders are topographically difficult. Challenges in border management are peculiar. Hence, 'the proper management of borders is vitally important for national security.'

⊙ **ANALYSIS**

India's Land Border Management

- India's border management is an integral part of India's defence and commerce.

- The state secures **sovereignty** through maintaining and regulating borders with neighbouring countries.
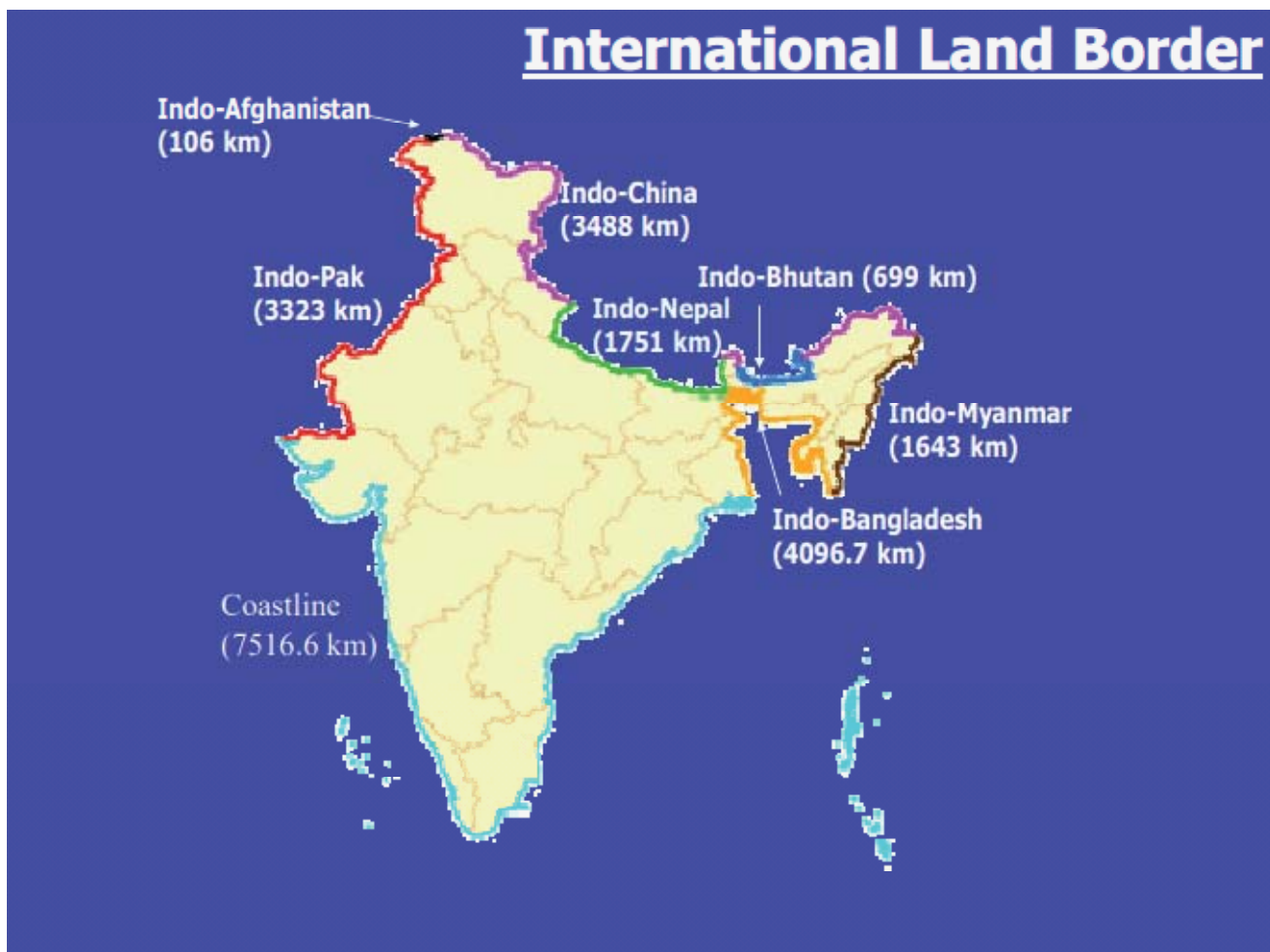
◉ India shares a land border with **7 countries**- Afghanistan, Pakistan, Bangladesh, China, Nepal, Bhutan, and Myanmar.

◉ India's border management comprises of border region development, communication, and coordination with the neighbouring states and programs to enhance the national interests of India. India has a multidimensional border management problem.

◉ Managing land borders is very different from managing coastal and riverine borders.

Type of Land border

India has three types of land border: international borderline (IBL), line of control (LoC) and line of actual control (LoAC).

● **IBL** is the demarcation that has been agreed upon and ratified by both the neighbouring countries, and has been accepted by the rest of the world.

● **LoC** is the de facto border and separates Pakistan-occupied Kashmir from India's state of – Jammu & Kashmir.

● **LoAC** is the boundary line that separates Indian-held lands from Chinese-controlled territory. The disputed and unsettled nature of our boundaries (both land and maritime) has made their security much more difficult.

Illustration to creative a common entity picture
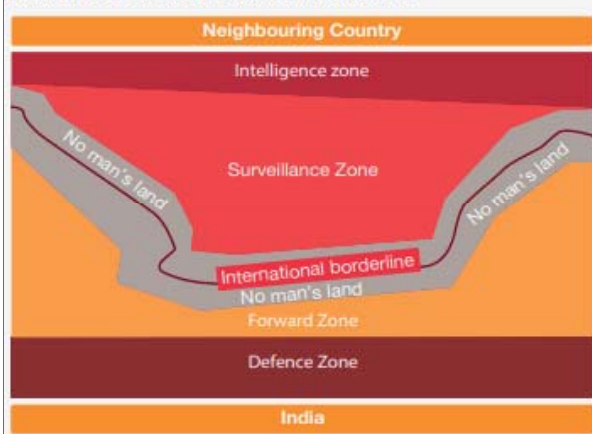
What are the persistent issues?

◉ Sections of the boundaries are **unsettled.**

◉ The neighbours are often **hostile.**

◉ **Terrains** are diverse and difficult.

◉ Border areas are **underdeveloped**.

◉ **Connectivity** with the hinterland and across to other countries is poor.

◉ Border populations feel **insecure.**

◉ Borders areas in remote parts are getting **depopulated.**

◉ **Illegal migrations**, which alter demographic ratios, present a major challenge.

◉ The **smuggling** of contrabands, arms and ammunition drugs etc is rampant.

Coastal Borders

◉ The management of Coastal borders is a problem of a different scale altogether.

◉ The **Mumbai terror attacks** brought home the need to strengthen coastal surveillance.

◉ **Coast Guard patrols** the territorial sea while the Navy operates in the high seas.

◉ Sea routes are used to **smuggle** people, arms, drugs and other contraband.

◉ India has made some progress in improving the coast surveillance but it is difficult to achieve total success.

Solution

◉ The government is thinking of setting up a **maritime commission** to deal with coastal security.

◉ This will help bring the required focus on the problem, **improve the coordination** and help **monitor** the various projects.

◉ **Coastal police** need to be strengthened.

◉ The **use of technology** becomes imperative in managing large borders, be it on land or the sea or the rivers.

◉ In **particular GPS**, satellite surveillance become important.

Island Territories

◉ The ANI are two groups of islands—the **Andaman Islands and the Nicobar Islands**, covering an area of 8,249 sq km.

◉ The islands are governed as **a single Union Territory** by the Central Government of India, through the Andaman Nicobar Administration.

◉ The ANI are also home to India's **only integrated tri-service command of the armed forces**—the Andaman and Nicobar Command for maritime surveillance and enhancing India's strategic presence in the eastern Indian Oceanas it merges into the Pacific.

◉ Being the common maritime space between India and Southeast Asia, the Bay of Bengal and the adjoining Andaman Sea are cardinal for peninsular India's strategic manoeuvres.

◉ At the same time, India's aspirations in the Bay co-exist with its apprehensions over the belligerent rise of China in these waters.

- As the sole archipelago of the Bay, striding important **Sea Lines of Communication** (SLOCs) and overlooking the Malacca Strait, the Andaman and Nicobar Islands are extremely critical for India's strategic interests.

- However, for years since independence in 1947, the Indian government regarded the development of the islands with **"benign neglect",** despite repeated proposals for the establishment of a transhipment port and bunkering facilities, amongst others.

- While this passivity has made it difficult to undertake rapid construction measures, it had not been cultivated without reason.

- The problems of island territories require a **special focus and approach**.

- Andaman and Nicobar Islands are highly strategic as well as ecologically fragile.

- We need special policies for the development of these islands. The same can be said of the Lakshadweep Islands.

Shekatkar Committee recommendations

- Government has accepted and implemented three important recommendations of Committee of Experts (CoE) under the Chairmanship of Lt General D B Shekatkar (Retd) relating **to border Infrastructure.**

- These were related to **speeding up road construction**, leading to socio economic development in the border areas.

- On the matter related to creating border infrastructure, the Government has implemented recommendation of CoE to **outsource road construction** work beyond optimal capacity of Border Roads Organisation (BRO).

- It has been made mandatory to adopt **Engineering Procurement Contract** (EPC) mode for execution of all works costing more than Rs 100 crore.

- New Technology **like blasting technology** for precision blasting, **use of Geo-Textiles** for soil stabilisation, **cementitious base for pavements**, **plastic coated aggregates** for surfacing, is also being used to enhance the pace of construction.

Why multiple security agencies increases the complexity of border management?

- India's border sharing itself makes India's task more complex than most other countries. This complexity is accentuated by the fact that along with the army, we have multiple other security agencies — the **Central Armed Police Force (CAPF)** and the **Paramilitary Forces (PMF)** — sharing the responsibility.

- While the **army** is deployed along the LoC and AGPL, the **Border Security Force (BSF)** looks after the international border with Pakistan and Bangladesh.

- Guarding the LAC has been assigned to the **Indo-Tibetan Border Police (ITBP)** and **Assam Rifles.**

- The **Sashastra Seema Bal (SSB)** is responsible for guarding the borders with Nepal and Bhutan.

- The **Assam Rifles** looks after our border with Myanmar.

In a nutshell, in addition to the army, we have four agencies guarding borders with six neighbours. Conversely, maritime borders are guarded by a single agency — the **Coast Guard.**

Department of border management (DBM)

- A **department of border management** (DBM) in the MHA was set up.

- DBM has been spearheading the border management effort in the country.

- Some of the tasks it has performed are: the construction of the **border guarding infrastructure**, construction of **integrated check posts** to facilitate trade and movement of people, **socio-economic development** of border areas.

- MHA also **equips and trains** the border guarding forces.

- A principle of '**one border one force'** has been accepted to streamline the deployment of border guarding forces.

Issues emerged due to multiple security agencies

- **Lack of coherent policy**: Due to multiple bodies, there is a lack of a coherent policy on training, planning and the conduct of guarding operations among various outfits.

- **Lack of coordination:** Overall coordination is also affected.

- Going by the instances along the western border, our adversary has often escalated violations by resorting to the prolonged use of military resources.

- Similarly, their modus operandi has also undergone a qualitative change whereby they have buttressed border security by co-opting military battle drills and sub-unit tactics such as sniping, launching raids and ambushes on the Loc/international border by deploying regular troops.

- Chinese provocations along the LAC are military operations. Clearly, the peace-time scenario is now by and large militarised.

- How a 'single security agency' can solve India's issues?

- India needs a single security agency adequately equipped, suitably armed and trained in advanced military drills and sub-unit tactics to guard our borders.

- The manpower and infrastructure should be created by pooling and merging the resources of the CAPF and Assam Rifles.

