

# CURRENT AFFAIRS

WEEKLY

WEEK - 3  
MARCH 2020

## MAINS

## PRELIMS

⑦ Cyclone Herold

GEOGRAPHY

⑦ Horticulture and Kisan Melas to bring more area under fruit cultivation

ECONOMY

⑦ Coral bleaching and Great Barrier Reef

⑦ Gaur back in Valmiki Reserve after an increase in Grassland Cover

⑦ How Agroforestry could solve the Climate Crisis?

⑦ Illegal Trade of Red Panda

⑦ Mud packs and other remedies to save the Taj from pollution, age and insects

ENVIRONMENT & ECOLOGY

⑦ Blue Dot Network

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⑦ Government invokes

⑦ Epidemic Diseases Act, 1897, What is it?

⑦ Rajya Sabha Elections

POLITY & GOVERNANCE

⑦ Joint Commands - How to unify defence resources?

⑦ What are the MH-60R Naval Choppers, AH-64E Apaches India has bought?

SECURITY

⑦ Cord Blood Banking

⑦ Kyasanur Forest Disease (KFD)

⑦ National Science Day: What is the 'Raman Effect'?

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⑦ Regulation of Web Content

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⑦ South Asia: Evolving Regional Dynamics

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⑦ Gender Social Norms Index 2020

SOCIAL ISSUE

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

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

# CURRENT AFFAIRS ANALYST

WEEK- 3 (MARCH, 2020)

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# GS SCORE

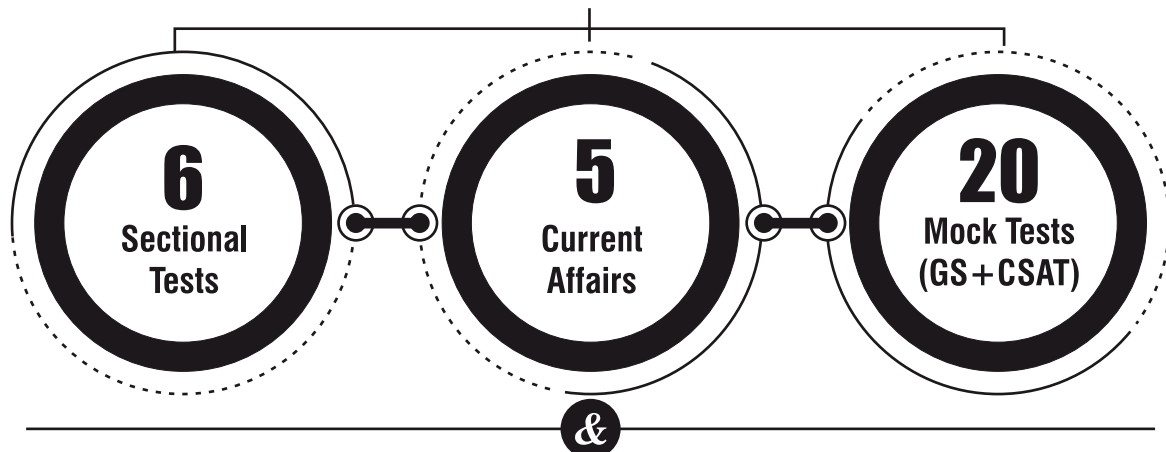
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**SECTION: A**  
**(MAINS)**

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**CURRENT AFFAIRS**

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# STATE OF INFRASTRUCTURE IN INDIA

## CONTEXT

- Recently, the government had unveiled a national infrastructure plan, planning to invest about Rs.102 lakh crore in the infrastructure sector in the next five years to achieve the GDP target of \$5 trillion by 2024-25.

### ◎ BACKGROUND:

- The government recently announced a big **₹1.02 trillion infrastructure spending plan** for the next five years, from 2019-20 to 2024-25.
- The **National Infrastructure Pipeline (NIP)** captures the infrastructure vision of the country for the period FY20-25 and is the **first-ever** such exercise undertaken.
  - To achieve the **vision of making India a \$5 trillion economy by 2024-25**, India needs to spend about \$1.4 trillion over these years on infrastructure.
- Objectives:** NIP is expected to enable **well-prepared infrastructure projects** which will **create jobs**, improve **ease of living**, and provide **equitable access** to infrastructure for all, thereby making growth more inclusive.
  - NIP intends to facilitate **supply-side interventions** in infrastructure development to boost short-term as well as **potential GDP growth**.
  - Improved infrastructure capacities will also drive the **competitiveness of the Indian economy**.
- Scope of the project:** The infrastructure investment is distributed between **Energy** (24 percent), **Roads** (19 percent), **Urban** (16 percent), and **Railways** (13 percent), amounting to over **70 percent** of the total projected capital expenditure.
  - Remaining **30 percent** will go into **irrigation, agriculture, rural and social infrastructure**.
- Status of the project:** Around **42% of NIP projects** are now **under implementation** while 31% are at the conceptualisation stage.
  - It is estimated that India would need to spend **\$4.5 trillion on infrastructure by 2030 to sustain its growth rate**.

### Importance of infrastructure development

- Necessary for growth:** It is well-accepted that investment in infrastructure is necessary for growth. Provision of adequate infrastructure is essential for growth and for **making growth inclusive**.
- Development of economy:** It can solve problems of general poverty, unemployment, backwardness, low production, low productivity and low standard of living, etc.

- Following are the reasons how **investment in infrastructure is necessary for growth:**

- Power shortages lead to** dependence on expensive captive power, which in turn impels high costs and lack of competitiveness for the economy.
- Inadequate transport infrastructure leads to** bottlenecks; both in the supply of raw materials as well as the movement of finished goods to the marketplace.
- The **price that farmers get for their produce is depressed if there is no connectivity** through good quality rural roads, which in turn keeps rural incomes low, negating the fruits of high overall growth performance.

### Status of Road Sector

- Importance of Road Network in the Country:** A good road network is an essential requirement for the rapid growth of the economy. Roads provide **connectivity to remote areas, open up backward regions** and facilitate access to markets, trade and investment.
- Multi-modal transport network:** Roads should not be looked at in isolation but as part of an integrated multi-modal transport system, which provides **crucial links with airports, railway stations, ports and other logistical hubs**.
- High share in Gross Value Added (GVA):** Road transport is the dominant mode of transportation in terms of its contribution GVA and traffic share.
  - Share of the transport sector in GVA for 2017-18 was about 4.77 per cent of which share of road transport was 3.06 per cent.

### Status of Railways Sector

- Scope of railways:** Indian Railways (IR) with over 68,000 route km is the **third-largest network in the world** under single management. IR is currently the **world's largest passenger carrier and 4th largest freight carrier**.
- Safety and Cleanliness** are accorded the **highest priority** by Indian Railways. Initiatives around railway cleanliness include special cleanliness campaigns under Swachh Bharat Abhiyan (SBA) - **Swachh Rail, Swachh Bharat**.

- ▶ There is a need for more progress towards the safety end.
- **Modernization and Privatisation:** A dedicated SPV has been set up to carry out modernization of railway stations on **PPP mode**. Another initiative for modernisation of IR is **Adarsh Station Scheme**.
- ▶ There are ongoing efforts to **privatise the railways**.

### Status of Civil Aviation Sector

- **Scope of the market:** India is the **third-largest domestic market** for civil aviation in the world, after China. Indian civil aviation sector is resilient.
- **Capacity utilization** is being augmented by way of **automation at airports**. A total of 43 airports have been operationalized since the **scheme for operationalizing un-served airports (Udan)**. Following are a few developments in the field:
  - ▶ On airport connectivity, **India stood first along with 7 others** (USA, China, Japan, UK, etc.) in the **Global Competitiveness Report 2019** of the World Economic Forum.

### Status of Shipping Sector

- **Scope of the sector:** Around **95 per cent of India's trade by volume and 68 per cent in terms of value is transported by sea**.
- **Problems in the sector:** India's shipping tonnage was low (1.92 lakh Gross Tonnage (GT)) on the eve of independence. It gradually increased thereafter but remained stagnant at around 70 lakh GT beginning of 2004-05.
  - ▶ Despite one of the largest merchant shipping fleet among developing countries, India's share in total world deadweight tonnage (**DWT**) is **only 0.9 per cent** as on January 1, 2019.
  - ▶ The existing **Indian fleet is also ageing**.
- **Tonnage tax regime** was introduced in 2004-05 that **boosted the industry**. However, there are still shadows of **negative after-effects of the global economic downturn** on the industry.

### Status of the Telecom Sector

- **Scope of the market:** Total telephone connections in India **grew by 18.8 per cent in 2014-19**. **Urban areas have a high number of connections**. **Wireless telephony** now constitutes **98.27 per cent of all subscriptions** whereas the share of **landline telephones** now stands at only **1.73 per cent**.
  - ▶ The overall **teledensity in India stands at 90.45 per cent**; rural being 57.35 per cent and urban being 160.71 per cent at the end of September 2019.

- ▶ **The private sector dominates** with a share of 88.81 per cent.
- ▶ **Internet and broadband:** Internet and broadband penetration in India has kept a rapid pace. **Total broadband connections increased by about ten times in 2014-19**.
- **Competition in the sector:** There are **4 major players** - 3 in the private sector and BSNL & MTNL in the public sector, operating in mutually exclusive zones. Since 2016, the sector has witnessed **substantial competition and price-cutting** by the Telecom Service Providers (TSPs) creating **financial stress in the sector**. While some operators filed for bankruptcy, others have merged, in their quest to improve viability.
- **Revival plans:** BSNL and MTNL are **affected by the tariff war** that has impacted their cash flow resulting in mounting losses. Government's revival plan of these PSUs consist of:
  - ▶ Reduction of staff cost through the **Voluntary Retirement Scheme**.
  - ▶ Allotment of the **4G spectrum**.
  - ▶ **Asset monetization** of land/building, tower and fibre assets of BSNL/MTNL.
  - ▶ **Debt restructuring** through sovereign guarantee bonds.
  - ▶ 'In-principle' approval for the **merger** of BSNL and MTNL.

### Status of Telecom Infrastructure and Connectivity

- **Bharat Net Programme:** Providing **broadband connectivity to all the 2.5 lakh Gram Panchayats (GPs)** in the country, in order to meet the goal of developing broadband highways as part of **Digital India campaign**. Following are a few project details:
  - ▶ Optimal mix of optical fibre, radio and satellite media
  - ▶ Public Wi-Fi Access/hotspots
  - ▶ Project for Left Wing Extremism (LWE) Areas and North East Region

### Status of Petroleum and Natural Gas

- **Scope of the market:** India is the **third-largest energy consumer in the world** after USA and China. With a share of **5.8 per cent** of the world's primary energy consumption, India's energy requirement is fulfilled primarily by **Coal, Crude Oil, Renewable Energy and Natural Gas**.
- **Performance in oil production:** **India's oil production is one of the lowest** among major economies of the world and has been declining over some time. There has been a **decline in**



**both onshore and offshore domestic crude oil production.**

- ▶ Reduction in crude oil production may be attributed to a natural **decline in ageing and matured fields and no major discoveries.**
- ▶ There is a **need to augment refining capacity** to meet the growing demand for petroleum fuels and petrochemicals.
- **Performance in natural gas production:** Production of natural gas is dominated by PSUs, with its share increase over the period. There was a **declining trend in domestic production** of natural gas **till 2016-17** which was arrested in 2017-18.
- **Government reforms include;** Simplified fiscal and contractual terms; **Incentivizing gas production** through marketing and pricing freedom; Induction of **latest technology and capital;** More functional freedom to National Oil Companies for collaboration; Private sector participation.

**Status of the Power sector**

- **Progress in the power sector:** World Economic Forum (WEF) commended India for its **fast progress** towards universal electrification.
- This was possible due to strong political commitment, a stable policy regime, use of grid expansion, and decentralized generation sources, and a supportive environment for investment in infrastructure. Electricity supply in the majority of states has increased.
- **Sector-wise distribution:** Fuel-wise and sector-wise distribution show that **thermal power accounts for about 63 per cent of total installed capacity** and roughly half of the generation capacity is in the private sector.
- **Initiatives:** Access to electricity is necessary for making growth inclusive and for promoting ease of living. Following are a few initiatives in the sector:
  - ▶ **Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya)** aiming for universal household electrification by providing last-mile connectivity.
  - ▶ Electrification of all households on **Saubhagya portal**, except few households in LWE affected Bastar region of Chhattisgarh.