- Further, to augment the battle efficiency, a fixed percentage of manpower, including the officer cadre, should be drawn on deputation from the army.

- The proposed outfit, let's call it the National Border Guard, (NBG), should have the explicit mandate to effectively retaliate against cross-border transgressions and stabilise the situation till the operations are taken over by the armed forces.

Global practice

- Most countries have raised specialised and dedicated armed bodies for border security. For example-

- Iran has the **Border Guard Command**

- Italy has the **Border Police Service**

- Russia has created a **Border Guard Service**

- US has **Homeland Security**.

- Closer home, in China, it is the **People's Armed Police**, while Pakistan has a **Frontier Corps** for its western border and the **Rangers** looking after the Indo-Pak Border.

⊙ WAY FORWARD

India's territorial borders, both land and sea, suffer from diverse physical, ethnic and cultural contradictions. While the state has a major role in securing war frontier, the **populations** along territorial peripheries, too, can play an important role in securing our interests. The people living in these areas are the **most important ingredient** towards a secure and safe border area. This would entail **reconceptualising the concept of border guarding** to effective border management, where local people became the centre of gravity of all actions. The border guarding forces have to evolve ways and means to mainstream **the local population in the management of the border areas.**

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INDIA' ADVANCEMENT IN DEFENCE TECHNOLOGY AND ITS IMPACT ON "ACT EAST POLICY"

CONTEXT:

Historically, India's "Act East Policy" has been evolved on the contours of economic, strategic and cultural relations with the Asia-Pacific regions. In addition to these, the defence has always been an integrated part of it. It has gained immense importance in contemporary international relations where a notable shift has been evident in the last few years.

⦿ BACKGROUND:

- ⦾ Act East Policy (2014) and its predecessor-Look East Policy (1991) are somewhat similar except the fact that the latter had not given much importance to defence and security aspects.

- ⦾ 'Act East Policy' represents a continuing phase of India's policy towards the Asia-Pacific region.

- ⦾ If we ponder upon its humble beginning, since its launch a lot has been changed, be its global status or the external environment.

- ⦾ It is time to intensify our economic, strategic and diplomatic relations with the countries in the region with whom we share common concerns amid China's growing economic and military strengths.

⦿ ANALYSIS:

- ⦾ Act East Policy (2014): Act East Policy has been primarily focused on the inclusive set: ASEAN countries + Economic Integration + East Asian countries + Security cooperation.

> **Security is an important dimension of India's Act East Policy.**
>
> - In the context of **growing Chinese assertiveness in the South China Sea** and the Indian Ocean, securing freedom of navigation and India's role in the Indian Ocean is a key feature of Act East Policy.
>
> - In pursuance of this, India has been engaged under the narrative of Indo-pacific and informal grouping called **Quad.**
>
> **India's Act East Policy is based on 4C's:**
>
> - Culture
> - Commerce
> - Connectivity
> - Capacity building

China as a Potential Concern:

- ⦾ China has been working on disruptive technologies like AI, advanced robotics, quantum computing, hypersonic systems, new materials and renewable energy to establish military dominance through 'informatisation' and 'intelligentisation'.

> **Intelligentisation** is the uniquely Chinese concept of applying AI's machine speed and processing power to military planning, operational command, and decision support.

- ⦾ With its Act East policy, India hopes to deepen its political, economic and security relationships with the countries of Southeast Asia and the wider Indo-Pacific. Balancing against the rise of China is a key driver.

- ⦾ Between 2012 and 2018, Beijing upgraded its bilateral relations with almost all ASEAN member-states to either 'strategic cooperative partnership' or 'comprehensive strategic cooperative partnership'.

- ⦾ According to global arms transfer data, a bulk of Chinese arms exports are made to India's neighbourhood-Pakistan, Bangladesh, Myanmar and Sri Lanka.

- ⦾ Several ASEAN countries such as Brunei, Indonesia, Malaysia, the Philippines and Vietnam are currently locked in territorial dispute and maritime claims with China in the South China Sea.

- ⦾ The latest issue has been the bitter standoff between India and China across LAC in eastern Ladakh. Concerns have also been raised about the China building bridge across Ladakh's Pangong Lake.

Complex Relation of China with the Countries in the Region:

- ⦾ Australia and South Korea: China's rise has compelled Indian outreach to forge stronger defence partnerships. India wants to deepen security ties with both the economic power as both countries have shown concern about China's stance on the South China Sea dispute.

- ⦾ Vietnam: It has a long history of disputed relationships with China, characterised by distrust

and fundamental differences. Vietnam is also found shunning Huawei's (Chinese company) 5G network. Vietnam is committed to protecting its sovereignty and territorial rights.

◉ Philippines: The Philippines has been historically Washington's ally. It has shown concerns over China's activities in the South China Sea.

◉ Singapore: Its status has been oscillating between a region of vital interest for the USA and reality on the doorstep for China. It's sensitive about its security and wants to retain its independent voice in the region.

◉ Myanmar: There is a strong Chinese presence in terms of trade and investments in Myanmar. China-Myanmar Economic Corridor as a part of BRI initiative. Myanmar offers access to China in the Bay of Bengal region. But Myanmar has retained its distrust across a succession of Myanmarese regimes.

◉ Indonesia: Chinese ships have been found to trespass Indonesian waters, and Chinese coast guard vessels and fishing boats enter Indonesia's territories.

◉ Malaysia: Despite China's regular presence in Malaysia's maritime economic zone, Malaysia has avoided confrontations. In December 2019 it submitted a petition with the United Nations "to better delineate its continental shelf claims in the South China Sea.

ASEAN member's responses to China:

◉ The positions of individual member states of ASEAN with China can be categorised as bandwagoners, hesitant hedgers, and active hedgers.

Bandwagoners	Hesitant hedgers	Active hedgers
Laos	Philippines	Singapore
Brunei	Malaysia	Vietnam
Cambodia	Myanmar	
	Thailand	
	Indonesia	

India's Role in the Region:

◉ Net Security Provider: India can become a reliable weapons supplier for several of our friendly nations, this will give India's strategic partnerships more heft. It will also shape India's position as a net security provider in the Indian Ocean Region.

◉ Reliable weapon supplier to friendly nations: It would shape India's position as a net security

provider in the Indian Ocean Region by emerging as a reliable weapon supplier to friendly nations, a resolve that is linked to the goal of self-reliance in defence manufacturing.

◉ Reinforcing partnership in weapon manufacturing: It would reinforce India's strategic partnerships as the roadmap for greater participation of the private sector in weapon manufacturing and invited foreign players to set up shops given the reforms being unrolled in FDI and labour rules.

◉ Making the global economy more resilient: The Atmanirbhar initiative is not inward-looking but was aimed at making the global economy more resilient and stable and was directed at the goal of world peace.

> **Importance of being Self-Sufficient in Defence:**
> ● Better management of Balance of Payments (cutting on imports)
> ● Less dependence on supplier during times of emergency
> ● Employment generation
> ● Capacity building
> ● Boost to innovation
> ● Futurist technology programs

◉ Countering China's expansion: India's self-reliance in defence technology not only secure its territories from the territorial uncertainties but also offer a means to counter Chinese aspirational strategist infrastructural projects like BRI and its increasing interference in the region. Certainly, it offers India an opportunity to attract the countries in the region and work harmoniously with them through the economic and defence ties to counter Chinese aggression and distrust.

Reforms in Indian Defence Sector:

◉ Changes in foreign direct investment (FDI) regulations: India changed its foreign direct investment (FDI) regulations to allow investments of up to 74 per cent in the defence manufacturing sector under its automatic route, which was previously limited to 49 per cent. This is an important decision for a sector that is struggling to attract investment.

◉ Implementing a negative import list of 209 weapons systems: It has been renamed as the 'positive indigenisation list'. The government wants to reduce the dependence on imported items in defence and give a shot in the arm to the domestic defence manufacturing industry.

◉ Establishment of Defence Industrial Corridors: The centre has decided to set up two defence corridors in Tamil Nadu and in Uttar Pradesh to line up the domestic production of defence equipment's by the public sector, MSMEs and private sector. The aim was not just self-reliance but to 'Make for the world', emphasising that exports would be a priority area in the coming years. This will help India to establish a manufacturing ecosystem

◉ Corporatisation of the 'Ordnance Factory Board': Corporatisation of the Ordnance Factory Board would be one of the biggest reforms in defence manufacturing in decades.

Recent developments:

◉ 'BrahMos' supersonic cruise missiles to Vietnam and the Philippines: India is likely to sell its BrahMos cruise missiles to Vietnam and the Philippines to boost its defence export market and have an edge over China. Vietnam is also procuring 12 Fast Attack Crafts and is also interested in Advanced Light Helicopters and Akash surface-to-air missiles.

◉ Increased share in global arms exports: India increased its share of global arms exports by 228%, from 0.1% between 2011-2015 to 0.2% between 2016-2020. Its top recipients include Myanmar, Sri Lanka, and Mauritius.

Items that India can Export:

◉ AK-203 Riffles

◉ BhraMos missile systems

◉ Arjun Mk-1A tank

◉ LCA/Helicopters

◉ Radars

◉ Bulletproof jackets

◉ Multi-purpose light transport aircraft

◉ Warships and Patrol Vessels

◉ CONCLUSION:

◉ Wars of the future will be different from traditional warfare. It is going to be a contactless, non-kinetic war, which shall be governed from the space. India has a bigger role to play amidst geopolitical and geostrategic shifts in the Indian Ocean Region where on one hand United States bats for 'Free and open Indo-Pacific' and China's BRI and maritime claims on the other.

◉ India is presently exporting to 42 countries defence-related equipment or systems and it is just the beginning, a lot of development is yet to be seen. To ensure that the vision of self-reliance should not become a euphemism for protectionism it has already made platforms like Innovations for Defence Excellence (Idex) initiatives, start-up forums and giving requisite importance to the collaboration of countries from ASEAN and the Indian Ocean Region. It is going to open a new chapter in the direction of establishing India as a net security provider, further adding to its Act East Policy.

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PROPOSED AMENDMENT TO THE IAS (CADRE) RULES

CONTEXT:

A controversy is raging these days regarding the proposed amendments to the IAS (cadre) rules proposed by the Central Government. This brief aims to understand the current rules and how would the proposed amendments impact the system.

◉ BACKGROUND

The iss ue

◎ There were around 5,200 IAS officers in the country as of January 1, 2021, and 458 were on central deputation.

◎ The Central Government is concerned because the required numbers of officers are not coming forward for central deputation and the Government of India is facing a shortage of officers.

◎ Thus, the **Department of Personnel and Training (DoPT)** has sent a list of proposed amendments to the chief secretaries of all states, titled Proposal for Amendments in **IAS (Cadre) Rules, 1954.**

◉ ANALYSIS

Understanding the concept of AIS

◎ Before going into the issue, it essential to understand the concept of **All India Services** (AIS) as well as the federal structure of the constitution.

◎ The idea behind the creation of All India Services (Indian Administrative Service, Indian Police Service and Indian Foreign Service) has been to have a common perspective between the State Governments and Government of India and that States should also function towards the achievement of **national goals.**

◎ Members of these service are recruited by the Central Government and are placed under various State Cadres.

◎ On selection, IAS officers are assigned to a State cadre where they serve in the district and State Secretariat and acquire knowledge about the ground-level realities.

◎ They can also opt for central deputation and generally, they spend five years in the Government of India if selected and acquire a national and international perspective.

➤ He/she carries his/her experience back to the state after his central deputation period is over.

◎ The All-India character of the service is maintained by the mechanism of giving **1/3 of the vacancies** in a state in a particular year to candidates who belong to the state and the balance is given to the officers from outside the state.

What are the current rules regarding deputation?