**Status of the Mining Sector**

- **Score of the sector:** India produces as many as **95 minerals which include 4 hydrocarbon energy minerals** (coal, lignite, petroleum & natural gas), **5 atomic minerals** (ilmenite, rutile, zircon, uranium, and monazite), **10 metallic, 21 non-metallic and 55 minor minerals.**

- **Performance:** This sector provides basic raw materials to many important industries. **Mining and quarrying sector contribution** (at current price) to GVA accounted for about **2.38 per cent during 2018-19.**

**Status of Housing and Urban Infrastructure**

- **Scope of the sector:** India is one of the fastest-growing countries in the world with **rapid urbanization.** About 37.7 crore people were **residing in urban habitats** of India, comprising about 31 per cent of the total population which is **expected to reach 60.6 crores by 2030.**
- **Crucial for growth:** Urban habitats and cities are epicentres of economic growth. Over **60 per cent of India's current GDP comes from cities and towns.** Development of housing and urban infrastructure is crucial to attaining inclusive and sustainable growth.
  - ▶ Initiatives like **Smart Cities Mission (SCM)** and **Pradhan Mantri Awas Yojana Urban (PMAY-U)** which mandate smart living and basic amenities to all eligible urban poor by 2022, respectively, trigger **multiplier effect on the overall economy.**

**Major issues regarding the infrastructure sector in India**

- **Long gestation period:** Large infrastructure projects can take several years—sometimes even decades—to complete and turn profitable.
- **Time and cost overruns:** Finishing of infrastructure projects is a big challenge. They often run beyond time and budget, especially in sectors like **roads, highways, power, railways, and petroleum.**
- **Financing** of infrastructure projects is the biggest issue in India. Banks are often wary of lending to big infrastructure projects.
  - ▶ The current **adverse scenario in India's banking sector** has made financing of projects even more difficult.
- **Unrealistic targets:** Indian infrastructure-related project announcements have often been criticised as unrealistic and unachievable. Even many existing projects face implementation challenges.
  - ▶ There are concerns regarding **fiscal transparency and accountability** of infrastructure projects.
- **Little private participation:** Although the PPP finance model provides a good alternative, it has not always been a success. **Land acquisition delays, weak enforcement of contracts and sundry difficulties** in the conduct of business in India have served to dissuade private participation.

- ▶ Contract enforcement issues significantly reduce the “bankability” of infrastructure projects.

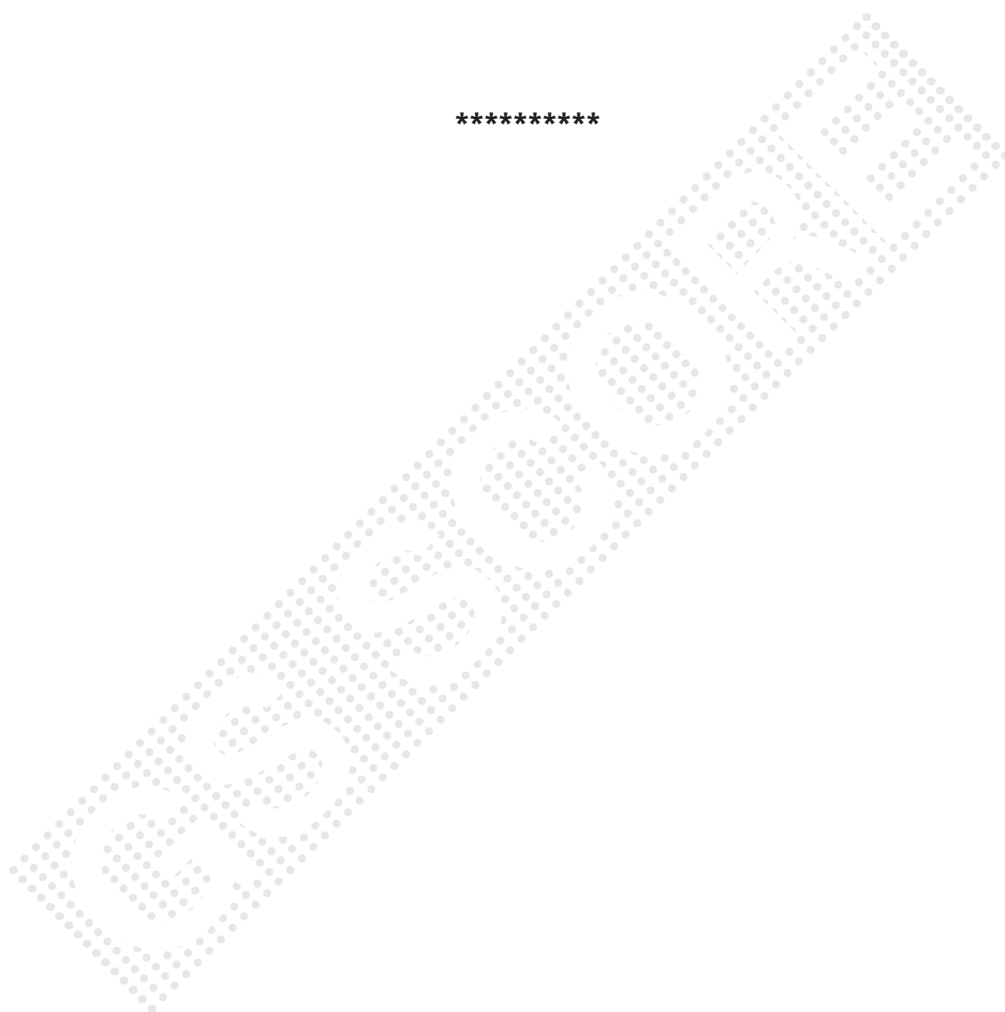
## © CONCLUSION AND WAY FORWARD

For smooth and fast development, India needs adequate and timely investment in quality infrastructure. Well-developed infrastructure enhances the level of economic activity, creates additional fiscal space by improving the revenue

base of the government, and ensures the quality of expenditure focused on productive areas.

There is a need to develop a robust bond market for infrastructure companies, speedy resolution of infrastructure disputes, optimal risk sharing through better and balanced PPP contracts, and sanctity and enforceability of contracts. India needs to ensure that infrastructure and infrastructure-related businesses have ease of access to inputs at appropriate price levels. There is a need to simplify administrative procedures to make them more responsive, yet robust.

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# PRESERVATION OF EASTERN AND WESTERN GHATS

## CONTEXT

- A public interest litigation petition has been filed in the Madras High Court seeking a direction to the Centre and the State government to constitute a permanent body for taking serious and practical steps to safeguard the flora, fauna and other natural resources in the Eastern and Western Ghats in Tamil Nadu.

### ◎ BACKGROUND:

- The **Union Ministry of Environment and Forests** had constituted the **Western Ghats Ecology Expert Panel** under the chairmanship of acclaimed ecologist **Madhav Dhananjaya Gadgil**, who submitted a report in 2011 followed by another report by the **Kasturirangan Committee**.
- However, their recommendations were not implemented in letter and spirit.
- The present case has been filed based on the recommendations made by the **Madhav Gadgil** and **Kasturi Rangan** committees.

#### Gadgil and Kasturi Rangan Committees Reports:

- Prof. Gadgil Committee and Dr Kasturirangan Committee recommended measures for long-term preservation of this ecologically fragile landscape.
  - ▶ Gadgil Committee report recommended declaring the entire Western Ghats landscape as **Ecologically Sensitive Area (ESA)**, divided under three sub-zones, with a ban on mining, thermal power plants, polluting industries and large dams, and the inclusion of local communities in biodiversity conservation and promoting eco-friendly activities.
- Since this report rubbed many the wrong ways, the Kasturirangan committee was set up to review the Gadgil Committee Report.
  - ▶ The Kasturirangan committee recommended incentivising green growth that promotes sustainable and equitable development bringing a large part of the Ghats area under the ESA.
- Although, as compared to the Gadgil Committee Report, the area of 56,000 sq km recommended by the Kasturi Rangan Committee report was significantly reduced and included around 68-odd existing Protected Areas covering around 17,000 sq km area.

### ◎ ANALYSIS:

#### What is the issue?

- The natural resources abundantly available in the Western Ghats are being properly utilised by other regions, except Tamil Nadu.
- The exceptional reasons are not germane but it may not be out of place to mention that the Western Ghats in Tamil Nadu are being misutilised and mismanaged not only by the administrators but also by the public at large.
- Most reserve forest areas in these hills were protected by the Forest Department under the **Tamil Nadu Forest Act of 1982** and **Wildlife Protection Act of 1972**.
- The region is facing the following challenges:
  - ▶ **Ineffective implementation:** The **Tamil Nadu Hill Areas (Preservation of Trees) Act of 1955** is in force in certain parts of these hills but it is not implemented effectively in the absence of popular support. As a result, the protection of the trees in private holdings has become a challenge.
  - ▶ **Illegal deforestation:** By making use of the loopholes in the Act and other government rules, trees are felled and removed clandestinely. These activities have made the hills of the Eastern Ghats barren, its streams have run dry and the biodiversity is disappearing gradually.
  - ▶ **Illegal trade:** Large-scale plantations of coffee, tea and orchards have been raised in these hills. Aromatic and valuable trees like sandal are removed illegally.
  - ▶ **Degradation:** The forests are getting degraded because of illicit collection of firewood, illicit grazing and illicit felling of trees.
  - ▶ **Hunting & poaching:** Despite the Wildlife Protection Act, hunting takes place in some pockets.
  - ▶ Though various initiatives had been taken by the government to protect the ecology, all of them remain only on paper though the State had a constitutional duty under **Article 48A** to protect and improve the environment and to safeguard the forests and wildlife in the country.

- Now, the petition demands to constitute a permanent body for taking serious and practical steps to safeguard the flora, fauna and other natural resources in the Eastern and Western Ghats.
  - A permanent body can be constituted either through an Act of Parliament or an executive order (resolution of the Union Cabinet).
  - If the body is constituted by an Act of Parliament, it will become a statutory body.

### Learning about the mountain ranges:

#### Western Ghats:

- The Western Ghats comprise of the mountain range running parallel to Western Coast of India along the Deccan Plateau.
- States covered:** It runs to around 1.6 lakh sq km, from Kanniyakumari to Gujarat. It starts from **Gujarat** through:
  - Maharashtra** (58,400 sq km)
  - Goa** (1,075 sq km)
  - Karnataka** (43,300 sq km)
  - Kerala** (28,100 sq km)
  - Tamil Nadu** (28,200 sq km)
- Highest peak:** Anamudi is the highest peak in the Western Ghats. It lies in Tamil Nadu.
- Major rivers:** Three major rivers of South India that is Krishna, Godavari and Kaveri - all originate from the Western Ghats.
- The Western Ghats have been classified as a **UNESCO World Heritage site**.
- The Western Ghats are the only region in India among the 8 such regions in the world which have been regarded as the "hottest hotspots" of biological diversity.

#### Eastern Ghats:

- The Eastern Ghats in the south is a **discontinuous range of mountains** along India's eastern coast.
- The Eastern Ghats run from the northern Odisha through Andhra Pradesh to Tamil Nadu in the south passing some parts of Karnataka.
- Major rivers:** They are eroded and cut through by the four major rivers of peninsular India, known as the **Godavari, Mahanadi, Krishna, and Kaveri**.
- The Eastern Ghats are older than the Western Ghats. Though not as high as the Western Ghats, the eastern ghats also boast of a wide list of sanctuaries, national parks, hills, rivers and waterfalls providing great natural aesthetics to the entire region.

- In Tamil Nadu, the Ghats comprise the Javadhi Hills, Yelagiri, Balamalai, Bargur, Servarayan, Bodhamalai, Chitheri, Kalrayans, Kolli Hills, Pachamalai, Piranmalai, Semmalai, Sirumalai, Karanthamalai, Azhagar Malai, etc.
- The hills run west and south-western to merge with the Western Ghats near Doddabetta in the Nilgiris.

### Importance of the regions:

	Western Ghats	Eastern Ghats
<b>Treasure trove of wildlife</b>	The Western Ghats mountain range running down the south-west side of India is a treasure trove of wildlife.	Not known as widely as the Western Ghats, the Eastern Ghats biospheres are also major ones, with rich forests, perennial and semi-perennial streams and other natural resources.
<b>Water supply</b>	The Western Ghats are also the source of a lot of the rivers that supply water to millions of people.	These hills get an average 1,000 millimetres of rainfall, mostly from the north-east monsoon. Major rivers originate here and their water irrigates lakhs of hectares at the foothills and nearby plains.
<b>Bio-diversity</b>	It has particularly impressive populations of large mammals – for instance around 30% of all Asian elephants and around 18% of wild tigers, spread across a number of wildlife sanctuaries, tiger reserves and national parks.	They are habitats for wild animals such as elephants, panthers, the Indian bison, bears, deer, wild boar, slender loris, mongoose, jungle cat, wild dogs, porcupine, hare, toddy cat, monkey and reptiles such as python, monitor lizard, etc.

### What are Eco-Sensitive Areas?

- ESAs are defined as those areas 'that are ecologically and economically important, but vulnerable even to mild disturbances, and hence demand careful management'.
- Therefore 'ecologically and economically important' areas are those areas that are biologically and

ecologically 'rich', 'valuable' and or 'unique', and are largely irreplaceable if destroyed.

- There are three important categories of attributes that need to be considered in defining the ecological salience/significance/sensitivity of an area: physico-climatic features (geo-climatic features), biological features and social relevance (including cultural, economic and historical importance) of the area.
- All these may be grouped as:
  - ▶ abiotic attributes
  - ▶ biotic attributes
  - ▶ anthropological or socio-cultural attributes

### Challenges to the region:

- **Water stress:** Drinking water shortage and depletion of groundwater are emerging as major environmental issues.
- **Exploitation:** They have a rich biota and a fragile ecosystem, which is being degraded by illegal logging and exploitation of forest wealth. Also, tribes living in these hills for ages, have been exploited by the wealthy, politically strong mafia.
- **Pressure of urbanisation:** As India's economy grows, increasing urbanisation, roads and rail are putting pressure on these areas.

- **Unsustainable tourism:** Haphazard and unsustainable tourism development is additionally playing havoc with the natural ecosystems of the region.
- **Illegal hunting & poaching:** The region is facing major threats including illegal hunting and indiscriminate plant collection by some local communities.
- **Human-animal conflict:** Indiscriminate destruction of forests has increased human-animal conflict in recent years. Water scarcity and a threat to habitats drive animals to cultivated lands and human habitations in search of food and water.

### The Road ahead:

- The efforts to save the regions of the Western Ghats and the Eastern Ghats is a journey, which is long and arduous. There are lots of stands to take, lots of agitations to start, lots of decisions to make. For now, the government should formulate strict policies and development should be built on strong ecological foundations that ensure an environmentally sound and sustainable future to people and prevent the extinction of myriad species of beautiful landscapes in the country.

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# GENDER BUDGETING

## CONTEXT

- In this year's Union Budget, Finance Minister announced that she will constitute a committee to evaluate 15 years of gender budgeting.

### ◎ BACKGROUND:

- **Gender Budgeting in India:** India adopted gender budgeting in **2004-05** based on the recommendations of an **expert group committee** constituted by the Ministry of Finance on "**Classification of Budgetary Transactions**".
  - ▶ A statement on gender budgeting was incorporated in the Expenditure Budget (2005-06), Volume 1.
- **Objective:** Gender budgeting, a **fiscal innovation**, was envisioned and incorporated into the financing mechanism **to tackle gender inequalities in India**.
  - ▶ Women constitute **48% of India's population** but suffer huge **disadvantages** all walks of life, marked with inadequate and **inequitable human capital investments**, lagging in indicators of health, education, economic opportunities, etc.
  - ▶ In 2019, India **slipped to 112<sup>th</sup> spot** from its 108<sup>th</sup> position in 2018 in the World Economic Forum's **Global Gender Gap Index 2020**, which covered 153 economies.
  - ▶ According to the report, it will take nearly **100 years to close the gender gap** across politics, economic, health and education.
- **Definition:** As defined by the Government of India (2007), a gender-responsive budget **acknowledges the gender patterns in society** and allocates money to make policies and programmes gender-equitable. More specifically, it refers to a **systematic gender-differentiated impact of fiscal provisions, programmes and policies**.
  - ▶ It can be understood as a "**gender lens**" in the process of budgeting for planning, formulation and implementation stages.
  - ▶ The concept **does not entail mere increased outlays** for the women-centric programmes; rather, it demands **financially effective decisions** of the public sector based on the **principles of gender equality** that are mostly obscured in conventional fiscal and public policies.
- **Implementing agency:** Though **MWCD is the nodal agency** to implement GRB in India, it is the **Ministry of Finance** in coordination with the

**National Institute of Public Finance and Policy (NIPFP)** that carries out the pioneering study on GRB to design the matrices of gender budgeting.

### Importance of Gender Budgeting

- **Eliminating gender inequalities:** Gender-responsive budgeting (GRB) or gender budgeting has both intrinsic and instrumental relevance.
  - ▶ GRB is critical for eliminating gender inequalities with significant improvements in **social, educational, health and economic indicators of a country**.
- **Economic rationale:** Persistent gender inequality that **hinders the overall growth and development** of a nation. The economic rationale for promoting a gender-sensitive budget also emanates from **efficiency and equity perspectives**.
  - ▶ It addresses budgetary gender inequality issues, such as how gender hierarchies influence budgets, and **gender-based unpaid or low paid work**.
- **Helps achieve social goals:** Gender inequality is correlated with a loss in human development due to inequality.
  - ▶ Gender inequality translates into other areas of human development, **threatening progress across the 2030 Agenda for Sustainable Development**.
- **Public expenditures with gender implications:** While some public expenditure is by nature 'non-excludable' and 'non-rival', such as defence, road/bridge-building, etc. Some public expenditures like on **education, health, sanitation** may have intrinsic gender implications and require separate assessment/monitoring/evaluation of **gender-specific needs**.
  - ▶ **Rationale** for gender budgeting arises from the recognition of the fact that **national budgets impact men and women differently** through the pattern of **resource allocation**.

### Gender Budgeting around the world

- **Introduction to Gender Budgeting:** The concept of gender budgeting is a nineties' trend that was introduced mostly in **Commonwealth countries**.
  - ▶ **Australia was the first** country to implement a **women's budget in 1984**.

- ▶ Since 1995, there have been gender budget initiatives in **more than 80 countries** around the world.
- ▶ Many of the early gender budget initiatives **focused primarily on the expenditure side** rather than the revenue side of government budgets.
- **South Africa:** South Africa's Women's Budget Initiative was initiated **in 1995** and involved NGOs, parliamentarians, and a wide range of researchers and advisors.
- **African nations:** Gender budget initiatives in **Tanzania(1997)** and **Uganda(1999)** examine the impacts of structural adjustment programs in these countries and specifically **focus on education and health**.
- **Success recorded around the world:** In **Australia**, there was a five-fold increase in child care places for working women, and in spending on women-specific areas.
  - ▶ **In the Philippines**, there was made a specific requirement that every government agency allocate at least **five per cent of its budget to gender** and development initiatives.
  - ▶ In 2003, in the **United Kingdom**, recognising the efficiency of giving money to women, it was announced that **Child Tax Credit** would be **paid to the main carer — usually a woman** — rather than to the main earner — usually a man.

### Gender Budgeting in India

- **Introduction:** Gender budgeting as a concept was introduced in the 2001 Union Budget with a vision to address the massive gender inequality in India.
- **Implementation:** Since 2005, the union government releases **Gender Budgeting Statement** consisting of **two parts**.
  - ▶ The first part reflects **women-specific schemes** in which **100 percent allocation** is only for women.
  - ▶ The second part reflects **pro-women schemes in which 30% of allocation** is earmarked for women.
- **Improvements made:** In recent years, the schemes like **MNREGA, Beti Bachao Beti Padhao, Sukanya Samridhi Yojna, and Ujjawala Yojna** with their **focus on women** have made significant improvements in the socio-economic conditions of women.
- For instance, **MNREGA has gender-sensitive components**, incorporating clauses that specify definitive quotas of beneficiaries as women

### Issues in Gender Budgeting in India

- **Lack of budgetary allocation:** Overtime, the magnitude of gender budget as a proportion of total expenditure of Union Budget has decreased. **Budgetary allocations** for promoting gender equality and women's empowerment **have also declined**.
  - ▶ Central government's gender budget has **never been more 1% of India's GDP**.
  - ▶ Funds allocated for GRB still confine to **5% of public expenditure**.
- **Non-utilisation of gender-specific funds:** There are **only a few "big-budget" women exclusive schemes** of the Ministry of Women and Child Development (MWCD) like the **Nirbhaya Fund** and the **Beti Bachao Beti Padhao campaign**; these too face issues of **non-utilisation of funds**.
- **Implementation and Monitoring issues:** There is a **lack of dedicated and skilled human resources** to implement the interventions identified in Gender budgets. Monitoring the gender budgetary allocation is one of the biggest concerns, with **no designated mechanism for monitoring** at a national level.
- **Other issues that remain:**
  - India's **gender budget has stagnated** in recent years.
  - Only a **small proportion of the gender budget** is allocated towards women-specific schemes.
  - Even schemes classified as **100% women-specific are not so**, for example, Pradhan Mantri Awas Yojana (PMAY).
  - Within women-specific schemes, the **bulk of spending goes towards rural housing**.
  - Spending on part B is more diverse but **concentrated in four ministries** (Health, Education, WCD, Rural Development).
  - Share of women MPs and ministers has increased, but **still not representative of the population of women**, having an adverse consequence on gender-related policy-making.

### Five-Step Framework for Gender Budgeting

- **Gender Analysis:** An analysis of the situation for women and men and girls and boys (and the different sub-groups) in a given sector.
- **Assessing gender gaps:** The assessment of the extent to which the sector's policy addresses the gender issues and gaps described in the first step.
- **Budgetary allocation:** An assessment of the adequacy of budget allocations to implement the gender-sensitive policies and programmes identified.

- **Fiscal tracking:** Monitoring whether the money was spent as planned, what was delivered and to whom.
- **Outcome assessment:** An assessment of the impact of the policy/ programme/scheme and the extent to which the original issues identified have improved.

### Policy recommendations

- **Integration with intergovernmental transfers:** Fiscal policies to tackle gender equalities should be integrated with the intergovernmental fiscal transfer mechanisms **through the Finance Commission** and at the **subnational public finance** practices.
  - ▶ It can be integrated into every programme and scheme of the Government of India, departments of the Union, State and PRI Budgets.
- **Increase allocation:** There is a need to increase allocations for women focussed programmes. Funds need to be targeted **towards priority sectors**, which suffer from the deepest gender inequalities.
- **Fifteenth Finance Commission (FFC):** Recently constituted FFC should **integrate gender (budgeting)** criteria in their formula-based fiscal transfers.
  - ▶ **Horizontal transfer formula** with the inclusion of indicators of gender equality.
  - ▶ **Linking vertical transfers** with an allowance for gender-specific policies and programmes.
  - ▶ FC's **grant-in-aid** with specific emphasis on **gendered outcomes**.

- ▶ Consideration of **cess and surcharge for gender-specific policies** and programmes.
- **Lahiri Committee recommendations:** These recommendations provided a clear roadmap for preparing the **analytical matrices** for gender budgeting and institutional mechanisms like **Gender Budgeting Cells** at the national and subnational government levels in India.
- **State involvement:** States **should be ranked** on the quality of gender budgets, impact analyses, and **gender audits** should be conducted of these allocations.
  - ▶ **Capacity building and technical support** should be provided to State-level Gender Budget Cells.
- **Revising FRBM incorporating gender goals:** Fiscal consolidation and the New Fiscal Reform and Budget Management (FRBM) framework also needs to be analysed whether the revised framework has **integrated SDGs**, including the **Goal No: 5 on gender equality**.

### CONCLUSION

Women warrant special attention due to their vulnerability and lack of access to resources. The way Government budgets allocate resources has the potential to transform gender inequalities. In view of this, Gender Budgeting, as a tool for achieving gender mainstreaming can be extremely useful. Gender-targeted spending creates a virtuous cycle and has a multiplier effect on women's living standards, and overall growth and development.

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# REGULATION OF WEB CONTENT

## CONTEXT

- Recently, the Ministry of Electronics and Information Technology (MeitY), has prepared the revised Information Technology (Intermediary Guidelines) Rules 2018 to replace the rules notified in 2011 which will be in force after law ministry's approval.

### ◎ BACKGROUND

- The Information Technology Act (IT Act), 2000 was enacted to give a fillip to electronic transactions, to provide legal recognition for e-commerce and e-transactions, to facilitate e-governance, to prevent computer-based crimes and ensure security practices and procedures. The Act came into force on 17<sup>th</sup> October 2000.
- Section 79 of the IT Act elaborates on the exemption from liabilities of intermediaries in certain cases. Section 79(2)(c) mentions that intermediaries must observe due diligence while discharging their duties, and also observe such other guidelines as prescribed by the Central Government. Accordingly, the Information Technology (Intermediary Guidelines) Rules, 2011 were notified in April 2011.
- A calling attention motion on "Misuse of Social Media platforms and spreading of fake news" was admitted in the Parliament (Rajya Sabha) in 2018 (Monsoon session). Hon'ble Minister for Electronics and IT, responding to the calling attention motion made a detailed statement where he inter alia conveyed to the House the resolve of the Government to strengthen the legal framework and make the social media platforms accountable under the law.
- Subsequently, MeitY has prepared the draft Information Technology (Intermediary Guidelines) Rules 2018 to replace the rules notified in 2011.
- MeitY will seek the law ministry's views on the validity of the provisions in the draft document before notifying the rules to make sure that the provisions in the draft do not overshoot the due diligence required under the larger IT Act.
- The guidelines propose additional responsibilities on social media companies. These include verifying users through mobile numbers, tracing the origin of messages required by court order and building automated tools to identify child pornography and terror-related content.
- All these requirements come under the ambit of under due diligence.