◎ Central deputation in the Indian Administrative Service (IAS) is covered under **Rule 6(1)** of the **IAS cadre rule 1954** inserted in May **1969** which states that "a cadre officer may, with the concurrence of the State Governments concerned and the Central Government, be deputed for service under the Central Government or another State Government".

◎ It further states that "provided that in the case of any disagreement, the matter shall be decided by the Central Government and the State Government concerned shall give effect to the decision of the Central Government".

How a central deputation reserve (CDR) is created and what is proposed now?

◎ Depending upon the strength of the IAS officers in a particular state a **central deputation reserve** is created which indicates the number of officers, at various levels, who are eligible for Government of India deputation.

◎ Based on this, the Central Government asks for an "offer list" of officers from which it selects the required officers.

◎ The Government of India has now proposed an additional condition in **6(1)** which states "provided that each government shall make available for deputation to the Central Government such number of eligible officers of various levels to the extent of the central deputation reserve".

◎ **Deciding authority:** The actual number of officers to be deputed to the Central Government shall be decided by the Central Government in consultation with the State Government concerned.

◎ **Disagreement:** In the event of any disagreement the State Governments shall give effect to the decision of the Central Government within a specified time.

⊙ In specific situations where services of cadre officers are required by the Central Government in the public interest the Central Government may seek the services of such officers for posting under the Central Government".

What about 'willingness' of Officers?

⊙ It is significant to note that the willingness of the officer concerned to go on deputation to the Government of India is essential as per rule **6(2)**

⊙ Rule 6(20 states that "no cadre officer shall be deputed except with his consent".

⊙ The clause about posting the officers in the Government of India in **public interest** appears to override this crucial requirement of the willingness of the officer concerned.

⊙ In effect, it would mean that any time the Central Government can pull out an officer from the State Government to serve in Government of India irrespective of the willingness of the State Government or the officer concerned.

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UNLOCKING INDIA'S FOOD PROCESSING POTENTIAL

CONTEXT:

The Growing population size of the globe is expected to touch 10 billion by the mid of this century and comes along it is a challenge to feed them by efficient means which are economically and ecologically sustainable.

◉ BACKGROUND:

- India is one of the largest producers of fruit and vegetables in the world and it has the potential to cater for the growing needs of the population sustainably.

- In recent times India has taken initiatives to bolster processed food production by incentivising incremental sales.

◉ ANALYSIS:

- India's Food processing sector is a sunrise sector, offering huge opportunities for investments with growth aspects. Necessary steps like favourable economic policies and attractive fiscal incentives can boost investments in the food processing industry in India.

Industry Scenario:

- The Indian food industry has a definite role to play in linking its farmers to consumers across the globe. The Ministry of Food Processing Industries (MoFPI) is making efforts to encourage investments across the value chain.

- The food processing industry in India is primarily comprised of grains, sugar, edible oils, beverages, and dairy products.

- The key sub-segments of the Food Processing industry in India are Fruits & Vegetables, Poultry & Meat processing, Fisheries, Food retail, dairy industry, etc.

- The industry engages about 1.93 million people and has a cumulative output of around $ 159 billion.

Some facts about the Indian Food Processing Industry:

- By 2025, India's food processing industry is expected to be worth over half a trillion dollars.

- By 2030, Indian annual household consumption to treble, making India the 5th largest consumer.

- 100% FDI is permitted under the automatic route in food processing industries in India.

- 100% FDI is allowed through the government approval route for trading, including through e-commerce in respect of food products manufactured or produced in India.

Factors of Growth Drivers in India:

- **Strong economy:** India is one of the fastest-growing economies in the world.

- **Agri-commodity Hub:** India is the largest producer of several agri-commodities like crops, livestock, fruits, cereals, etc.

- **Huge consumer base:** We have a huge market of 1.3 billion consumers with increasing demand for processed food. Changing the dietary habit of its people is adding to the rise in demand.

- **Conducive Policies:** Government policies are proactive and is aimed at providing attractive fiscal incentives.

- **One District, One Product (ODOP):** Under the ODOP scheme, 135 district-specific unique products for 728 districts have been identified across the country.

- **Atmanirbhar Bharat:** PLI schemes worth INR 10,900 crores were introduced under Atmanirbhar Bharat. The PLI is aimed at incentivising domestic players, and making the industry globally competitive with the production of high-value, export-oriented items.

STEPS TAKEN BY THE GOVERNMENT

- **PM Formalization of Micro Food Processing Enterprises (PM-FME) Scheme:**

  ➤ With initiatives like **Make in India** and the **Atmanirbhar Bharat Abhiyan,** the government has decided to further give a boost to the micro food processing units in the country. Taking inspiration from the **"Vocal for Local"** campaign the PM Formalization of Micro Food Processing Enterprises (PM FME) Scheme was launched.

- **Mega Food Parks:**

  ➤ To provide a mechanism to link agricultural production to the market by bringing together

farmers, processors and retailers to ensure maximizing value addition, minimizing wastage. So far 22 Mega Food Parks are operational. Now the target is to take their number to more than 40.

- **GIS One District One Product (ODOP) Digital Map of India:**
  - ➤ It is a capacity-building component of the Pradhan Mantri Formalisation of Micro Food Processing Enterprises Scheme (PM-FME Scheme) and GIS One District One Product (ODOP) Digital Map of India, which provides detailed information on ODOP products to all stakeholders.

- **Cold Chain Projects to Reduce Food Waste and Boost Exports:**
  - ➤ The policymakers in the agriculture, energy, education and food sectors must work together to promote the use of cold chain technology, improve logistics, maintenance, services, infrastructure, education and management skills, and create sustainable markets for the design, use and funding of cold chains for reducing perishable food losses.
  - ➤ Introducing cold chain/cold storage in a developing country context requires the integration of a great many different elements and the continuing management of those elements. These projects will fall under the '*Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)*' scheme, with aid from the central government.

- **Production Linked Incentive (PLI) Scheme:**
  - ➤ The Union Cabinet has given its approval to introduce the Production-Linked Incentive (PLI) Scheme in Food Products for Enhancing India's Manufacturing capabilities and enhancing exports – Atmanirbhar Bharat. The scheme has an outlay of INR 10,900 crore. The scheme will be implemented over six years from 2021-22 to 2026-27.
  - ➤ The scheme shall be implemented through a **Project Management Agency (PMA).** The PMA would, inter-alia, be responsible for the appraisal of applications/ proposals, verification of eligibility for support, scrutiny of claims eligible for disbursement of incentive

Role of Good-Governance

- **Impact on Food output:**
  - ➤ **It is often observed, that increased spending in public infrastructure positively affects food manufacturing output.** This correlation holds good in India too as **higher investments are being concentrated** in states such as Gujrat, Maharashtra, Tamil Nadu, Uttar Pradesh and Andhra Pradesh. These states have done fairly well and have been ranked amongst the highest by the **Good Governance Index 2020-21**, in the '**Public Infrastructure and Utilities'** parameter with '**Connectivity to Rural Habitations'** showing the highest improvement.
  - ➤ The logistics challenge of the supply chain is being taken care of by leveraging the existing **PM-Gram Sadak yojana, BHARATMALA**, and **SAGARMALA schemes.**
  - ➤ The long-run positive impact of public infrastructure on food output suggests its importance to the food manufacturing sector of continuous public infrastructure investment.

- **Impact of sales promotion on profitability:**
  - ➤ For the exports market, it is an established phenomenon that **sales promotion is positively related to increased sales volume, but inversely related to profitability**. By balancing value-increasing activities with direct investment in advertising and sales promotions, businesses can prosper. To bridge this gap, of the 13 key sectors announced under the **PLI scheme**, the 'Food Processing PLIS' earmarks a dedicated Category 3 for supporting branding and marketing activities in foreign markets.
  - ➤ This ensures that India's share of value-added products in the export's basket is improved, and it may also help to increase its proximity to the untapped markets of Europe, the Middle East/West Asia, Africa, Oceania and Japan.

- **Easy access to working capital:**
  - ➤ Pandemic has bolstered the market of *functional foods* and it is expected to provide a launch-pad for health-oriented start-ups and micro food-processing units. But access to capital, to MSMEs, has always been a problem in the country
  - ➤ Smart and easy financing through initiatives like MUDRA Bank, or Micro Units Development and Refinance Agency Banks hold the potential to overcome the problem of financing.
  - ➤ The sector also faces problems in terms of its ability to convert its trade receivables into liquid *funds*. To address this pan-India issue, setting up of and operating Trade Receivables e-Discounting System (TReDS) has been conceptualised. But this platform still requires considerable up-scaling and integration with the GST network e-invoicing portal.

Challenges and opportunities of the food processing sector:

- Bottlenecks in supply chain infrastructure
- Insufficient connection between production and processing
- Seasonality of operation
- Low-capacity utilisation
- Institutional gaps in supply chain
- Lack of focus on quality and safety standards
- Lack of efforts in product development and innovation.

Conclusion:

- Processed food has **immense export potential** together with growing domestic demand, encouragement to it with proper marketing, latest technology and steady flow of raw materials from the farmers meeting specific quality standards at stable prices leads to greater development of the agriculture sector. Linking agricultural production to the market by bringing **together the farmers, processors and retailers would substantially** increase farmers' income.

- The policy should aim to create an environment that enables the uptake of technology, good practices, and improve access to infrastructure, services, and markets that **minimize food loss and waste.**

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FCRA AND THE CASE OF FOREIGN FUNDING IN INDIA

CONTEXT:

The Supreme Court asked 6,000-odd NGOs to go back to the government for redressal of their grievances on non-renewal of their Foreign Contribution Regulation Act (FCRA) registration.

⊙ BACKGROUND

- ◎ NGO Global Peace Initiative had petitioned the court that the NGOs should be allowed to continue receiving and utilising foreign funds until the pandemic is over.

- ◎ The FCRA registrations of about 5,900 NGOs ceased to be active after December 31, 2021, owing to either the NGOs not applying for renewal before the due date or the MHA refusing their renewal for alleged violation of the Act.

- ◎ On December 25 last year, the MHA refused to renew the FCRA registration of Mother Teresa's Missionaries of Charity, based on "adverse inputs".

- ◎ The registration was, however, restored on January 6, and Missionaries of Charity's FCRA certificate has now been made valid until the end of 2026.

⊙ ANALYSIS

What is the FCRA?

> **Foreign contribution**
>
> A donation, delivery or transfer or any article, currency or foreign security by any person who has received it from any foreign source, either directly or through one or more persons refers to foreign contribution.

- ◎ The FCRA was enacted during the Emergency in 1976 in an atmosphere of apprehension that foreign powers were interfering in India's affairs by pumping in funds through independent organisations.

- ◎ These concerns had been expressed in Parliament as early as in 1969.

- ◎ The law sought to regulate foreign donations to individuals and associations so that they functioned "in a manner consistent with the values of a sovereign democratic republic".

- ◎ An amended FCRA was enacted under the UPA government in 2010 to "consolidate the law" on utilisation of foreign funds, and "to prohibit" their use for "any activities detrimental to national interest".

- ◎ The law was amended again by the current government in 2020, giving the government tighter control and scrutiny over the receipt and utilisation of foreign funds by NGOs.

- ◎ Broadly, the FCRA requires every person or NGO wishing to receive foreign donations to be registered under the Act, to open a bank account for the receipt of the foreign funds in State Bank of India, Delhi, and to utilise those funds only for the purpose for which they have been received and as stipulated in the Act.

- ◎ They are also required to file annual returns, and they must not transfer the funds to another NGO.

- ◎ The Act prohibits receipt of foreign funds by candidates for elections, journalists or newspaper and media broadcast companies, judges and government servants, members of legislature and political parties or their office-bearers, and organisations of a political nature.