### ◎ ANALYSIS

#### Concerns with the Proposed Guidelines

- The guidelines have overarching rules for all the intermediaries operating in India, such as a proper privacy policy and updating users about it regularly
- Social media companies, as well as intermediaries, will have to operate with a certain degree of responsibility.
- Each clause in the guidelines is being scrutinized as these rules will set a "global precedent".
- The government's move to classify intermediaries based on function better reflects the modern nature of the internet and will help ensure that the open internet remains a space for innovation and knowledge sharing.
- The traceability and 24-hour content takedown timelines continue to threaten the freedom of expression, privacy and security of users and should be urgently reformed before the rules are enacted.
- The central criticism against the proposed amendment is that it contravenes a landmark Supreme Court judgement. In the 2015 **Shreya Singhal** writ case on online freedom of speech, the court clearly stated that online content could be removed from intermediary platforms only by government or court order. This protected the platforms from liability and served as a brake on frivolous or agenda-driven take-down demands.
- Tech giants and security experts have joined the free speech lobby in opposing the liability regime on account of the technical problems. They complain that many of the proposals would be impossible to implement and ought to be dropped, such as the use of automated tools to proactively identify and remove unlawful content.

#### World Wide Scenario

- India is not the only country to go in for such measures.
- Germany has enforced strict laws, called NetzDG, that call for rapid removal of hate speech and other toxic content or be hit with fines amounting to €50 million.

- NetzDG, described as “the most ambitious attempt by a Western state to hold social media platforms responsible” for dangerous online speech, is serving as the template for other nations — first Russia and now India has copied sections of the German law.
- Australia’s crackdown on social media companies began much earlier in 2015 and entails huge fines for intermediaries, while the UK has put in place stringent rules to combat specified illegal content, such as child abuse and terrorism.
- The strong democracies have appointed strong regulators to oversee the implementation of the privatised law enforcement. Australia has an **eSafety Commissioner** while the UK has selected **Ofcom**, the telecom regulator, as the Internet watchdog and is equipping it with the necessary powers to enforce the new “duty of care” laws.

### Rationale for Revised Guidelines

- The frequent shutdowns in India, according to trackers, started in 2015 and it has had severe economic repercussions.
- According to Internet research firm Top10VPN the Internet shutdowns cost India over \$1.3 billion, the third-highest after Iraq’s and Sudan’s, the latter two are war-torn nations.
- Curb hate speech
- Prevent fake news and communal violence

### Amendments are lethal to free speech

- **Traceability will undermine security for all users, lead to surveillance**
  - ▶ Intermediaries to ensure “traceability” of messages by providing information on the originator and receivers of messages. Platforms will have to break end-to-end encryption

or install a back-door and make all users vulnerable. It is an attack on the fundamental right to privacy

### Automated filtering technology will result in censorship and choke free speech

- Intermediaries to proactively monitor, delete “unlawful content” through automated tools. These will facilitate pre-censorship by suppressing free speech before it becomes public. Existing filters used by social media platforms are already notorious for taking down harmless content. It is against Supreme Court orders.
- **Takedown of content within short timelines a major challenge to free speech**
  - ▶ Intermediaries to take down illegal content in 24 hours and share information with the government within 72 hours. This is not enough time to analyse requests, seek clarifications or remedies. It will create a perverse incentive to takedown content and share user data without due process.
- **Data retention antithetical to privacy**
  - ▶ Intermediaries must preserve content requested by law enforcement for at least 180 days. It contradicts the principle of “storage limitation” recommended by the **Srikrishna Committee**.

### CONCLUSION

The overwhelming question that policymakers have to answer is this: Will filtering end targeted online attacks and disinformation campaigns against the most vulnerable communities in India?

Computational propaganda campaigns are now a core strategy for political campaigns the world over. The political polarisation we see online mirrors the state of things offline.

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# SAUDI ARABIA LAUNCHES AN OIL WAR

## CONTEXT

- Saudi Arabia has started an incredible price war with Russia by slashing its selling prices and pledging to unleash its pent-up supply onto a market reeling from falling demand because of the coronavirus outbreak. Crude oil price plunged by 30% after the announcement and Bitcoin fell by 8%.

## ◎ BACKGROUND

- Stock futures sank deep into the red with the US exchanges expected to crash as a new oil war sparked by the coronavirus outbreak sent prices plummeting.
- Saudi Arabia slashed its export oil prices over the weekend in what is likely to be the start of a price war aimed at Russia but with potentially devastating repercussions for Russia's ally Venezuela, Saudi Arabia's enemy Iran and even American oil companies.
- The Saudi decision to cut prices by nearly 10 percent is a dramatic move in retaliation for Russia's refusal to join the Organization of the Petroleum Exporting Countries (OPEC) in a large production cut as the coronavirus continues to slow the global economy and, with it, demand for oil.
- The cut added further uncertainty to global markets already roiled by the coronavirus.
- A major drop in oil prices would hurt producers around the world, particularly Venezuela and Iran, whose oil-based economies are already under pressure from American sanctions.
- Export earnings of both countries have already been reduced to a trickle, and a further decline would stretch their abilities to pay for vital services and security.
- The importers, on the other hand, have suddenly got a windfall.
- Russia's refusal to cut production was aimed at piling up more losses on US shale oil producers, many of which need higher oil prices to survive.
- Russia has been dropping hints that the real target is the US shale oil producers because it is fed up with cutting output and just leaving them with space.
- However, the US shale industry emerged from that period stronger and the United States would eventually become the world's leading oil producer.
- Saudi Arabia is a staunch US ally. This is an extraordinary geopolitical situation.
- Saudi Arabia badly wanted oil prices to rise to bolster a struggling economy.
- Russia refused to boost oil prices to hurt the American shale industry.

## When can this damage the US shale industry?

- The shale revolution was made possible by the combination of horizontal drilling and hydraulic fracturing (fracking).
- In the early 2000s, fracking technology began to be broadly applied to reservoirs that had been viewed as being uneconomic for the previous 100 years or so.
- Proclaimed as a miracle, oil imports from traditional sources dropped, and oil exports to foreign markets grew.
- Along with this shifting of export and import polarity, came the sentiment that the U.S. was now the swing producer of crude oil and would quickly fill any gaps left by other producers.

## ◎ ANALYSIS

### Why is Saudi Arabia doing this?

- The turmoil comes after the implosion of the oil alliance between OPEC and Russia.
- Russia refused to go along with OPEC's efforts to rescue the corona virus-battered oil market by cutting production.
- The failure of the Vienna meeting left the oil industry shell-shocked, sparking a 10% plunge in oil prices even before the Saudi declaration of war.
- Oil prices were already stuck in a bear market because of the coronavirus outbreak that has caused demand for crude to fall sharply.

### Where will this move most likely lead to?

- Oil prices had begun to weaken as shale oil production continued to expand, so OPEC decided it needed to act to protect market share.
- This put OPEC in the cycle of having to cut production again and again as shale production kept climbing.
- On the other hand, in Saudi Arabia, where the government is almost entirely dependent on oil to fund government spending, the economic impact will be immediate.

- Meanwhile, a bigger existential risk looms for the global oil industry.

### Who could be benefitted with this price war?

- The benefits of low oil price this year have started accruing to India, where petrol and diesel rates have seen a steady decline.
- Chemical companies can also benefit from the drop, as can airlines that can now spend less on fuel.
- Likewise, a weaker rupee may be beneficial for exports which had seen a continual decline.
- Petroleum products constituted 13.42% of overall outward shipments who had attributed the fall in petrol prices to the decline in petroleum product exports.
- At a time when worldwide manufacturing exports are on the decline globally, India stands a chance to benefit if its export pricing can get more competitive on account of a weaker rupee.
- The decline of manufacturing in China can also benefit Indian industries looking to fill the gaps in global supply chains.
- However, China's decline cuts both ways as India imports significantly from China, its biggest

trading partner, and many industries rely on Chinese imports.

- For an Indian economic that was already spiralling downwards, the coronavirus effect is likely to add to the woes.

### How will the oil price plunge impact Bitcoin?

- Bitcoin, the biggest cryptocurrency by value, fell 8%.
- Huge moves in cryptocurrency prices are not unusual and these digital coins are known for their volatility.
- Market players, however, said this could be an opportunity to buy some bitcoin.
- The digital currency is set to undergo an in-built halving, which will see rewards for miners to decrease by half.
- The reduction in mining rewards will reduce supply, even as demand for the coin is increasing.
- Because the decentralized currency cannot be tampered with, such inflation controls allow for genuine stability, unlike corporate or political confusion.

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# SOUTH ASIA: EVOLVING REGIONAL DYNAMICS

## CONTEXT

- Regional dynamics in South Asia have been rapidly evolving. The manifestations of these shifts in the geopolitical environment can be analysed through four prominent regional developments.

### ◎ BACKGROUND

- The worsening tensions between the US and Iran following the American drone attack killing Qasem Soleimani, an Iranian Major General.
- Rapidly deepening Chinese footprint in South Asia, fueled by the desire to build the Belt and Road Initiative (BRI), is another regional development with global implications.
- The emergence of the US Exit Strategy is another significant development impacting the geopolitical situations in South Asia.
- The changing dynamic of Indo-Pak Relations is another significant issue impacting the region as a whole.

### ◎ ANALYSIS

#### US-Iran Tensions

- The worsening tensions between the US and Iran following the American drone attack killing Qasem Soleimani, an Iranian Major General in the Islamic Revolutionary Guard Corps (IRGC) and commander of its Quds Force, has very strong regional reverberations for South Asia, particularly Afghanistan, which could be made a target for reprisals.
- More than 10,000 US troops are currently stationed across the eastern Iranian border in Afghanistan.
- Possibilities of Iran's potential proxy partners (Fatemioun Division, for instance, a militia mainly comprising Afghan Shias deployed by Tehran in Syria to fight the ISIS between 2013-17) carrying out reprisals on the US troops cannot be ruled out.
- It is noticeable that Iran has provided an episodic level of support to the Afghan Taliban, owing to the shared enmity of the Afghan Taliban and Iran against the US.
- There have been documented instances of the Iranian support to the Afghan Taliban in terms of small arms and training.
- Further complicating situations, the successor of Soleimani, General Esmail Ghaani, who overlooked the Quds Force operations in Afghanistan and

Pakistan, is a man who holds significant experience in the region.

- A resultant emergence of a proxy war in the region could lead to destabilisation, thus impacting all of South Asia.
- Moreover, the deep diasporic and economic ties between the Middle East and South Asia, India and Pakistan in particular, increase the regional relevance of the issue.
- The Arab Gulf region is home to nearly 9 million Indian workers; 2/3rds of India's oil imports and almost half of its LNG imports pass through the Strait of Hormuz – a choke point near Iran.
- There is a high possibility that Iran could attack ships near this chokepoint, all of it collectively impacting India's energy security, diaspora and trade.

#### Deepening Chinese Footprint in South Asia

- Rapidly deepening Chinese footprint in South Asia, fuelled by the desire to build the Belt and Road Initiative (BRI), is another regional development with global implications.
- China Pakistan Economic Corridor (CPEC), for instance, the most operational elements of BRI, had its second phase launched in Pakistan last year, incidentally following the strident criticism by the United States.
- In the last visit of the Bangladeshi Prime Minister to China, 9 new agreements focusing on increasing cooperation in the domains of energy and technologies were signed.
- Chinese presence in Sri Lanka and Myanmar too is a secret no more.
- Over 33 new agreements were signed on the recent visit of the Chinese Premier to Myanmar to speed up infrastructure and BRI projects – China Myanmar Economic Corridor (CMEC) being central to this development.
- Interestingly, China has been recently increasing its influence in areas beyond its traditional presence. In Nepal, for example, China is currently the top investor.
- The current project of a 16-km road project to encourage trade between China and Nepal is one such instance.

- China is also funding the construction of Nepal's second international airport – the Nijgadh International Airport.
- Besides this, Doklam can be considered as a significant event in the geopolitics of South Asia. It can be seen as a rare instance of a third country involvement in military engagement between India and China – Bhutan.

### Withdrawal of US troops from Afghanistan

- The emergence of the US Exit Strategy is another significant development impacting the geopolitical situations in South Asia.
- However, a plan is now in place for an eventual phased withdrawal of the US troops.
- There have been direct talks between the US and the Taliban for over a year for the troop withdrawal deal heading closer to a post-America Afghanistan, or one towards a much lighter American presence.

### Changing Indo-Pak Dynamics

- The changing dynamic of Indo-Pak Relations is another significant issue impacting the region as a whole.
- The repeal of Article 370 has worsened the already tensed Indo-Pak Relations, following the Pulwama and Balakot Strikes last year.
- Possibilities of Pakistani provocation have consequentially increased.

- Pakistan has been so far raising a diplomatic offensive, trying to garner sympathy around Kashmir and generate global pressure against India, although in vain.
- Much to Pakistan's displeasure, what is left for potential discussion is the Pakistan-occupied Kashmir. This has left Pakistan with limited options of destabilising India through its proxy non-state military actors.
- Although, it must be noted that it has been slightly under pressure following its grey-listing post-FATF proceedings.
- Additionally, it could try to target Indian interests in Afghanistan, owing to its leverage in the region concerning its relations with the Afghan Taliban.

### CONCLUSION

The regional developments underscore the geopolitical significance of the region, thus highlighting the reason why the region is so deeply embedded in global affairs. South Asia comprises more than 1/5th of the world's population and 15 per cent of global economic growth. The growing Chinese presence is prominent. The Indo-Pacific strategy gaining increasing significance in American foreign policy considerations only testify this fact. Inclusion of all of South Asia in Indo-Pacific translates of the emerging significance of South Asia for the US, as well as in the global context.

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# **SECTION: B**

## **(PRELIMS)**

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## CYCLONE HEROLD

### ◎ CONTEXT

- A tropical depression has formed in the North-east of Madagascar. According to current forecasts, this depression, named 'Herold', has a strong potential for development in tropical cyclones in the region.

### ◎ ABOUT

- **Tropical Cyclone Herold** has developed close to **Madagascar** and is expected to strengthen further in the coming days as it **heads into the southern India Ocean**.
  - Parts of Madagascar have already been hit by **heavy rain**.
  - **Reunion Island**, and especially **Mauritius** (towards **Rodrigues Island**) are **threatened**.
- **Location:** Herold depression is currently located some 800 kilometres to the north-west of Port Louis in Mauritius.
- **Intensity:** It has **sustained winds** or about **110kmph (68mph)** and gusts nearer 140kmph (87mph).
  - The system is now **intensifying explosively**, with the winds forecast to reach **195kmph (120mph)** gusting up to **240kmph (150mph)**.
  - It is equivalent to a **Category 3 Atlantic hurricane** on the **Saffir-Simpson scale**.
  - Impact: Widespread disruption, including the prospect of **floods and mudslides**, is likely.
- **Movement:** Strength of the storm and movement depends on favourable conditions in the **warm waters**. Conditions are extremely favourable as **sea surface temperatures** are about **28-29 degrees Celsius** (82-84 degrees Fahrenheit).
  - There is also **very little vertical wind shear**, which will allow Herold to remain upright and standing.

### Tropical Cyclones

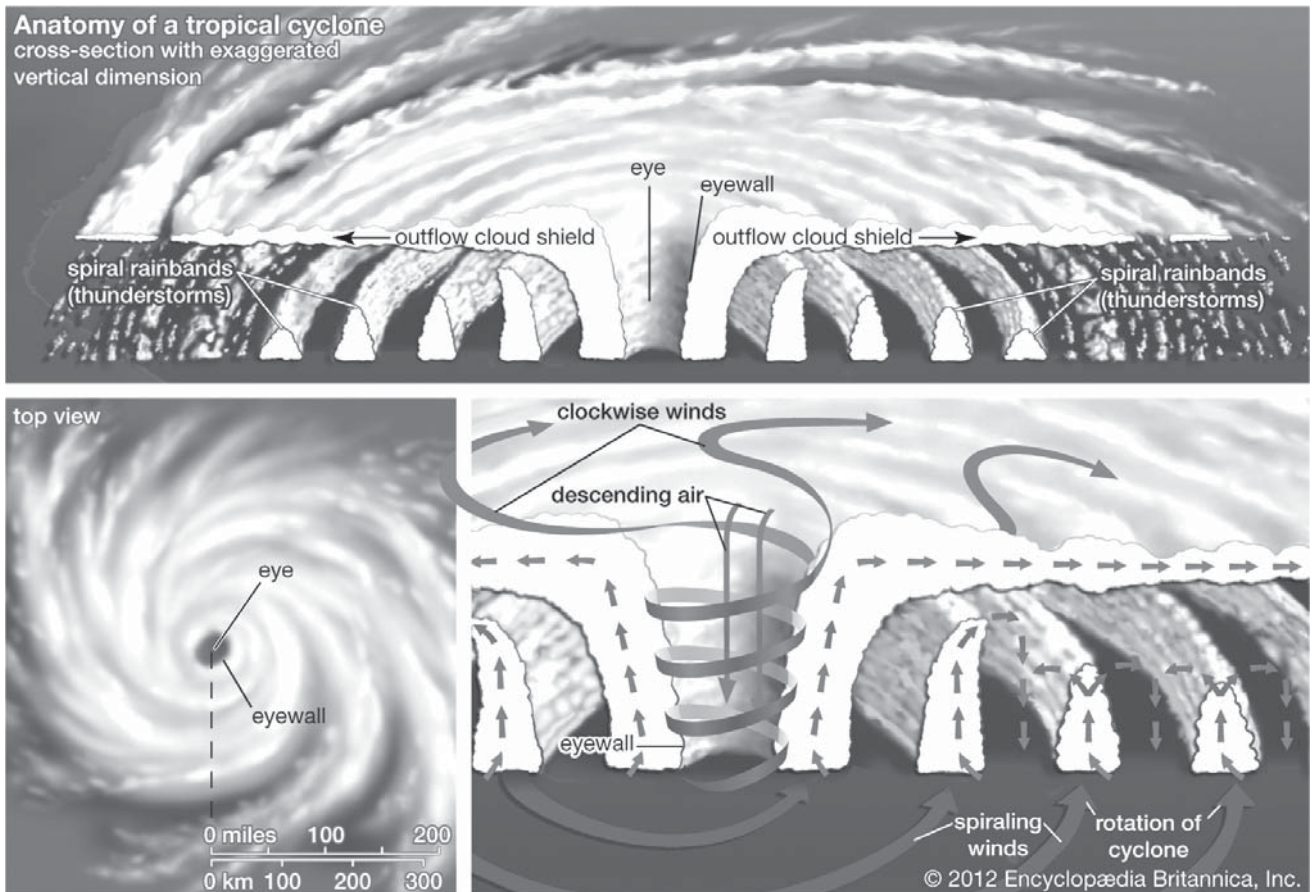
- **Definition:** A tropical cyclone is a **rapidly rotating storm** system characterized by a **low-pressure centre**, a **closed low-level atmospheric circulation**, **strong winds**, and a spiral arrangement of thunderstorms that produce **heavy rain or squalls**.
- **Different names:** Depending 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

### Mechanism of Tropical cyclones

- **Movement:** "Tropical" refers to the geographical origin of these systems, which form almost exclusively **over tropical seas**. "Cyclone" refers to their winds moving in a circle, whirling round their central clear eye, with their winds blowing counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.
  - The opposite direction of circulation is due to the **Coriolis effect**.
- **Formation:** Tropical cyclones typically form over **large bodies of relatively warm water**. They derive their energy through the **evaporation of water** from the ocean surface, which ultimately **re-condenses into clouds and rain** when moist air rises and cools to saturation.
  - Tropical cyclones are typically between **100 and 2,000 km** (62 and 1,243 mi) in diameter.



- **Once the maximum wind speed exceeds 119 km (74 miles) per hour**, the storm is classified as a tropical cyclone.
- The **strong rotating winds** of a tropical cyclone are a result of the **conservation of angular momentum** imparted by the Earth's rotation as air flows inwards toward the axis of rotation.
- **Low surface:** As a result, they rarely form within **5° of the equator**.



### The physical structure of Tropical cyclones

- **Eye-wall:** At the centre of a mature tropical cyclone, **air sinks rather than rises**, thereby creating a clear **"eye"**.
  - Weather in the **eye is normally calm and free of clouds**, although the sea may be extremely violent.
- **Rain-bands:** In addition to **deep convective cells** (compact regions of vertical air movement) surrounding the eye, there are often **secondary cells** arranged in bands around the centre.
  - These bands, commonly called rain-bands, spiral into the centre of the storm.
- **Outflow:** The **upper levels** of a tropical cyclone feature winds headed away from the centre of the storm with **anticyclonic rotation**. **Winds at the surface are strongly cyclonic, weaken with height, and eventually reverse** themselves.
  - Tropical cyclones owe this unique characteristic to the **warm core** at the centre of the storm.
- **Area of influence:** Tropical cyclones are almost **unknown in South Atlantic** due to **consistently strong wind shear** and a **weak Inter-tropical Convergence Zone**.
- The **near-surface wind field** of a tropical cyclone is characterized by air rotating rapidly around a centre of circulation.

- Once aloft, air flows away from the storm's centre, producing a **shield of cirrus clouds**. Typically, these are the **highest and coldest clouds** in the cyclone.
- **They intensify very rapidly.**

### Impact of Tropical cyclones

- Since primary energy source for these storms is warm ocean waters, therefore they are typically **strongest when over or near water**, and weaken quite rapidly over land.
- **Coastal regions** are particularly vulnerable to the impact of a tropical cyclone, compared to inland regions.
- Coastal damage may be caused by **strong winds and rain, high waves** (due to winds), **storm surges** (due to wind and severe pressure changes), and the **potential of spawning tornadoes**.
- Tropical cyclones also **draw in air from a large area**—which can be a vast area for the most severe cyclones—and **concentrate the precipitation** of the water content in that air **into a much smaller area**.
- This **continual replacement of moisture-bearing air by new moisture-bearing air** after its moisture has fallen as rain may cause **extremely heavy rain and river flooding** up to 40 kilometres (25 mi) from the coastline.

## HORTICULTURE AND KISAN MELAS TO BRING MORE AREA UNDER FRUIT CULTIVATION

### ◎ CONTEXT

- In the 'Kisan Melas' being organised by Punjab Agriculture University (PAU), Ludhiana, the farmers are being motivated with the theme 'Baag Lao, Pani Bachao, Fal Khao, Sehat Banao' (grow orchards, save water, eat fruits and gain health).

### ◎ ABOUT

- As per the data sourced from Punjab Horticulture Department, the area under fruit cultivation was about 86,774 hectares in 2018-19.
- This is nearly 22 per cent of the total 3.81 lakh hectares under horticulture.
- Punjab produces 18.50 lakh tonnes of fruit, which is 25 per cent of the total horticulture produce.
- The state's fruit production is below the national average.
- In Punjab, the main fruits are kinnow, sweet orange, lime, lemon, mango, litchi, guava, pear, peach, plum, grapes, ber, amla, and banana.
- Kinnow is cultivated in maximum 54,000 hectares.
- There is no policy in Punjab, which defines any minimum area under fruits.
- Punjab has a total of around 43 lakh hectares cultivable area, which includes 39.69 lakh hectares under crops and remaining under horticulture crops.

### What is Horticulture?

- Horticulture, the branch of plant agriculture dealing with garden crops, generally fruits, vegetables, and ornamental plants.
- The word is derived from the Latin *Hortus*, "garden," and *colere*, "to cultivate."
- As a general term, it covers all forms of garden management, but in ordinary use, it refers to intensive commercial production.
- In terms of scale, horticulture falls between domestic gardening and field agriculture, though all forms of cultivation naturally have close links.

- Horticulture sector has become one of the major drivers of growth as it is more remunerative than the agricultural sector.

### Efforts are taken towards increasing the area under fruits

- These fairs will certainly motivate farmers to take up fruit cultivation but bigger efforts are needed from the government and its horticulture department.
- The horticulture department is working with only half the sanctioned staff and with negligible grants.
- Currently, over a dozen high-quality varieties of citrus fruits are being prepared by Citrus Centre of Excellence, Hoshiarpur.
- The diversification will happen on the ground only if farmers who venture into fruit cultivation get all types of support in the initial years.
- Fruit cultivation needs half the water and fertilizers as compared to paddy.
- Farmers can make more money per acre annually depending upon the varieties of fruits, compared they earn the wheat and paddy crops.