> **Non-Governmental Organization (NGOs)**
>
> The World Bank defines NGOs as, *"private organizations that pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development."*
>
> - An NGO is any non-profit, voluntary citizens' group which is organized on a local, national or international level.
>
> - These organizations perform a variety of service and humanitarian functions, and bring citizen concerns to Governments, advocate and monitor policies and encourage political participation through provision of information.
>
> - An NGO can either be registered as a trust society or as a company under Section 25.
>
>   ▸ **Trust:** A trust is a possible form of not-for-profit entity in India, registered under the Indian Trusts Act, 1982. A trust is a legal arrangement in which a person holds the property for the sake of some other person.

> ➤ **Society:** Society is an association of person, who come together to fulfil any particular purpose, described under the act. A society registered under the provisions of the Societies Registration Act, 1860 (the Act) with the Registrar of the Societies, with aims and structure as laid down in the Act.

What is the process of granting of FCRA resigtration?

◉ **Online application:** NGOs that want to receive foreign funds must apply online in a prescribed format with the required documentation.

➤ FCRA registrations are granted to individuals or associations that have definite cultural, economic, educational, religious, and social programmes.

◉ **Inquiry through IB:** Following the application, the MHA makes inquiries through the Intelligence Bureau (IB) into the antecedents of the applicant, and accordingly processes the application.

◉ Under the FCRA, the applicant (should not):

➤ should not be fictitious or benami

➤ should not have been prosecuted or convicted for indulging in activities aimed at conversion through inducement or force, either directly or indirectly, from one religious faith to another

➤ should not have been prosecuted for or convicted of creating communal tension or disharmony

➤ should not have been found guilty of diversion or misutilisation of funds

➤ should not be engaged or likely to be engaged in the propagation of sedition

◉ **Approval or rejection:** The MHA is required to approve or reject the application within 90 days.

➤ In case of failure to process the application in the given time, the MHA is expected to inform the NGO of the reasons for the same.

For how long is approval granted?

◉ **Validity:** Once granted, FCRA registration is valid for five years.

◉ **Renewal:** NGOs are expected to apply for renewal within six months of the date of expiry of registration.

➤ In case of failure to apply for renewal, the registration is deemed to have expired, and the NGO is no longer entitled to receive foreign funds or utilise its existing funds without permission from the ministry.

On what basis is approval cancelled?

◉ **Act violation:** The government reserves the right to cancel the FCRA registration of any NGO if it finds it to be in **violation of the Act.**

◉ **False application:** Registration can be cancelled if an inquiry finds a false statement in the application; if the NGO is found to have violated any of the terms and conditions of the certificate or renewal; if it has not been engaged in any reasonable activity in its chosen field for the benefit of society for two consecutive years; or if it has become defunct.

◉ **For public interest:** It can also be cancelled if "in the opinion of the Central Government, it is necessary in the public interest to cancel the certificate".

◉ **Irregularities:** Registrations are also cancelled when an audit finds irregularities in the finances of an NGO in terms of misutilisation of foreign funds.

◉ According to FCRA, no order of cancellation of certificate can be made unless the person or NGO concerned has been given a reasonable opportunity of being heard. Once the registration of an NGO is cancelled, it is not eligible for re-registration for three years.

◉ The ministry also has powers to suspend an NGO's registration for 180 days pending inquiry, and can freeze its funds.

◉ All orders of the government can be challenged in the High Court.

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INDIAN ENVIRONMENT SERVICE

CONTEXT:

The Supreme Court recently asked the Centre whether it was planning a dedicated 'Indian Environment Service' in the national bureaucratic set-up, as recommended by a committee headed by former Cabinet secretary TSR Subramanian in 2014.

⊙ BACKGROUND

- In August 2014, a high-level committee was constituted under the chairmanship of **Subramanian** by the **ministry of environment, forests and climate change (MoEF & CC)**.

- The objective of the committee was to review environmental laws in the country, and to bring them in line with the current requirements.
  - ➤ It reviewed:
  - ➤ Indian Forest Act
  - ➤ Wild Life (Protection) Act
  - ➤ Water (Prevention and Control of Pollution) Act
  - ➤ Forest (Conservation) Act
  - ➤ Air (Prevention and Control of Pollution) Act
  - ➤ Environment (Protection) Act

- The report, submitted on November 18, 2014, recorded the fact that-
  - ➤ India had a strong environmental policy and legislative framework but weak implementation.
  - ➤ Weak implementation has resulted in environmental governance being criticised by conservation experts and the judiciary.

- As a step for the future, the committee said, **"An Indian Environment Service may be created, as an all-India Service, based on qualifications and other details prescribed by MoEF&CC/ DoPT/ UPSC."**

- **Regulatory framework**
  - ➤ The committee also proposed that necessary institutional framework be created for this purpose.
    - Officers dealing with environment clearances and policies currently come from the all India civil services conducted by the UPSC.

A parliament standing committee, however, rejected the report as it noted that the three-month period given to the HLC for reviewing six environmental laws was "too short", and recommended a new committee be constituted.

⊙ ANALYSIS

History of Environmental governance in India

- The history of environmental governance in post-independent India started 25 years after Independence when the then Prime Minister, Indira Gandhi, returned from the **United Nations (UN) Conference on Human, Environment and Development** in **Stockholm in 1972**.

- A **National Environmental Planning and Co-Ordination Committee** was formed by the Prime Minister with B P Pal (FRS).

- In 1972, the **Central Pollution Control Board** was set up followed by the state boards.

- The **department of environment** came into existence on November 1, 1980 followed by state departments.

- Environmental laws on water (1974), air (1981) and forest conservation (1981) were passed, as also the umbrella act of Environment Protection (1986).

- An Environment Policy and Strategy Statement was issued in the year of the UN Conference on Environment and Development in 1992.

- Environment Impact Assessment for 32 sectors became compulsory by a notification passed in 1992.

- Environment approval committees were formed for each sectoral assessment and all power was vested with the Centre.

- In 1996, India became a nation to follow the environmental governance system with a series of further controlling notification on coastal zone management, hill development, disposal of wastes (biomedical, plastic, hazardous).

What is the proposed Indian Environment Service?

- It will be an All-India Service (AIS).

- It will act as an expert group to man positions in this field in the public and quasi-governmental sectors over the next decades.

What is the need of such governing structure?

- 'Environment' will play a large role in the overall governance paradigm.

- The public sector, including the Central and State Governments, and various other quasi-official bodies, such as corporations, municipal boards, enforcement agencies, as well as the industrial sectors will require reliable expertise of a high order in the management of environmental issues.

- Current approval systems and monitoring mechanism function in a quasi-amateurish manner, leading to sub-optimal management of environmental issues.

The dismal state of India's environment

It is important to understand just how dismal is the state of India's environment.

- Majority of the rivers across the country are polluted.

- Much of solid waste is unprocessed even in wealthy parts of the country.

- Three-quarters of India's population lives in areas where air pollution (PM2.5, the most harmful pollutant) exceeds the Indian national standard, which itself is four times higher than the global standard

- This worrying situation is fundamentally one of health. Poor air, water and solid waste disposal affect the health of India's citizens and particularly its children.
  - For example, a **WHO report** suggests that 10% of the children who die before the age of five do so due to air pollution.

What are the main environmental laws in India?

- **Water (Prevention and Control of Pollution) Act 1974 (Water Act),** which also initially identified the powers, functions and hierarchy of the environmental agencies, the CPCB and the SPCBs.

- **Air (Prevention and Control of Pollution) Act 1981 (Air Act)**

- **Environment (Protection) Act 1986 (EP Act).** This umbrella law enables the central government to take measures it deems necessary to protect and improve the environment, and to prevent, control and abate environmental pollution. A wide range of rules and notifications have been adopted under it, such as the:
  - **E-Waste (Management) Rules 2016**, as amended in 2018 (E-Waste Rules)
  - **Batteries (Management & Handling) Rules 2001** (and the proposed draft Battery Waste Management Rules 2020)

  - **Bio-Medical Waste Management Rules 2016**
  - **Plastic Waste Management Rules 2016** (and a proposed draft 2021 amendment)
  - **Solid Waste Management Rules 2016**
  - **Construction and Demolition Waste Management Rules 2016**
  - **Hazardous and Other Waste** (Management and Transboundary Movement) Rules 2016, as amended in 2019 (HW Rules)
  - **Manufacture, Storage and Import of Hazardous Chemicals Rules 1989** (MSIHC Rules)
  - **Coastal Regulation Zone Notification 2019** (and related 2021 procedure for violation of the CRZ Notification)
  - **Environment Impact Assessment Notification 2006**.

- Wild Life (Protection) Act 1972
- Forest (Conservation) Act 1980
- Public Liability Insurance Act 1991
- Biological Diversity Act 2002
- National Green Tribunal Act 2010

> **Key regulatory authorities:**
> - Ministry of Environment, Forests and Climate Change (MoEFCC)
> - Central Pollution Control Board (CPCB)
> - State Pollution Control Board (SPCB)
> - District Level Authorities (that is, municipal corporations)

What are the measures to reshape Environmental Governance?

- **Sincere implementation:** The most pronounced solution lies in legislation, policy formulation and sincere implementation.

- **Focus on sustainable strategies:** By prioritizing Sustainable Development strategies through the legislature, further environmental deterioration could be mitigated.

- **Checks and balances:** Stringent checks and balances must be facilitated for accountability, along with improvement in transparency.

- **Public involvement:** Taking advantage of mass media resources like podcasts, documentaries, blogs should be encouraged.

- **Activism:** Climate litigation and activism also hold immense potential for positive change.

⊙ CONCLUSION

The interplay of environmental governance and socioeconomic problems is overwhelmingly complex and disturbing. However distressing these issues may seem, the government must be compelled to look towards solutions as well.

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AMENDMENT TO WILDLIFE (PROTECTION) ACT AND PROTECTION OF INDIA'S WILDLIFE

CONTEXT:

India enacted its Wild Life (Protection) Act, or WLPA, 50 years ago as its principal law to protect and conserve its wildlife. In December 2021, the Union environment ministry announced a plan to amend this Act by introducing the Wild Life (Protection) Amendment Bill, 2021.

⊙ BACKGROUND

- India is blessed with dense forests and thriving, healthy ecosystems within its borders.
- The flora and fauna of India, some of them only endemic to India, makes India a hotspot for tourists.
- The country is also home to well over 2000 tigers - most of which reside and roam within protected reserves.
- India has more than a hundred national parks, covering over 15,600 square miles of protected land.
- One cannot discount the fact that wildlife in India has survived the onslaught of hunters, especially during the British colonial era in the century before Independence.
- Many of the country's wildlife sanctuaries were once hunting reserves exploited by the British officers and some erstwhile maharajas.
- In contemporary India, though, more than 50 have been designated as tiger reserves and are protected areas under the Wild Life Protection Act, 1972 (WPA - 1972).

> **Facts on India's incredible Biodiversity**
> - India is the only country in the world with native populations of both tigers and lions.
> - India is just 2% of the world's land mass, but is home to 8% of the world's biodiversity.
> - Among plants, 33% of the world's species are endemic to India, which means they are found nowhere else in the world.
> - Mangroves in India account for about 3% of the world's entire mangrove vegetation.
> - India is one of the 17 megadiverse countries in the world. Out of 35 biodiversity hotspots in the world, India has 4 biodiversity hotspots.
> - India is home to 12% of the world's bird species.
> - India is home to nearly half of the world's aquatic plants.