#### National Horticulture Board (NHB)

- It was set up in 1984 on the basis of recommendations of the "Group on Perishable Agricultural Commodities", headed by Dr M. S. Swaminathan.
- Headquartered at Gurugram.
- The objective is to improve the integrated development of the Horticulture industry and to help in coordinating, sustaining the production and processing of fruits and vegetables.

#### Indian Institute of Horticultural Research

- The Indian Institute of Horticultural Research (IIHR) is an autonomous organization acting as a nodal agency for basic, strategic, anticipatory and applied research on various aspects of horticulture such as fruits, vegetable, ornamental, medicinal and aromatic plants and mushrooms in India.
- The institute has its headquarters in Bengaluru, Karnataka, India and is a subsidiary of Indian Council of Agricultural Research (ICAR), New Delhi, under the Ministry of Agriculture, India.

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## CORAL BLEACHING AND GREAT BARRIER REEF

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### ◎ CONTEXT

- Scientists have warned that the Great Barrier Reef will face a critical period of heat stress over the coming weeks; following the most widespread coral bleaching the natural world has ever endured.

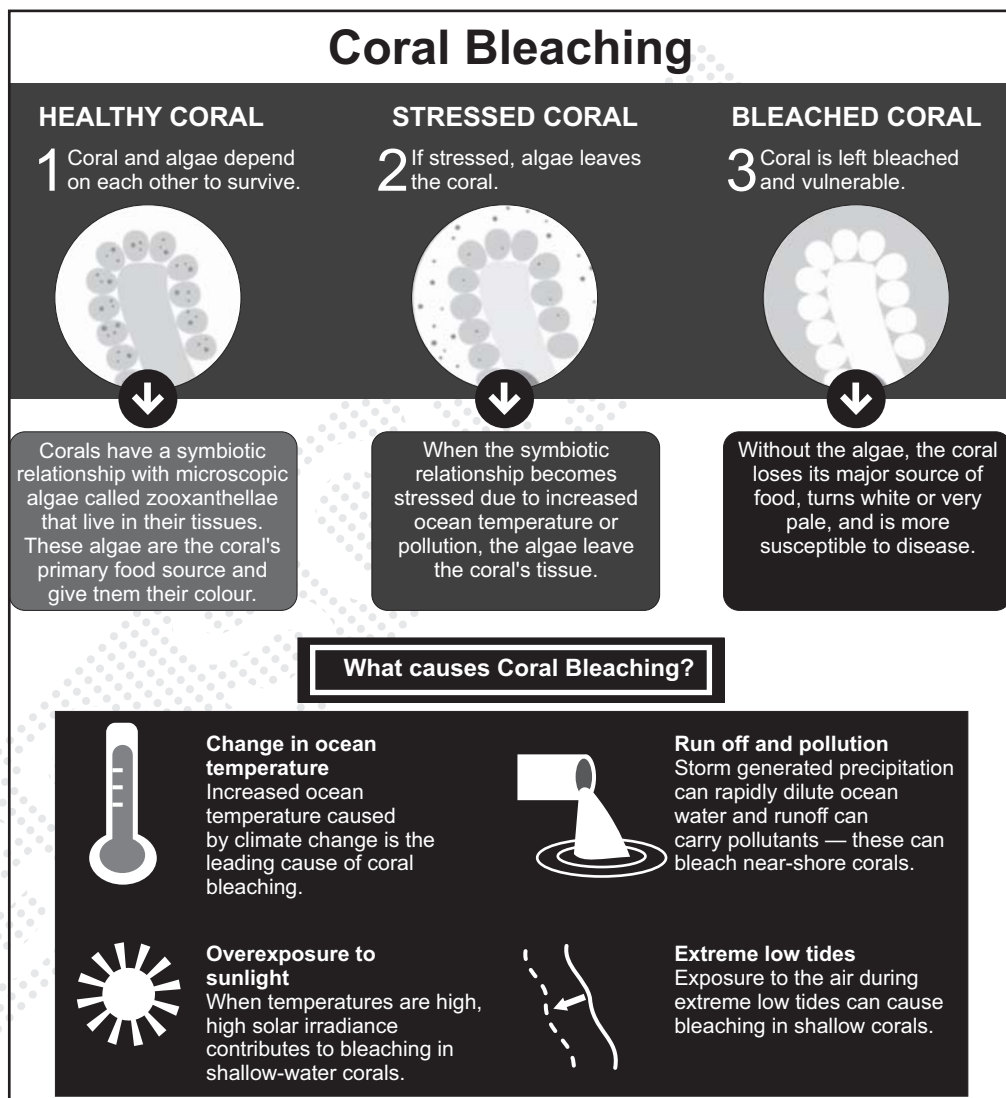
### ◎ ABOUT

- The Great Barrier Reef is the world's largest coral reef system composed of over 2,900 individual reefs and 900 islands stretching for over 2,300 kilometres over an area of approximately 344,400 square kilometres.
- It is home to about 3,000 coral reefs, 600 continental islands, 1,625 type of fish, 133 varieties of shark and rays and 600 types of soft and hard corals.
- The reef is located in the Coral Sea, off the coast of Queensland, Australia.
- The Great Barrier Reef can be seen from outer space and is the world's biggest single structure made by living organisms.
- This reef structure is composed of and built by billions of tiny organisms, known as coral polyps.
- It supports a wide diversity of life and was selected as a World Heritage Site in 1981.

- Carbon pollution is causing unprecedented damage to our Great Barrier Reef. Warming ocean temperatures, a sign of climate change, is associated with the deteriorating health of the Reef.

### What is coral bleaching?

- The stunning colours in corals come from marine algae called **zooxanthellae**, which live inside their tissues.
- This algae provide the corals with an easy food supply thanks to photosynthesis, which gives the corals energy, allowing them to grow and reproduce.
- When corals get stressed, from things such as heat or pollution, they react by expelling this algae, leaving a ghostly, transparent skeleton behind. This is known as 'coral bleaching'.



- Some corals can feed themselves, but without the zooxanthellae most corals starve.
- Warmer water temperatures can result in coral bleaching. When water is too warm, corals will expel the algae (zooxanthellae) living in their tissues causing the coral to turn completely white.
- Not all bleaching events are due to warm water.

### Can coral recover from bleaching?

- In some instances, corals can recover from bleaching.

- If conditions return to normal and stay that way corals can regain their algae, return to their bright colours and survive.
- However prolonged warmer temperatures and other stressors, like poor water quality, can leave the living coral in a weakened state.
- It can struggle to regrow, reproduce and resist disease – so is very vulnerable to coral diseases and mortality.
- It can take decades for coral reefs to fully recover from a bleaching event, so these events mustn't occur frequently.
- If we continue burning fossil fuels at our current rate then severe bleaching events are likely to hit reefs annually by the middle of the century.
- This would be devastating for coral reefs as they would have no chance to recover.
- The **World Heritage Committee** is scheduled to review the status of the Great Barrier Reef at a meeting in June in China, with the potential to place the reef on its "in danger" list.

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## GAUR BACK IN VALMIKI RESERVE AFTER AN INCREASE IN GRASSLAND COVER

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### ◎ CONTEXT

- **Gaur (Bos Gaurus), the largest extant bovine in the world, has not only returned to Bihar's Valmiki Tiger Reserve (VTR) but is also breeding there due to an increase in grassland cover.**

### ◎ ABOUT

- The Gaur (Bos Gaurus) also called the Indian bison is the largest extant bovine.
- It is native to South Asia and Southeast Asia. Gaurs are grassland specialists and their main food is grass.
- The Gaur is a social animal. They generally live in group size of about 30 to 40.
- The Indian Bison is very much prevalent in the Western Ghats. They prefer evergreen forests and moist deciduous forests.
- The species is listed as 'vulnerable' on the International Union for Conservation of Nature's Red List of Threatened Species since 1986.
- They are not found in the Himalayas with an altitude greater than 6,000 ft. They generally stick to the foothills only.
- **Threat:** Many possible threats have led to a decline in the population of the Indian Bison.
  - **Food Scarcity:** The destruction in the grasslands has led to a decline in the availability of food for these animals. Due to the planting of commercially important trees, the lush grassland has diminished which is the prime source of fodder for these wild cattle.
  - **Poaching:** The illegal hunting of the Indian bison is done for their commercial value as well as due to the high demand of gaur meat in the illegal market of Nepal – India border.
- The Indian Bison is deemed as vulnerable according to the IUCN list.
- Hence, the Indian Government has already included the protection of wild bison in the Schedule I of the Wild Life Protection Act, 1972.
- It is the State animal of Goa.
- The local names of the Gaur are:
  - Seladang — Malaysia
  - Pyoung — Myanmar
  - Gayal or Mithun — a domesticated form of gaur.

**About Valmiki Tiger Reserve:**

- Valmiki Tiger Reserve forms the easternmost limits of the Himalayan Terai forests in India and is the only tiger reserve of Bihar.
- Situated in the Gangetic Plains bio-geographic zone of the country, the forest has a combination of bhabar and terai tracts.
- Valmiki Tiger Reserve lies in the north-westernmost West Champaran district of Bihar.
- Name of the district has been derived from two words **Champa** and **Aranya** meaning a **Forest of Champa trees**.
- Wild mammals found in the forests of Valmiki Tiger Reserve are Tiger, Sloth bear, Leopard, Wild dog, Bison, Wild boar etc. Several species of deer and antelopes viz barking deer, spotted deer, hog deer, sambar and blue bull are also found here.
- In the Madanpur forest block, a large number of Indian flying foxes can also be sighted.
- The Reserve has rich avifauna diversity. Over 250 species of birds have been reported.

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## HOW AGROFORESTRY COULD SOLVE THE CLIMATE CRISIS?

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**◎ CONTEXT**

- **Agriculture and climate change are deeply intertwined. Agriculture is responsible for almost 30 per cent of global greenhouse gas (GHG) emissions and is the root cause of 80 per cent of tropical deforestation. Agroforestry, an agricultural method that nurtures natural ecosystems, could reverse these disturbing trends.**

**◎ ABOUT**

- Agroforestry is the interaction of agriculture and trees, including the agricultural use of trees.
- This comprises trees on farms and in agricultural landscapes, farming in forests and along forest margins and tree-crop production, including cocoa, coffee, rubber and oil palm.
- Interactions between trees and other components of agriculture may be important at a range of scales:
  - in fields (where trees and crops are grown together)
  - on farms (where trees may provide fodder for livestock, fuel, food, shelter or income from products including timber)
  - landscapes (where agricultural and forest land uses combine in determining the provision of ecosystem services)
- It is a resilient and future-proof sustainable agricultural method that could effectively mitigate the climate crisis.
- This climate-smart farming system enables economically-viable production while significantly restoring land, mitigating climate change, safeguarding local biodiversity and strengthening food and nutritional securities for the growing population.
- With agroforestry, degraded land can be transformed into food-growing carbon sinks.

**What is leading to CO<sub>2</sub> emissions?**

- **Animal Agriculture:** Animal agriculture is responsible for 18 percent of greenhouse gas emissions, more than the combined exhaust from all transportation.
  - Intensive agriculture characterised by monocultures and aimed at feeding farm animals is one of the sectors that generate the highest amount of CO<sub>2</sub> emissions.
- **Livestock:** Livestock and their byproducts account for at least 32,000 million tons of carbon dioxide (CO<sub>2</sub>) per year or 51% of all worldwide greenhouse gas emissions.
  - The biggest single source is methane from cow burps and manure.

- Manure left on pasture emits nitrous oxide, a greenhouse gas with a much stronger global warming impact per ton than carbon dioxide.
- Enteric fermentation—a natural digestive process that occurs in ruminant animals such as cattle, sheep and goats—accounts for about 40% of agricultural production emissions in the past 20 years.
- In the 20 years from 1996-2016, China was responsible for the most emissions from agricultural production, followed by India, Brazil and the United States. Together, these top four agricultural emitters were responsible for 37% of global agricultural production emissions.

### Challenges:

- Key technical challenges include getting good quality planting material for desired species, limited agronomical understanding of optimal shade management in sustainably intensive and diversified agroforestry systems and processing of products.
- Similarly, economic and policy challenges include unclear rights to land, trees and carbon, poor market infrastructure, labour shortage and long-waiting periods for recovery of investments. Recovery of investments can sometimes take up to three years.