⊙ ANALYSIS

The original Act

- The original Wild Life (Protection) Act acts to:
  - prohibits people from hunting wildlife
  - provides legal safeguards for different species based on their threat status
  - regulates trade and commerce in wild species
  - imposes penalties for wildlife-related crimes
  - specifies the terms to declare protected areas
- The Act has been amended several times, in 1982, 1986, 1991, 1993, 2002, 2006 and 2013.
- The proposed amendment is likely the most expansive so far in scope: it covers more areas of legislation, from trade in wild species to permitting filmmaking in protected areas and controlling the spread of invasive species.

Objects and reasons of the bill

- The **Wild Life (Protection) Act, 1972**, was enacted to provide for the protection of **wild animals, birds and plants** with a view to ensure the ecological and environmental security of the country.
- The bill seeks to include the aspects of "conservation" and "management" of wildlife which are covered by the Act and make amendments for better management of protected areas.
- It proposes to rationalise and amend the schedules, which list out wildlife species, for the purposes of clarity, and ensure better care of seized live animals and disposal of seized wildlife parts and products.
- India is a party to the **Convention on International trade in Endangered Species of Wild Fauna and Flora (the Convention)** which requires that appropriate measures are taken to enforce the provisions of the Convention.
- It is proposed to amend the Act to provide for the implementation of the Convention.

Assessing the proposed amendment rules

- **Positive side**
  - **Decentralization:** The Bill aims to decentralise wildlife protection, with the establishment

of Standing Committees of State Boards of Wildlife, which can regulate permissions to various projects based on their impact on the wildlife, without having to refer to the **National Board for Wildlife.**

➤ The bill also aims to streamline the schedules mentioned in the original Act, shrinking them from six to four.

➤ Additionally, Wildlife Management Plans crafted for wildlife sanctuaries and parks in the country will be brought under the jurisdiction of the Act, thereby increasing the scope for stricter protection for various species. These were earlier governed by the government in charge.

➤ **Increased penalty for wildlife crimes:** The Bill increases penalties for wildlife crimes.

  ● **For example**, offences that attracted a fine of Rs 25,000 now attract Rs 1 lakh.

➤ **CITES:** There's a new and separate chapter on regulating species involved in international trade according to the **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)** treaty. Specifically, the Bill prohibits possessing, trading and breeding species without prior permissions from CITES authorities.

  ● India became party to CITES in 1976.

➤ **Invasive alien species**: The Bill also recognises threats that invasive alien species pose.

  ● These species aren't native to the country; when they're introduced to an ecosystem that hasn't evolved to deal with this life-form, they can quickly degrade it to their advantage.

    ● An infamous example is the weed called **mesquite**.

> The Bill doesn't include regional invasive species – some of which may be native to the country but invasive in some parts. For example, the spotted deer, or chital, is native to India but is invasive in the Andaman and Nicobar islands.

● **Negative side**

➤ **Effect on elephant population:** The bill allows for commercial trade in elephants which is problematic because it effectively gives legal sanctity to commercial trade in live elephants.

  ● Wild Asian elephants are taken from forests, often illegally, to maintain the high demand for captive elephants. This could affect wild populations of elephants.

➤ **More power to centre:** Another amendment in the bill has given excessive delegation and unrestricted power to the Central government to declare a species as **vermin.**

  ● Once a wild animal is declared as vermin, it enjoys no legal protection and has the same status as a domestic animal. It can be killed, traded, and tamed.

➤ **Permission for film shoot: Section-28 (b)** has been amended to grant permission for film-making without causing any adverse impact to habitat/wildlife.

  ● Film shooting was banned in **1978 to avoid accidents and tragedies.**

➤ The bill also lacks to encourage the importance of including research and habitats in the Preamble and creating enabling provisions.

◉ CONCLUSION

There is a dire need for joint effort of Government furthermore, Stakeholders with NGOs for various projects worry to protection of biodiversity and natural life government assistance. Government ought to endorse enactment for illicit exercises that drives biodiversity to the edge of termination. There ought to be open mindfulness about wildlife conservation significance through social, print and electronic media.

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SUSTAINABLE CITIES AND URBAN GREEN SPACES

CONTEXT:

During the novel coronavirus pandemic, momentarily we do have witnessed an outflow of people from the bigger cities to suburban and rural areas. But now this trend is reversing and urban occupancy is rebounding. The need for housing with adequate amenities in the cities is growing fast. The government and the industry are struggling in keeping up the pace to fulfil the increasing demand for sustainable urban housing.

⦿ **BACKGROUND:**

⦾ New job opportunities and natural population increase is making people move to the cities, thereby *putting enormous stress on the shared resources* which are getting translated into an additional burden on the cities. To name a few, it has resulted in the **concretisation of cities**, **increases in greenhouse gas emissions**, **declining water table**, etc.

⦿ **ANALYSIS:**

Climate change, urban emissions and declining green spaces in the cities is throwing challenges on cities infrastructure and is asking for immediate remedial action and timely course correction to avoid the situation from getting out of hand.

Why do we need green spaces in the cities?

⦾ **To mitigate the effect of Pollution:** It can help to reduce a phenomenon known as the urban heat island effect, which refers to heat trapped in built-up areas. Increased temperatures in summer lead to an increased demand for cooling.

> **The urban heat island effect** appears in towns and cities as a result of human activity. The heat generated by people, transport, shops and industry is trapped in the narrow roads and concrete structures, unable to escape to the atmosphere. This can bring the temperature in urban areas up 3-4°C higher than the surrounding countryside.

⦾ **Crucial for Community Health**: Green spaces are good for human health and they are crucial for community health. Research shows that cities with healthy community forests are more resilient. Cities gain from the environmental, social and economic benefits of urban trees and green spaces when it is part of overall planning and infrastructure.

⦾ **Avoid Flooding & Degradation of Water Quality:**

➤ The impermeable materials used for roads and pavements mean that rain is not absorbed and remains on the surface, which results in flooding.

➤ High levels of surface water run-off are that rainwater washes pollutants away from the surfaces it falls onto, transporting them into watercourses.

⦾ **Wildlife and Habitats:** Cities are considered to host a less diverse range of

➤ plants, animals and birds than nearby rural areas. However, green spaces

➤ within an urban area can be home to many of the same species that are more

➤ commonly associated with rural settings.

> **Fear of Urban Collapse:** NITI Aayog in its report on "*Reforms in Urban Planning Capacity in India*" (September 2021), cites the COVID-19 pandemic as a revelatory moment that underscores the dire need for all cities to become healthy cities by 2030. Climate impacts are certain to affect cities even more fundamentally and permanently. NITI Aayog recommends the following approaches:
> ● Participatory planning mechanism
> ● Surveys and focus group discussions to assess the needs and aspirations of citizens
> ● Implementation of technological tools
> ● Bringing private-sector talent and mapping strategies to identify a city's assets and to plan spatially.

Possible ways to make green spaces available:

⦾ **Green roofs:** Adding a layer of vegetation to rooftops and creating green roofs has proven to reduce the urban heat island effect. Greenery on our roofs would both reduce surface temperature and serve as insulation for the structures below, reducing the energy needed to heat and cool the buildings.

⦾ **Miniature Forests-Planting Trees in streets:** By increasing the diversity of trees on our streets we can create miniature forests. This has already started to be implemented in cities like Singapore, where they are mixing human structures with many different tree species.

Democratising our green spaces: Access to green spaces isn't a universal phenomenon, rather it is getting more of a luxury nowadays to a few. It can be a driver of inequality in our societies. A 2008, Lancet study has shown link between income inequality, access to green spaces and life expectancy. In rural areas with plenty of access to green spaces, the life expectancy of those on the highest and lowest incomes was roughly the same. But the gap is staggering in an urban setup.

◎ **Affordable green housing:** At the moment it is more expensive to live in high-quality urban areas, with good access to nature. Due to the demand-supply gap housing cost goes up. It is a kind of *green gentrification.* Comprehensive work needs to be done in this area to make green housing affordable.

Green gentrification is the process by which environmental greening leads to increases in perceived local desirability that result in higher property values and rents.

◎ **Big data analytics-Open Metering:** Collecting real-time electricity data for the household to enable big data analytics for the grid. It can improve customer awareness of their electricity consumption habits and favour more efficient and sustainable consumption models.

◎ **Need for Functional Master plans:** Less than half of all cities have master plans, and even these are ruled by informality, since both influential elites and the poor encroach upon commons resources differently, so carving remedial action plans on a case-to-case basis becomes important.

ROLE OF GOVERNMENT:

● **Evaluation of Greenness of Building:**

➤ **Green Building Codes:** There are green building codes such as the NBC (National Building Code). Green building code in India defines all the specifications that a developer can adhere to qualify a project for *Green-certification.*

➤ **Green Rating for Integrated Habitat Assessment** (**GRIHA**): is recognised as India's own green building rating system in India's Intended Nationally Determined Contributions (INDC) submitted to the United Nations Framework Convention on Climate Change (UNFCCC).

➤ **Efficiency's Energy Conservation Building Code (ECBC):** Its purpose is to provide minimum requirements for the energy-efficient design and construction of buildings. The implementation of the Bureau of Energy Efficiency's Energy Conservation Building Code (ECBC) has not been uniform across the country.

● **Fast-Tracking SDGs:**

➤ Improving air and habitation quality in cities *(SDG 11*). Policymakers are now realising that urbanisation is set to accelerate and so is the need for green spaces in the cities. There is still an **inadequate understanding** of the need to plan for urbanisation. It poses Indian cities not only challenge but also dismantles *Sustainable Development Goals SDG 11.*

➤ By 2030, India is expected to be home to 6 mega-cities with populations above 10 million. Currently, 17% of India's urban population lives in slums.

Sustainable development Goal (SDG) 11: Making cities sustainable means creating career and business opportunities, safe and affordable housing, and building resilient societies and economies. It involves investment in public transport, creating green public spaces, and improving urban planning and management in participatory and inclusive ways.

● **Net Zero Carbon Cities Initiative:**

➤ The implementation of India's commitments, to achieve net-zero by 2070 was made at the **6ᵗʰ Conference of Parties (COP-26) at Glasgow**. It may seem a long way off, given the timeline but actions have to begin now. Major transformations will be needed in many spheres.

➤ Buildings must be designed to use less energy. Cities will have to take multiple and coordinated, actions to reduce carbon emissions. Accelerating the use of clean and renewable energy.

Reducing emission to nearly half by 2030: *panchamrita (five-fold strategy)*

● India will get its non-fossil energy capacity to 500 gigawatts (GW) by 2030

● India will meet 50 per cent of its energy requirements from renewable energy by 2030

● India will reduce the total projected carbon emissions by one billion tonnes from now onwards till 2030

● By 2030, India will reduce the carbon intensity of its economy by less than 45 per cent

● So, by the year 2070, **India will achieve the target of Net Zero**

Smart Cities Mission:

- It envisages technological advancements of our cities to improve governance, sustainability and disaster risk resilience.

- It sought to improve energy efficiency and non-motorised transport capacity in urban centres.

Sustainable Land Management:

- Climate change cannot be mitigated only through greening and reversing land degradation. This will have to be coupled with sustainable land management strategies.

Nationally Determined Contributions (NDC):

- India plans to reduce its emissions intensity by 33 - 35% between 2005 and 2030. To this effect, it is focusing on accelerating the use of clean and renewable energy by 40% by 2030, and on promoting the efficient use of energy.

Revising 74th Constitution Amendment:

- It has been around 30 years since the Twelfth Schedule was enacted. The twelfth schedule was added by the 74th amendment act of 1992. It contains the powers, authority and responsibilities of Municipalities.

- With new challenges and the changed priorities of the cities, the vision of local governing bodies needs to evolve. *It must mandate at least functions impacting the sustainable developmental goals, such as the provision for governance of urban amenities and facilities like parks, gardens and playgrounds.*

⊙ CONCLUSION:

"Sustainable cities or green spaces amounts to giving up some control of our surroundings- but for our long-term benefit." We need to get used to letting go and try not to manage everything. India doesn't need flashy retrofitted 'smart' enclosures but sound, functional metropolitan cities that can handle floods, heatwaves, pollution and mass mobility to insulate the growth momentum of Indian economy from fading away.

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INFORMAL ECONOMY VERSUS FORMAL ECONOMY

CONTEXT:

The informal economy is a global pervasive phenomenon. According to the International Labour Organization, about 60 per cent of the world's employed population participates in the informal sector. It is prevalent in emerging and developing economies. The moment informal sectors get regulated, it creates the distinction between formal and informal. It is the introduction of compliance that creates the division between the two. India is predominantly an Informal economy.

⊙ ABOUT INFORMAL ECONOMY:

- The informal economy comprises activities that have market value and would add to tax revenue and GDP if they were recorded.

- In such economies, employers do not provide social security to employees. It is a globally widespread phenomenon.

- Informal workers in rural and urban areas have been hit the most due to the pandemic, because of the seasonality of their employment and lack of formal employee-employer relationships.

Informality in the economy arises due to a wide range of reasons:

- To avoid taxes and social contributions

- To avoid compliance with standard and licencing requirements

> **It is a misconceived notion that people opting for the informal sector are doing so to cheat or to avoid the tax net. Many times, it is to use informal activities as a safety net:**
>
> - They might be too poor to access public or financial services
>
> - They may lack education and skill for formal employment

Issues with Informal firms:

- It is an obstacle to achieving sustainable development (*Greening of economy necessitates formalisation*).

> A green economy is defined as low carbon, resource-efficient and socially inclusive.

- They do not contribute to the tax pool

- They tend to remain small with limited access to finances

- They are associated with low productivity

Characteristics of Informal Economy

- **Prevalence of inequality:**

  > **Wage gap:** workers with similar skills tend to earn less in the informal sector than their formal sector peers, and the wage gap between formal and informal workers is higher at a lower skill level.

  > **Poverty:** Informal workers are more likely to be poor than workers in the formal sector, both because they lack formal contracts and social protection and because they tend to be less educated.

- **Gender inequality:**

  > Women are more likely than men not only to be in informal employment but also to be in the most precarious and low-paying categories of informal employment.

> **Findings of Periodic Labour Force Survey (PLFS):**
>
> - Over 90% of workers are in the informal sector (419 million in absolute numbers)
>
> - Rural- 95% (298 million) workers
>
> - Urban- 80% (121 million) workers
>
> - 62% rural informal labour in agriculture
>
> - 93 million in manufacturing, hotel, construction
>
> - Urban informal- 50% is self-employed
>
> - Urban informal- 20% daily wagers, 30% salaried

KEY DIFFERENCE BETWEEN FORMAL & INFORMAL ECONOMY:

Formal economy:

- The worker has a **formal contract** with the employer

- **Defined working conditions** and job responsibilities

- **Assurance of a decent fixed salary** with perks and incentives
- **Established platforms to express grievances**
- **Fixed duration of work-time**
- Stakeholders are **aware of their rights**
- **Social security net** for health and life risks

Informal economy:

- **Absence of formal contract** with the employer
- **Work conditions are not defined**
- **Irregularly remuneration** and uneven payment
- **Lack of established platforms to express grievances**.
- **No fixed hours of work** and mostly meagre salaries
- **Stakeholders have poor knowledge about their rights**
- **No provisions of social security net** for the worker

CHALLENGES IN INFORMAL ECONOMY:

- **Challenges faced by labour:**
- Long working hours, low pay and difficult conditions
- Low job security, high turnover and low job satisfaction
- Inadequate social security regulation
- Difficulty in exercising rights
- Child and forced labour discrimination
- Vulnerable, low-paid or undervalued jobs

For every worker there should be three kinds of security:

- **Wage Security**: The wages (Amendment) Act 2017, ensures that every worker in India is to be paid certain minimum wages.
- **Job Security:** Probability that an individual will keep their job.
- **Social Security**: Employees should be able to take care of themselves and its family during times of need, **e.g**-medical emergencies etc.

Policy Design to Address Informality:

- It is a complicated exercise due to multiple causes and forms, both across and within countries to design effective policies to address informality. Informality is a response to a set of country-specific characteristics and institutions, and there

is no one-size-fits-all solution to the problem. Extensive research and policy experiments point to a common set of guiding principles for policy design. Four types of policies have proved effective:

- **Improving access to and quality of education** is probably the single most powerful way to lower informality.
- **Tax system design** should avoid inadvertently increasing incentives for individuals and firms to remain in the informal sector.
- **Policies to enhance financial inclusion** by promoting expanded access to formal (or bank-based) financial services can help lower informality.
- A range of structural policies can help **increase incentives and lower the cost of formalization.**

Initiatives Taken by Government:

- **Labour Reform:** The Parliament passed three labour codes on industrial relations; occupational safety, health and working conditions; and social security — proposing to simplify the country's archaic labour laws and give impetus to economic activity without compromising with the workers' benefits. New labour codes have taken notice of the informal urban segment of the informal economy i.e. the gig economy, workers now are the worst affected in a pandemic like situation.
- **E-Shram Portal:** It is the first-ever national database of unorganised workers including migrant workers, construction workers, gig and platform workers, etc.
- **Udyam Portal:** It is the Government Portal to facilitate the registration of MSMEs. The Ministry of Micro, Small Medium Enterprises maintains this portal.
- **Pradhan Mantri Shram Yogi Maan-dhan:** It is a Central Sector Scheme administered by the Ministry of Labour and Employment and implemented through the Life Insurance Corporation of India and Community Service Centres.
- **PM SVANidhi:** The Ministry of Housing and Urban Affairs (MoHUA) has launched Pradhan Mantri Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi), for providing affordable loans to street vendors.

SHRINKING INFORMAL SECTOR:

- SBI in its recent report has estimated that India's informal economy has shrunk to 15-20 per cent of GDP in 2020-21 from 52 per cent in 2017-18. Formalisation is primarily the reason for the shrinking of the informal sector.

Basis for measuring Contraction in Informal Sector:

- **Formalisation of Financial Transitions:**
  - ➤ Use of digital payments
  - ➤ Formalisation of agricultural credit through Kisan Credit Cards and
  - ➤ Increase in online purchases
  - ➤ Reduced cash intensity of the economy due to combination of demonetisation and implementation of GST.

- **Formalisation of Tax Net:**
  - ➤ The provision of GST discourages registered businesses to deal with unregistered entities in the informal sectors.
  - ➤ This has encouraged the informal sector to get itself registered to remain in the supply chain.
  - ➤ The awareness about the event of loss for the reason of not complying with the tax law has increased the size of the formal economy.

- **Formalisation in reporting of employees in registered enterprises:**
  - ➤ The data of the EPFO payroll report has estimated that from 2017-18, almost 36.6 lakh jobs had been formalised till July 2021.
  - ➤ E-Shram portal, which is the first national database of unorganised workers has facilitated the benefits of social sector schemes. More than 5.3 crore workers had registered until 30 October, last year.
  - ➤ The government has also incentivised establishments under the EPFO to hire more workers along with social security benefits. As part of the scheme, the government is crediting, for a period of two years, the employees' and the employers' share of contribution of the EPFO-registered establishments.

- **Formalisation in the share of output produced by the registered companies:**
  - ➤ An alternative way to assess the informality in the economy is by looking at the contribution of non-agricultural enterprise to GDP.
  - ➤ **"Udyam"** (a new process of registration of small businesses) registration will play an important part in the formalisation of this sector. It will help the government collect data on this sector, and, at the same time, it will help small businesses (MSMEs) access the various schemes offered by the government.

⊙ CONCLUSION:

- ⊙ Informality critically affects how fast economies can grow, develop, and provide decent economic opportunities for their populations. **Sustainable development requires a reduction in informality over time,** but this process will inevitably be gradual because the informal sector is currently the only viable income source for billions of people.

- ⊙ Informality is best tackled by steady reforms, such as investment in education and policies that address its underlying causes. Attacks on the informal sector motivated by the view that it is generally operated illegally and evades taxes are not the answer. Indian economy is witnessing a sea of changes, which could lead to short term disruptions. In the coming time, greater formalisation will see a shift from low-paying, labour-intensive jobs in the informal sector to more productive, capital-intensive formal-sector jobs.

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CVC'S 'INTEGRITY PACT' AGAINST CORRUPTION

CONTEXT:

The Central Vigilance Commission (CVC) has again modified the criteria for the nomination of Independent External Monitors (IEM) in government bodies, months after it had issued a revised standard operating procedure for adoption and implementation of the 'Integrity Pact' clause, which is meant to prevent corruption in public procurement.

⊙ BACKGROUND

- ⊙ In June 2021, the Commission had issued the revised guidelines for adoption and implementation of the 'Integrity Pact', also specifying the eligibility criteria for nomination of IEMs, who oversee the execution of the clause.

- ⊙ They give recommendations to the authorities concerned after examining the complaints related to any contract.

- ⊙ Following feedback and suggestions from the Chief Vigilance Officers and other individuals, the CVC decided to modify the criteria.

- ⊙ Accordingly, through an order, the zone of consideration for empanelment as IEMs has been revised.

Central Vigilance Commission (CVC)

- • The Central Vigilance Commission (CVC), set up by the Government of India in February, 1964, as an apex vigilance institution to advise and guide Central Government agencies in the field of vigilance.

- • It is free of control from any executive authority, monitoring all vigilance activities and advising the Central Government's various authorities in planning, executing, reviewing and reforming their vigilance work.

Analysis

What is integrity?

- ⊙ "Integrity" is about the ethics of behavior of everyone involved in governance.

- ⊙ Integrity refers to the moral quality of the governance process, which is important for the legitimacy and credibility of (public) power.

What is an Integrity Pact (IP)?

Transparency International defines corruption as "the abuse of entrusted power for private gain".

- ⊙ The Integrity Pact (IP) is an anti-corruption tool to help governments, businesses and civil society intent on fighting corruption in the field of public contracting and procurement.

- ⊙ It is mandatory for all government organisations, public sector enterprises, public sector banks, insurance companies, and other financial institutions and autonomous bodies etc.

- ⊙ It is essentially envisages an agreement between the prospective vendors/bidders and the buyer, committing the persons/officials of both sides not to resort to any corrupt practices in any aspect/ stage of the contract.

- ⊙ It consists of an agreement between a government or a government department (hereafter referred to as the Principal) and all bidders for a contract.

- ⊙ The IP sets out their rights and obligations to the effect that neither side will pay, offer, demand or accept bribes, and/or collude with competitors to obtain the contract, or while carrying it out.

- ⊙ Only those vendors/ bidders, who commit themselves to such a Pact with the buyer, would be considered competent to participate in the bidding process. In other words, entering into this Pact would be a preliminary qualification.

Players of IP

- • The Company, i.e., Principal

- • The vendors, i.e., Counter-party

- • The Independent External Monitor (IEM)

What is integrity of the Public Sector?

- ⊙ The integrity of the public sector refers to the quality of actions taken by public servants, measured on the basis of fundamental rules and public values.

Definition

- • The **Organisation for Economic Co-operation and Development (OECD)** defines "integrity of the public sector" as "the application of values, principles and norms in the daily operations of public sector organisations."

- The **World Trade Organization (WTO)** notes that "one of the fundamental standards of conduct derives from the requirement of integrity. Integrity implies not only honesty, truthfulness and freedom from corrupting influences but also integrity as an international public official."

What is the need of 'integrity' in government functioning?

- Integrity has become a concept and topic with more prominence in research on government and governance, as well as in actual policy making at all levels.