### Benefits of Agroforestry:

- **Improving livelihood:** Agroforestry can occur at a variety of spatial scales (e.g., field or woodlot, farm, watershed) in different ecosystems and cultures. When properly applied, agroforestry can improve livelihoods through enhanced health and nutrition, increased economic growth, and strengthened environmental resilience and ecosystem sustainability.
- **Social sustainability:** In turn, such improvements can contribute to increased social sustainability in which human needs are satisfied in a way that fosters environmental health.
- **Sustainable production:** Farm diversification is a growing strategy for economic competitiveness, especially throughout the industrialized temperate zone, and agroforestry offers great promise for the sustainable production of speciality nut and fruit crops, high-value medicinal, dairy and beef cattle, sheep, goats, and biomass for biofuel.
- **Reducing stress:** The benefits of agroforestry derive from the interactions between trees and shrubs and crops and livestock. Positive interactions may reduce stress to plants and animals, enhance yields, retain soil, and capture water.
- **Environment-friendly:** Agroforestry systems also yield proven strategies for long-term carbon sequestration, soil enrichment, biodiversity conservation, and air- and water-quality improvements, benefiting both the landowners and society.

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## ILLEGAL TRADE OF RED PANDA

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### ◎ CONTEXT

- Recently, a report by trade monitoring network TRAFFIC analyzed the illegal trade-related threats to Red Panda in India.

### ◎ ABOUT

- The trade monitoring network TRAFFIC has released a report titled “**Assessment of illegal trade-related threats to Red Panda in India and selected neighbouring range countries**”.
- The report has analysed poaching and illegal trade of the species for the ten years from July 2010 to June 2019.

### Key Findings of the Report:

- The Red Panda survival is crucial for the eastern and north-eastern Himalayan subalpine conifer forests and the eastern Himalayan broadleaf forests.

**TRAFFIC – The Wildlife Trade Monitoring Network**

- TRAFFIC is a leading non-governmental organisation working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.
  - It is a joint program of WWF and IUCN – the International Union for Conservation of Nature created in 1976.
  - TRAFFIC focuses on leveraging resources, expertise and awareness of the latest globally urgent species trade issues such as tiger parts, elephant ivory and rhino horn.
- The animal has been hunted for meat and fur, besides illegal capture for the pet trade.
  - An estimated 14,500 animals are left in the wild across Nepal, Bhutan, India, China and Myanmar.
  - The report has indicated that the traditional demand for red panda meat and related products has reduced over time.
  - Also, the reduction in poaching and illegal trade of red panda is indicative of the success of awareness campaigns about the conservation of the species.

**Recommendations**

- Community-based conservation and protection for the species as its habitat stretches across remote areas.
- Trans-boundary law enforcement co-operation through the use of multi-government platforms like SAWEN (South Asia Wildlife Enforcement Network).
- SAWEN was formally established at an inter-governmental meeting hosted in Paro (a town in Bhutan) by the Royal Government of Bhutan, in January 2011.
- It aims to establish multilateral collaboration to fight wildlife crime in the region.

**Red Panda**

- The red panda is a small reddish-brown arboreal mammal.
- The only living member of the genus Ailurus.
- It is also the state animal of Sikkim.
- It is listed as Endangered in the IUCN red list of Threatened Species and under Schedule I of the Indian Wildlife (Protection) Act, 1972.
- It is found in the forests of India, Nepal, Bhutan and the northern mountains of Myanmar and southern China.
- It thrives best at 2,200-4,800m, in mixed deciduous and conifer forests with dense understories of bamboo.
- In India, About 5,000-6,000 red pandas are estimated to be present in Sikkim, western Arunachal Pradesh, Darjeeling district of West Bengal and parts of Meghalaya.
- This is the second-largest population after China (6,000-7,000).
- Red pandas have been reported from 11 districts of Arunachal Pradesh, which is presumed to hold the largest red panda population in the country.

## MUD PACKS AND OTHER REMEDIES TO SAVE THE TAJ FROM POLLUTION, AGE AND INSECTS

**◎ CONTEXT**

- The Taj Mahal complex has been spruced up for the visit of United States President. The red sandstone corridors had been cleaned of weather stains, the fountains had been scrubbed, and extra flower beds had been added to the gardens.



## © ABOUT

- The graves of Emperor Shah Jahan and his queen Mumtaz Mahal had received special "Multani mitti" (Fuller's clay) mud pack treatment".
- Mud packs have been one of the ASI's favoured ways to remove the yellow stains that have appeared over the years on the Taj Mahal's white marble facade.
- The treatment traditionally employed to clean marble surfaces help restore the natural shine and colour of the monument.
- The clay is applied in the form of a thick paste that absorbs the grime, grease and bird droppings on the marble, before being washed off using distilled water.
- Mud packs were applied on the surface of the monument first in 1994, and then again in 2001, 2008, and, most recently, beginning 2014.
- Increasing pollution in the air over the Gangetic Valley affecting the Taj has been a reason for concern for archaeologists and conservationists for long now.
- The Taj Mahal was completed in 1653 as a mausoleum for the Emperor's favourite wife, Mumtaz Mahal, who died in childbirth.
- The Taj was declared a UNESCO World Heritage site in 1983.

**Analysing the pollution game:**

- **Acid rain:** The most dangerous thing is acid rain. The inadvertent emission of **sulfuric oxide**, due to road traffic, causes acid rain, due to which Taj Mahal's colour changes to yellow, tarnishing it, and worse, it erodes it, attacking what is most fragile at first, the sculptures and incrustation of stone.
- **Green dropping:** Algae proliferate along with some harmful insects, especially a local variety of mosquitoes (chironomids) make green dropping, the colour of algae they feed on. The mausoleum is regularly browned by these droppings but fortunately, marble resists these droppings which, obviously are not enough corrosive.
- **Water pollution:** The river Yamuna passes next to the monument, also goes to Delhi, which is heavily equipped in terms of polluting industry, this pollution is inevitably found in the river and reaches Agra very quickly, which has an astonishing consequence.
- **Discoloration:** There are various factors that have led to the discoloration of the Taj Mahal.
  - Firstly, the polluting industries and the vehicular emissions in the Taj Trapezium Zone (TTZ) area are a major source of pollution.
  - The second reason is that the Yamuna River, which flows behind the Taj, has become highly polluted. There is no aquatic life in it and has caused insect and algae infestation on the Taj Mahal and other monuments situated on its banks.

**Taj Trapezium Zone:**

- The **Taj Trapezium Zone (TTZ)** spreads over 10,400 sq km across the districts of Agra, Firozabad, Mathura, Hathras and Etah in Uttar Pradesh and Bharatpur district of Rajasthan.
- Since 1994, no new factory can be established in this protected area around the Taj Mahal.

**Insect attacks**

- The source of this problem comes from the dry river Yamuna, which has become devoid of any ecological flow.
- These insects, as has been stated in the Archaeological Survey of India's report, breed in the polluted matter in the river, and then attack the Taj Mahal.
- Earlier, there were fish in the river, which ate the insects and their larvae, but now, due to the serious water pollution, there is no sign of any aquatic species in the river.
- Other monuments that stand on the banks of the river Yamuna, such as the Tomb of Itimad-ud-Daulah, the Mehtab Bagh, and portions of the Agra Fort, too, have been affected by these insect attacks.

## BLUE DOT NETWORK

### ◎ CONTEXT

- India and the United States may not have signed the elusive limited trade deal during the visit of US President Donald Trump, but Washington was able to ask New Delhi to participate in the Blue Dot Network (BDN), an initiative under the quadrilateral mechanism that seeks to build and finance quality infrastructure projects.

### ◎ ABOUT

- The concept of the Blue Dot Network was officially launched on 4 November 2019 at the Indo-Pacific Business Forum in Bangkok, Thailand.
- It will be led by the US (**International Development Finance Corporation (DFC)**), along with Japan (Japanese Bank for International Cooperation) and Australia (Department of Foreign Affairs and Trade)- the three countries, along with India, form the Quadrilateral grouping.
- **Multi-stakeholder initiative:** It is meant to be a multi-stakeholder initiative that aims to bring governments, the private sector and civil society together to promote "high quality, trusted standards for global infrastructure development".
- This means that as part of this initiative, infrastructure projects will be vetted and approved by the network depending on standards, as per which, the projects should meet certain global infrastructure principles.
- The projects that are approved will get a "Blue Dot", thereby setting universal standards of excellence, which will attract private capital to projects in developing and emerging economies.

### Countering China's Belt and Road Initiative?

- The proposal for the Blue Dot network is part of the US's Indo-Pacific strategy, which is aimed at countering Chinese ambitious BRI.
- Blue Dot may be seen as a counter to BRI, it will need a lot of work for two reasons.
  - First, there is a fundamental difference between BRI and Blue Dot — while the former involves direct financing, giving countries in need immediate short-term relief, the latter is not a direct financing initiative and therefore may not be what some developing countries need.
  - Secondly, Blue Dot will require coordination among multiple stakeholders when it comes to grading projects. "Given the past experience of Quad, the countries involved in it are still struggling to put a viable bloc. Therefore, it remains to be seen how Blue Dot fares in the long run." (Quad is an informal strategic dialogue between the US, Japan, Australia and India)

### US foreign policy towards China

- Before 2001, US foreign policy was focussed towards integrating China into its plan, but this changed after China's emergence as a global superpower.
- Under Barack Obama, the US foreign policy started shifting focus to Asia, where the US wanted to counter China's growing influence.
- The Indo-Pacific region, which stretches from India's west coast to the west coast of the US, is the most economically dynamic and populous part of the world.
- Further, the US sees China's infrastructure investments and trade strategies as reinforcing its geopolitical aspirations, including efforts to build and militarise outposts in the South China Sea, which as per the US, restricts the free movement of trade and undermines regional stability.

### Significance of the network:

- **Boost to infrastructure:** A country that joins the Blue Dot Network as a partner will boost its project capability efforts. Further, if the infrastructure development projects of

that particular country obtain a Blue Dot certification, they will be seen as adhering to the highest level of global standards.

- **Access to financing institutions:** Access to private and public financing institutions will help mitigate financing risks, acting as an impetus for developing countries like India to smoothly undertake development projects domestically as well as internationally.
- **Clear project standards:** The Blue Dot Network will provide countries with clear project standards. Projects, companies, and governments that meet or uphold the standards can build public confidence in their commitment to good practices.

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## SAUDI ARABIA HOSTS G20 FINANCIAL LEADERS MEET

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### ◎ CONTEXT

- **Finance Ministers and Central Bank Governors from G20 nations meet in the Saudi capital for a two-day gathering to discuss the global economy and the risks from the coronavirus epidemic.**

### ◎ ABOUT

- The **Group of Twenty (G20)** is the premier forum for its members' international economic cooperation and decision-making.
- Its membership comprises 19 countries plus the European Union.
- Each G20 President invites several guest countries each year.
- G20 leaders meet annually.
- In addition, Finance Ministers and Central Bank Governors meet regularly during the year to discuss ways to strengthen the global economy, reform international financial institutions, improve financial regulation and implement the key economic reforms that are needed in each member economy.
- The G20 started in 1999 as a meeting of Finance Ministers and Central Bank Governors in the aftermath of the Asian financial crisis.
- In 2008, the first G20 Leaders' Summit was held, and the group played a key role in responding to the global financial crisis.
- The G20 is supported by international organisations, including the Financial Stability Board, the International Labour Organisation, the International Monetary Fund, the Organisation for Economic Co-operation and Development, the United Nations, the World Bank and the World Trade Organization.

### **G20 Summit, 2020**

- Saudi Arabia became the first Arab nation to hold the G20 presidency in its capital, Riyadh.
- The theme of Summit- "**Realising Opportunities of the 21<sup>st</sup> Century for All**".

### **Highlights of the meet**

- Global economic growth remains slow due to geopolitical, trade tensions, and policy uncertainty.
- However, it is expected to improve in 2020 and 2021 due to loose monetary policy and an easing of trade tension.
- The countries have projected a V-shaped, rapid recovery for the global economy.
- But it has warned about the uncertainty around the spread of the coronavirus, rising debt levels and climate change.
- Further, India has also demanded closer collaboration between international revenue agencies to investigate tax details of offenders who cross borders to escape tax investigation.

## THE GOVERNMENT OF INDIA INVOKES EPIDEMIC DISEASES ACT, 1897. WHAT IS IT?

### ◎ CONTEXT

- In a Cabinet Secretary meeting, it was decided that the States and Union Territories should invoke provisions of Section 2 of Epidemic Diseases Act, 1897, so that Health Ministry advisories are enforceable.

### ◎ ABOUT

- The Epidemic Diseases Act, 1897 is a law which was first enacted to tackle bubonic plague in Bombay state in former British India.
- The law is meant for containment of epidemics by providing special powers that are required for the implementation of containment measures to control the spread of the disease.
- The Epidemic Diseases Act is routinely enforced across the country for dealing with outbreaks of diseases such as swine flu, dengue, and cholera.
- At present, at least 60 COVID-19 cases have been confirmed in India. Around the world, more than 119,100 people have been infected and nearly 4,300 have died.