- Significance for all sectors: However, it is to be noted that integrity is not only important in government and governance, but it has become more important in all sectors of society.

- Integrity is a cornerstone of a system of sound public governance. It assures citizens that the government is working in their interest, not just for the select few, and is vital for the economic prosperity and well-being of society as a whole.

- Integrity is a crucial determinant of trust.

- Integrity policies, aimed at preventing corruption and fostering high standards of behaviour, help to reinforce the credibility and legitimacy of those involved in policy decision making, safeguarding the public interest and restoring confidence in the policy making process.

⦿ CONCLUSION

Integrity is essential for building strong institutions and assures citizens that the government is working in their interest, not just for the select few. Integrity is not just a moral issue, it is also about making economies more productive, public sectors more efficient, societies and economies more inclusive. It is about restoring trust, not just trust in government, but trust in public institutions, regulators, banks, and corporations.

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SECTION: B
(PRELIMS)

CURRENT AFFAIRS

SUNDARBANS IS CYCLONE CAPITAL OF INDIA: IMD

⊙ **CONTEXT:** West Bengal's South 24 Parganas district, within which the larger share of the Sundarbans is located, is impacted by cyclones the most frequently among Indian districts, found a recent study.

About Sundarbans

- The Sunderbans forest sprawls over 10,000 sq km covering India and neighbouring Bangladesh, of which 40% lies in India.

- It is located in the south-west of Bangladesh between the river **Baleswar** in the East and the **Harinbanga** in the West, adjoining to the **Bay of Bengal.**

  ⊙ In India, it is confined to the southern tip of West Bengal and spreads over two districts – **South 24 Parganas** and **North 24 Parganas.**

- The Sundarban Delta has 102 islands, of which 54 are inhabited. The rest constitute the world's largest mangrove forest.

- Sundarbans has got the world's largest coastal mangrove forest (an area of about 10,000 km^2, shared between India (4,000 km^2) and Bangladesh (6,000 km^2).

- The Sundarbans is a **UNESCO world heritage site** and a critical wetland.

The reduced forest cover

- The **State of Forest Report 2021** revealed that the very dense mangrove cover in the Sunderbans shrank by two square kilometres – from 996 sq km to 994 sq km - between 2019 and 2021.

- The delta had a dense mangrove cover of 999 sq km in 2017, which declined by 3 sq km in 2019.

  ⊙ The southern Bengal delta was hit by two very severe cyclones – **Amphan** in May 2020 and **Yaas** in May 2021 – which took a toll on the vegetation. Nearly one-third of the delta was severely damaged during Amphan.

Tropical Cyclone
- A tropical cyclone is a rapidly rotating storm system.

- It is characterized by a low-pressure centre, a closed low-level atmospheric circulation, strong winds, and a spiral arrangement of thunderstorms that produce heavy rain or squalls.
- The Indian continent is considered to be the worst cyclone-affected part of the world.
  - About 8% of the land is vulnerable to cyclones of which coastal areas experience two or three tropical cyclones in a year.
- Depending on its location and strength, a tropical cyclone is referred to by different names, including hurricane, typhoon, tropical storm, cyclonic storm, tropical depression, and simply cyclone.
  - **Hurricane:** Atlantic Ocean
  - **Typhoon:** North-western Pacific Ocean
  - **Tropical cyclones:** South Pacific or the Indian Ocean

'GUJARAT'S TRIBAL REVOLUTIONARIES' TABLEAU

⊙ **CONTEXT:**

- In the Sabarkantha district of Gujarat, a more horrific massacre than Jallianwala Bagh was committed by the British, and about 1,200 tribals were martyred.

- On the 100th anniversary of this unknown historical event, the Gujarat government will highlight it through tableaux, named as 'Gujarat's tribal revolutionaries', at the Republic Day Parade.

◉ **ABOUT:**

- The 45-feet long, 14-feet wide and 16-feet high official tableau from Gujarat for the Republic Day parade will represent the incident of indiscriminate firing by the British army on the tribal revolutionaries of Pal Dadhvaav village.

- A seven-feet statue of Motilal Tejawat, who was regarded as the 'Gandhi of Koliyari' by the tribals, will be the main highlight of the tableau.

- A statue of H G Saturn, the British cavalier who gave the firing order, will also be depicted in it.

Protest of Bhil tribal in freedom movement

- About 600 innocent civilians were killed at **Jallianwala Bagh** in Amritsar, Punjab on April 13, 1919.

- Later in 1920, Gandhiji started the **non-cooperation movement** in Calcutta. The freedom struggle had started all over the country.

- In the **Sabarkantha** district of Gujarat, the **Bhil tribals**, who lived a lavish life in the Aravalli hills, also protested the:

  ◎ exploitation

  ◎ harsh taxes

  ◎ tyranny of the British and the feudal lords

Bhil Tribals

- Bhills are considered as one of the oldest tribe in India.

- Once they were the ruler in parts of Rajasthan, Gujarat, Malwa, Madhya Pradesh and Bihar.

- They are a cross section of great Munda race and a wild tribe of India.

- Bhills could be identified as one of the Dravidian racial tribe of Western India and belong to Austroloid group of tribes.

  ➤ They speak a language of Dravidian origin

About the forgotten horrific incident

- **Date:** March 7, 1922

- **Location:** Sabarkantha district of Gujarat

- **Tribal leader:** Motilal Tejawat

- **British Officer:** Major HG Stern

- This horrific incident took place in the Sabarkantha district of Gujarat, three years after the Jallianwala Bagh massacre.

- Freedom-loving tribals met under the leadership of **Motilal Tejawat**, known as the Gandhi of Koliyari.

- An armed military force of the British paramilitary force called **Mewar Bhil Corps (MBC)** was stationed on the **Jaramara hills**.

- **Major HG Stern**, the British officer of the MBC, ordered to shoot at the thousands of tribals, who had gathered, and around **1,200 innocent tribals** were shot dead.

- The sound of gunshots from machine guns erased the dance and drums of the tribals forever.

- There were piles of dead bodies everywhere.

- Like a battlefield, the whole field was filled with corpses.

- The nearby **Dhekhaliya Kuwa** and **Dudhio Kuwa** were filled with the bodies of around 1,200 innocent tribals.

- Motilal Tejawat was also shot twice. Later, his companions made him sit on a camel and took him to the hills along the river.
- The tribals of this region still sing songs of this event in their wedding songs.

CONJUGAL RIGHTS

⊙ **CONTEXT:** **A petition questioning a law that forces a woman to return to her husband and denies her sexual autonomy has been pending in the Supreme Court without a hearing.**

What are conjugal rights?

> In India, marriage is administered by Personal laws which administer the terms like divorce, maintenance, custody and restitution of conjugal rights.

- Conjugal rights are rights created by marriage, i.e. right of the husband or the wife to the society of the other spouse.
- The term Conjugal Rights could be placed against any of the spouses guilty of staying away from the other party without a proper reason.
- If the suit succeeds then the couple would be needed to stay together.

Provisions dealing with Conjugal rights

- **Section 9** of the **Hindu Marriage Act, 1955,** which deals with restitution of conjugal rights,
- This section of the Act recognises one aspect of conjugal rights — the right to consortium and protects it by allowing a spouse to move court to enforce the right.
- The law recognises these rights— both in personal laws dealing with marriage, divorce etc, and in criminal law requiring payment of maintenance and alimony to a spouse.
- At present, the concept of restitution of conjugal rights is codified in **Hindu personal law**.
- Similar provisions exist in **Muslim personal law** as well as the **Divorce Act, 1869**, which governs **Christian family law.**

Origin of such rights

- Restitution of conjugal rights, a medieval ecclesiastical law from England owes its survival largely to the fact that marital rape is not recognised as crime.
- Incidentally, in 1970, the United Kingdom repealed the law on restitution of conjugal rights.

How this provision disturbs the constitutional rights?

- This is a highly debatable subject. This right has also been misused many times, disturbing the:
  - Right to Life
  - Right to Privacy
  - Right to Equality

NATIONAL TOURISM DAY 2022

⊙ **CONTEXT:** **Every year National Tourism Day is celebrated on January 25, every year, to create awareness about the growth aspects of the tourism sector.**

About the day

• The day is celebrated in the country to **inform people of the growth prospects of the tourism sector and how it impacts India's economic development.**

• **Theme:** The theme of National Tourism Day 2022 is **'Rural and Community Centric Tourism'.**

What is National Tourism?

• It includes activities of **domestic tourism and outbound tourism.**

• **Domestic tourism** includes activities of the residents of the country and also the activities of the foreign tourists within India.

• **Outbound tourism** includes activities of residents of the country in foreign soil.

⊙ **BACKGROUND**

• The concept of tourism sector was first introduced in **India in 1948.**

• A tourism committee was formed in **1948.**

   ⊚ **The Government of India** in **1958** realised the significance of tourism traffic coming towards India and a separate department of tourism was created in the country.

   ⊚ **Later in 1958, a separate tourism department** was created under the **Ministry of Tourism and Communication.**

• The objective was to preserve the **cultural heritage and to look after the tourist destinations** to keep their beauty intact while also **making them tourist-friendly.**

Important facts about the ancient country

India is one of the oldest civilizations in the world and offers **diversity and multiculturalism.**

• **UNESCO World Heritage Sites:** India is home to 40 UNESCO heritage sites.

   ➤ The last site to be added to the World Heritage Site list is **Dholavira**, a Harappan city that is located in the city of Gujarat.

   ➤ The country currently has 32 cultural sites, 7 natural sites, and one mixed property.

• **Number of wildlife sanctuaries:** The country has a total of 566 wildlife sanctuaries.

   ➤ **Ranthambore National Park** in Rajasthan is the largest wildlife sanctuary in the country.

• **Highest rail bridge in the world:** India is home to the highest rail bridge in the world.

   ➤ The **1,315 m long Chenab bridge** is located in Jammu and Kashmir, and is 35 m higher than the Eiffel Tower.

• **Best tourism village**: Known for its famous hand-woven **Ikat saris**, **Pochampally** was selected as one of the best tourism villages by the United Nations World Tourism Organisation (UNWTO) in November 2021

INSECT APOCALYPSE

⊙ **CONTEXT:**   **In the recent years, there is an 'insect apocalypse' underway across the world. Insects have declined by 75% in the past 50 years – and the consequences may soon be catastrophic.**

What is insect?

- Any small creature with six jointed legs and a body divided into three parts namely head, thorax and abdomen is known as an 'insect'.

- They have wings, **two antennae** and **an exoskeleton**. Ants, bees and flies are insects.

- **'Entomology'** is the scientific study of insects, a branch of zoology.

- There may be as many as 10 million species of insects including:

    ⊙ 3, 60,000 species of beetle

    ⊙ 1, 80,000 species of butterfly and moth

    ⊙ 1, 20,000 fly species

    ⊙ 1, 10,000 species of bees, wasps and ants

    ⊙ 82,000 true bug species (cicadas, aphids, mealy bugs, etc)

    ⊙ 20,000 species of grasshoppers

    ⊙ 5,000 dragonfly species

    ⊙ 2,000 praying mantis species
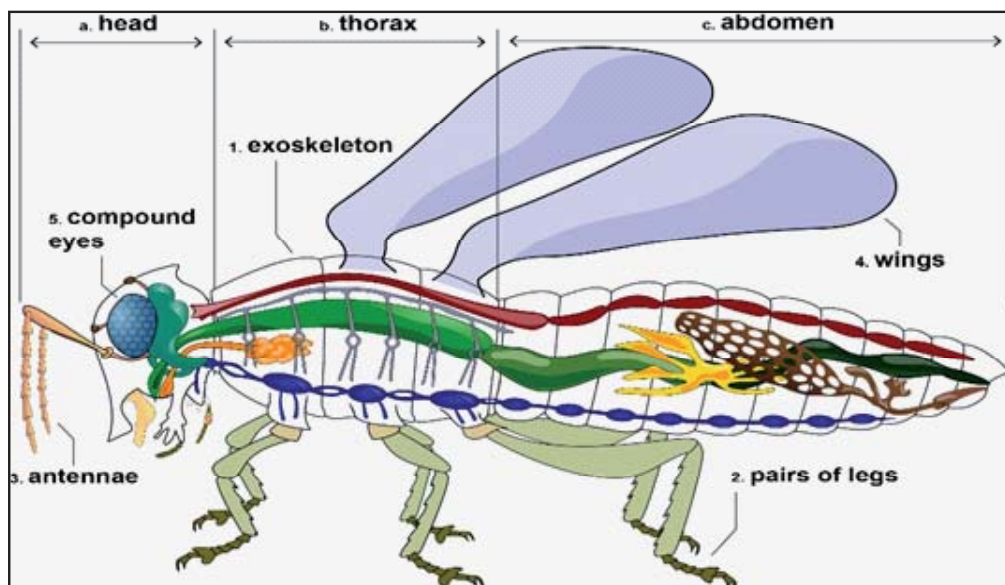
Threats causing insect apocalypse

- Habitat loss
- Climate change
- Particulate Matter
- Land-use change
- Insecticides
- Light pollution
- Invasive species

- Flowers release odour as chemicals called **volatile organic compounds**, which help insects locate flowers.
- Pollutants could react with and change the scents of flowers, making them harder to find.

Why insects matter?

- Insects have an essential role to play in the ecosystem.
- **Crop productivity:** They pollinate many of fruits, flowers and vegetables, contributing significantly to the productivity of at least 75 per cent of global crop species.
- **Food security:** Their services are vital for India's food security.
- **Pest control:** Insects keep pests in check. For example-
  - **Ladybird** preys on **aphids** that damage crops.
  - Insects such as **ladybird beetles, lacewings, parasite wasps**, etc, control other insects, arthropods and vertebrates.
- **Food source:** Insects are also food sources for amphibians, reptiles, birds and mammals.
- **Economic significance:** Insects have economic importance as well. They provide honey, silk, wax and other products.

KERALA GETS ITS FIRST EVER SCIENTIFIC BIRD ATLAS

⊙ **CONTEXT:**   **KBA was prepared based on systematic surveys held twice over 60 days a year during the wet (July to September) and dry (January to March) seasons between 2015 and 2020.**

⊙ **ABOUT**
- The Kerala Bird Atlas (KBA), the first-of-its-kind state-level bird atlas in India.
- It is arguably Asia's largest bird atlas in terms of geographical extent, sampling effort and species coverage derived from the aggregation of 25,000 checklists.

What has it found?

- KBA accounted for nearly three lakh records of 361 species, including
  - 94 very rare species
  - 103 rare species
  - 110 common species
  - 44 very common species
  - 10 most abundant species
- Most of the endemics were concentrated in the **Western Ghats** while the threatened species were mostly along the coasts.
- Among the species, **White-cheeked Barbet** and **House Crow** with 13,855 records 12,380 occurrence records topped the chart compared to 20 other species, which had just single occurrence records.
- The survey, however, ignored the very short duration passage of migrant species like **Eurasian Cuckoo, Amur Falcon** etc.

● The KBA is considered to be a valuable resource for testing various ecological hypotheses and suggesting science-backed conservation measures.

> Kerala is located on the southernmost tip of India and embraces the coast of Arabian Sea on the west and is bounded by the Western Ghats in the east.

SATHYAMANGALAM TIGER RESERVE RECIEVES TX2 AWARDS

⊙ **CONTEXT:**

● **India's Sathyamangalam Tiger Reserve has been awarded the prestigious TX2 Awards after its tiger number doubled since 2010.**

● **Apart from India's Sathyamangalam Tiger Reserve, the Bardia National Park in Nepal has won this year's TX2 Award for doubling the population of wild tigers since 2010.**

About Sathyamangalam Tiger Reserve

● Sathyamangalam Tiger Reserve in the Western Ghats in the Erode district of Tamil Nadu, spread across 1.409 square kilometres and declared a tiger reserve in 2013, is home to about 80 tigers.

> **Tiger reserves in India**
>
> ● With 724 tigers, the Nilgiri biosphere landscape that Sathyamangalam Tiger Reserve is part of, is currently the home to the largest tiger population in the world.
>
> ● The adjoining areas like Erode forest division, Coimbatore forest division and Malai Mahadeshwara Wildlife Sanctuary are also emerging as important tiger habitats, creating a mosaic that allows the big cats to easily move in search of food and new territory.
>
> ● There are 52 tiger reserves in India.

The award

● The awards are presented by the Conservation Assured Tiger Standards (CATS), Fauna and Flora International (FFI), Global Tiger Forum (GTF), IUCN's Integrated Tiger Habitat Conservation Programme (ITHCP), Panthera, UNDP, The Lion's Share, Wildlife Conservation Society (WCS) and WWF.

● They celebrate the 10th anniversary of all 13 Tiger Range countries, including India, Nepal, China, Myanmar, Bangladesh, committed to double the global population of wild tigers by 2022.

UNESCO TAG SOUGHT FOR LIVING ROOT BRIDGES

⊙ **CONTEXT:**

The Zoological Survey of India (ZSI) has underlined some green rules for the living root bridges of Meghalaya to get the UNESCO World Heritage Site tag.

⊙ **ABOUT:**

● A living root bridge is like a suspension bridge formed by guiding the pliable roots of the rubber fig tree (*Ficus elastica*) across a stream or river and allowing the roots to grow and strengthen over time.

● It highlights the symbiotic relationship between people and nature.

- Locally referred as Jingkieng Jri, the 'Living Root Bridges' are conserved by the communities of Meghalaya through their sacred customary practice of preserving the groves known as 'Law Kyntang'.

What is a world heritage site?

- A World Heritage Site is a landmark or area with legal protection by an international convention administered by the United Nations Educational, Scientific, and Cultural Organization (UNESCO).
- Designated by UNESCO, the tag is given for having any cultural, historical, scientific, or other forms of significance.
  - **Agra Fort, Ajanta Caves, Ellora Caves, Taj Mahal** are some of the many sites from India that have been inscribed on the List of World Heritage sites.

Allocation of tag

- Usually announced once a year, the tag is given when the nominated sites have "outstanding universal value" and meets at least one of the following:
  - Human creative genius
  - Interchange of values
  - Testimony to cultural tradition
  - Significance in human history
  - Traditional human settlement
  - Heritage associated with events of universal significance
  - Natural phenomena or beauty
  - Major stages of earth's history
  - Significant ecological and biological processes
  - Significant natural habitat for biodiversity

Benefits of living root bridges

- These living root bridges are example of indigenous climate resilience.
- Being a stable alternative to wooden bridges, they provide connectivity.
- These bridges attract tourists and help local people earn an income.
- They also have regenerative effects on the surrounding environment.
- Apart from producing their own building material, the trees absorb the greenhouse gas carbon dioxide over their lifetimes. They help stabilise the soil and prevent landslides.
- Recently, the 4th Asia Ministerial Conference on tiger conservation was held. It was organized by Malaysia and Global Tiger Forum (GTF).

INDIA INNOVATION CENTRE FOR GRAPHENE (IICG) TO BE SET UP IN KERALA

◉ **CONTEXT:** **A first-of-its-kind centre for studying graphene and developing its newer applications as suitable for industries has recently been approved by the Ministry of Electronics and Information Technology (MeitY).**

About the centre

- India's first innovation centre for graphene will be set up in **Kerala by the Digital University Kerala (DUK),** along with the **Centre for Materials for Electronics**

Technology (C-MET) in Thrissur, for Rs 86.41 crore.

 ◎ The state government run Digital University Kerala and the Centre for Materials for Electronics will join hands along with the state and central governments in implementing the project.

● This will be the **first graphene Research and Development (R&D) incubation centre** in the country.

● **Tata Steel Limited is set to be the industrial partner of the centre.**

About Graphene

● Graphene is the **strongest material in the world.** Also, it is the thinnest material.

 ◎ As well as being transparent and lightweight, graphene has good chemical stability, high electrical conductivity and a large surface area.

● Graphene is known for its exceptional electrical and electronic properties, and according to the latest research, it can replace indium and thus reduce the cost of **OLED (organic light-emitting diode)** screens in smartphones.

● Graphene has the ability to **replace indium.** It brings down the cost of Organic Light Emitting Diode. **Graphene is an isotope of carbon.** It has a two – dimensional honeycomb nanostructure.

● Graphene is addressed as **"Wonder material"** for its electronic and electrical properties.

● Graphene is a zero gap semiconductor. This means the conduction band and the valence band are at the same energy level. For an element to conduct electricity, it should have free electrons in the conduction band.

SOLAR FLARE CAUSES RADIO BLACKOUT OVER INDIAN OCEAN

⊙ **CONTEXT:** **In a recent even, the sunspot AR2929 erupted, producing a powerful M5.5-class solar flare, which has been recorded by NASA's Solar Dynamics Observatory in an extreme ultraviolet flash.**

● **During the flare, a pulse of X-rays ionized the top of Earth's atmosphere, causing a shortwave radio blackout around the Indian Ocean.**

What is Solar flare?

● A solar flare is a tremendous explosion on the Sun that happens when energy stored in 'twisted' **magnetic fields** (usually above sunspots) is suddenly released.

> **Coronal mass ejections (CMEs)**
>
> ● Solar flares are different to 'coronal mass ejections' (CMEs), which were once thought to be initiated by solar flares.
>
> ● CMEs are huge bubbles of gas threaded with magnetic field lines that are ejected from the Sun over the course of several hours.
>
> ● Although some are accompanied by flares, it is now known that most CMEs are not associated with flares.
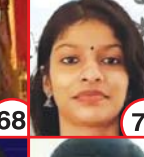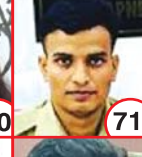
Classification of solar flare

● Solar flares are classified into three categories according to their brightness in the x-ray wavelengths.

- **X-class flares** are big; they are major events that can trigger radio blackouts around the whole world and long-lasting radiation storms in the upper atmosphere.
- **M-class flares** are medium-sized; they generally cause brief radio blackouts that affect Earth's polar regions. Minor radiation storms sometimes follow an M-class flare.
- **C-class flares:** Compared to X- and M-class events, C-class flares are small with few noticeable consequences here on Earth.

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GS SCORE
An Institute for Civil Services

CSE RESULTS

TOP 100 ALL INDIA RANKING CSE 2020

8, 9, 12, 13, 14, 16, 17, 19, 20
24, 26, 28, 30, 31, 36, 38, 41, 45, 50
51, 52, 55, 56, 58, 59, 67, 68, 70, 71, 73
74, 76, 78, 83, 84, 85, 86, 89, 93, 98, 100

SUCCESS IS A PRACTICE WE DO!

TOP 100 ALL INDIA RANKING CSE 2019

3, 6, 10, 11, 16, 17, 21, 22, 28
30, 33, 38, 39, 42, 44, 46, 53, 54, 59, 66, 69
70, 72, 77, 78, 80, 82, 84, 86, 87, 94, 97, 98

TOP 100 ALL INDIA RANKING CSE 2018

2, 3, 5, 7, 27, 36, 37, 40, 44, 49
51, 52, 56, 58, 62, 74, 81, 89, 92, 94, 98, 100

TOP 100 ALL INDIA RANKING CSE 2017

3, 10, 19, 31, 33, 35, 40, 41, 44, 45, 48
54, 57, 63, 64, 68, 71, 75, 77, 80, 83, 93, 97, 100