### Historical Background:

- The colonial government introduced the Act to tackle the epidemic of bubonic plague that had spread in the erstwhile Bombay Presidency in the 1890s.
- Using powers conferred by the Act, colonies authorities would search suspected plague cases in homes and among passengers, with forcible segregations, evacuations, and demolitions of infected places.
- Historians have criticised the Act for its potential for abuse.
- In 1897, the year the law was enforced, freedom fighter Bal Gangadhar Tilak was punished with 18 months' rigorous imprisonment after his newspapers Kesari and Mahratta admonished imperial authorities for their handling of the plague epidemic.

### Provisions of the Act

- The Act, which consists of four sections, aims to provide "for the better prevention of the spread of Dangerous Epidemic Diseases."
- **Section 2** empowers state governments/UTs to take special measures and formulate regulations for containing the outbreak. It is as follows:
  - When at any time the State Government is satisfied that the State or any part thereof is visited by, or threatened with, an outbreak of any dangerous epidemic disease, the State Government, if it thinks that the ordinary provisions of the law for the time being in force are insufficient for the purpose, may take, or require or empower any person to take, such measures and, by public notice, prescribe such temporary regulations to be observed by the public or by any person or class of persons as it shall deem necessary to prevent the outbreak of such disease or the spread thereof and may determine in what manner and by whom any expenses incurred (including compensation if any) shall be defrayed.
- In particular and without prejudice to the generality of the foregoing provisions, the State Government may take measures and prescribe regulations for:
  - The inspection of persons travelling by railway or otherwise, and the segregation, in hospital, temporary accommodation or otherwise, of persons suspected by the inspecting officer of being infected with any such disease.
- **Section 3** provides penalties for disobeying any regulation or order made under the Act. These are according to Section 188 of the Indian Penal Code (disobedience to order duly promulgated by public servant).

- **Section 4** gives legal protection to the implementing officers acting under the Act.

**Where has it been used earlier?**

- In 2018, Gujarat's Vadodara issued a notification under the Act declaring the Khedkarmsiya village in Waghodia taluka as cholera-affected after 31 persons complained of symptoms of the disease.
- In 2015, to deal with malaria and dengue in Chandigarh, the Act was implemented.
- In 2009, to tackle the swine flu outbreak in Pune, Section 2 powers were used to open screening centres in civic hospitals across the city, and swine flu was declared a notifiable disease.

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## RAJYA SABHA ELECTIONS

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### ◎ CONTEXT

- Elections for more than 70 Rajya Sabha seats will be held this year with 69 members set to retire, including 18 from the BJP and 17 from the Congress. With four seats already lying vacant, the total number of vacancies in the Upper House which has to be filled during the year will be 73, according to Rajya Sabha Secretariat data.

### ◎ ABOUT

- The **Rajya Sabha (the Upper House of Parliament)** is modelled after the **House of Lords in the United Kingdom**.
- Rajya Sabha is a permanent body and is not subject to dissolution. However, one-third of the members retire every second year and are replaced by newly elected members.
- Each member is elected for a term of six years.
- The Vice President of India is the ex-officio Chairman of Rajya Sabha.

#### Composition:

- Article 80 of the Constitution lays down the maximum strength of Rajya Sabha as 250, out of which 12 members are nominated by the President and 238 are representatives of the States and the two Union Territories.
- The Rajya Sabha currently has 245 members including:
  - 233 elected members
  - 12 nominated
- Nominated members of the Rajya Sabha are picked by the President of India. These MPs are luminaries from the world of economics, sports, literature, art, social service, etc.
- The Vice-President is the Chairperson of the Rajya Sabha, which is the final stop before a bill is sent for Presidential assent.

#### Tenure:

- Every Rajya Sabha MP has a tenure of six years and elections to one-third seats are held every two years.
- According to **Section 154 of the Representation of the People Act 1951**, a member has chosen to fill a casual vacancy will serve for the remainder of his predecessor's term of office.

#### Formula to elect members:

- While Lok Sabha members are elected directly by the voters, Rajya Sabha members are elected indirectly by the people, that is, by the MLAs.

- Members of a state's Legislative Assembly vote in the Rajya Sabha elections in what is called **proportional representation** with the **single transferable vote (STV) system**.
- Each MLA's vote is counted only once. In this system, MLAs don't vote for each seat.
- **The formula simply is  $[(\text{Number of MLAs} \times 100) / (\text{Vacancies} + 1)] + 1$ .**

### Allocation of Seats

- The **Fourth Schedule to the Constitution** provides for the allocation of seats to the States and Union Territories in Rajya Sabha.
- How many Rajya Sabha members a state can send, depends on its population.
- Hence, the number of elected seats too changes as states are merged, bifurcated or new ones are created.
- Consequent on the reorganization of States and formation of new States, the number of elected seats in the Rajya Sabha allotted to States and Union Territories has changed from time to time since 1952.

### Qualifications

- Article 84 of the Constitution lays down the qualifications for membership of Parliament. A person to be qualified for the membership of the Rajya Sabha should possess the following qualifications:
  - He must be a citizen of India and make and subscribe before some person authorized in that behalf by the Election Commission an oath or affirmation according to the form set out for the purpose in the Third Schedule to the Constitution;
  - He must be not less than 30 years of age;
  - He must possess such other qualifications as may be prescribed in that behalf by or under any law made by Parliament.

### Disqualifications

- Article 102 of the Constitution lays down that a person shall be disqualified for being chosen as, and for being, a member of either House of Parliament
  - If he holds any office of profit under the Government of India or the Government of any State, other than an office declared by Parliament by law not to disqualify its holder;
  - If he is of unsound mind and stands so declared by a competent court;
  - If he is an undischarged insolvent;
  - If he is not a citizen of India, or has voluntarily acquired the citizenship of a foreign State, or is under any acknowledgement of allegiance or adherence to a foreign State;
  - If he is so disqualified by or under any law made by Parliament.

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## JOINT COMMANDS - HOW TO UNIFY DEFENCE RESOURCES?

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### ◎ CONTEXT

- A peninsula command for maritime threat, a separate command for Jammu and Kashmir and the need to have a focused command for China is part of the blueprint for joint theatre commands that are part of the major restructuring exercise.

### ◎ ABOUT

- The concept of Joint Command is a unified command in which the resources of all the services are unified under a single commander looking at a geographical theatre.

- It means that a single military commander, as per the requirements, will have the resources of the Army, the Navy and the Air Force to manage a security threat.
- The commander of a joint command will have the freedom to train and equip his command as per the objective and will have logistics of all the services at his beckoning.
- The three services will retain their independent identities as well.
- There are two tri-services commands at the moment.
- The joint command at the moment, the Andaman and Nicobar Command (ANC), is a theatre command, which is headed by the chiefs of the three services in rotation. It was created in 2001 after a Group of Ministers had reported on national security following the Kargil War.
- The Strategic Forces Command was established in 2006 and is a functional tri-services command.

### What is the current structure?

- There are 17 commands (excluding tri-service commands), divided among the three services. The Army and the Air Force have seven commands each, while the Navy has three commands.
  - **Army:** The commands under the Army are Northern, Southern, Eastern, Western, Central, South-western and the Army Training Command.
  - **Air-Force:** The Air Force has Eastern, Western, Southern, South-western, Central, Maintenance and Training commands.
  - **Navy:** The Navy is divided into Western, Eastern and Southern commands.
  - These commands report to their respective services and are headed by three-star officers.
  - Though these commands are in the same regions, they are not located together.
- Apart from the above, there are only two of these are tri-service commands. These are the **Andaman and Nicobar Command** and the **Strategic Forces Command**, which is in charge of nuclear assets.

### How do joint commands help?

- One of the main advantages is that the leader of unified command has control over more varied resources, compared to the heads of the commands under the services now.
- For instance, the head of one of the proposed commands, Air Defence Command, will have under him naval and Army resources, too, which can be used as per the threat perception.
- And the officer commanding the Pakistan or China border will have access to the Air Force's fighter jets and can use them if needed.
- The other key advantage is that through such integration and jointness the three forces will be able to avoid duplication of resources.
- The resources available under each service will be available to other services too.
- The services will get to know one another better, strengthening cohesion in the defence establishment.

### Do militaries of other countries have such commands?

- Several major militaries are divided into integrated theatre commands.
- China's People's Liberation Army has five theatre commands: Eastern, Western, Northern, Southern and Central. Its Western Theatre Command is responsible for India.
- The US Armed Forces have 11 unified commands, of which seven are geographic and four functional commands.

- Its geographic commands are Africa, Central, European, Indo-Pacific, Northern, Southern and Space. Cyber, Special Operations, Transportation and Strategic are its functional commands.

## WHAT ARE THE MH-60R NAVAL CHOPPERS, AH-64E APACHES INDIA HAS BOUGHT?

### ◎ CONTEXT

- **United States President announced:** “deals to sell over \$3 billion in the absolute finest, state-of-the-art military helicopters and other equipment to the Indian Armed Forces.”

### ◎ ABOUT

- Agreements for India to purchase advanced American military equipment, including Apache and MH-60 Romeo helicopters, will enhance our joint defence capabilities as the militaries continue to train and operate side-by-side.

#### MH-60 Romeo helicopters

- The incoming 24 multirole MH-60 Romeo helicopters are expected to boost the Indian Navy's efforts to expand its role in the Indian Ocean Region.
- The Navy had long asked for these helicopters, and the \$2.2 billion deal was cleared by the Cabinet Committee on Security.
- The MH-60 Romeo Seahawk, made by defence giant Lockheed Martin, is one of the most advanced naval helicopters in the world, used by the US Navy among others.
- It will be purchased directly from the US government under a Foreign Military Sales (FMS) agreement with the US Department of Defence (DoD).
- It is the most capable and mature Anti-Submarine Warfare (ASW) Anti-Surface Warfare (ASuW) multi-mission helicopter available in the world today.
- The MH-60 is designed to hunt down submarines and will add to the strategic depth and combat capability of the Indian Navy.
- It is capable of launching Hellfire missiles from the right and left extended pylons.
- It also has an advanced system for passive detection, location, and identification of emitters.
- It can not only track and hunt ships but is also used by the US Navy as an anti-submarine weapon.
- MH-60 Romeo Seahawks have equipped with anti-submarine Mark 54 torpedoes and Hellfire air-to-surface missiles, along with precision-kill rockets.

#### Apache helicopters

- The Army will receive six Apache helicopters that will cost approximately \$800 million.
- The six choppers for the Army will be in addition to the 22 Apache helicopters that have already been ordered for the Air Force.
- This will be a direct commercial sale.
- The Apaches can operate at high altitudes and will be deployed along the Pakistan border.
- The Army is likely to get the helicopters armed with **Stinger air-to-air** missiles and **Hellfire Longbow air-to-ground** missiles.
- Among the Apache's modern capabilities is the ability to shoot fire-and-forget anti-tank missiles, air-to-air missiles, rockets, and other munitions.
- It also has modern electronic warfare capabilities to provide versatility in network-centric aerial warfare.



- The choppers are all-weather capable and have high agility and survivability against battle damage.
- They can be easily maintained in field conditions as well as during operations in the tropical and desert regions.

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## CORD BLOOD BANKING

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### ◎ CONTEXT

- **Recently, Poona Citizen Doctors' forum dispels beliefs on commercial cord blood banking. It has warned to-be parents against falling prey to the emotional marketing tactics by stem cell banking companies.**

### ◎ ABOUT

#### • Cord Blood:

- **Cord blood** (short for umbilical cord blood) is the blood that remains in the umbilical cord and placenta post-delivery.
- Cord blood has an abundance of stem cells and immune system cells, and the medical uses of these cells have been expanding at a rapid pace.
- As these cells help the body re-generate tissues and systems, cord blood is often referred to as regenerative medicine.
- Cord blood is currently approved by the FDA for the treatment for nearly 80 diseases, and cord blood treatments have been performed more than 35,000 times around the globe to treat cancers (including lymphoma and leukemia), anaemias, inherited metabolic disorders and some solid tumours and orthopaedic repair.

#### **Cord Blood Banking:**

- **Cord blood banking** is the process of collecting the cord blood and extracting and cryogenically freezing its stem cells and other cells of the immune system for potential future medical use.
- Globally, cord blood banking is recommended as a source of hematopoietic stem cell transplantation for haematological cancers and disorders where its use is recommended.
- For all other conditions, the use of cord blood as a source of stem cells is not yet established.

#### **Concerns:**

- Stem cell banking has been aggressively marketed even as its use is still in experimental stages. But these companies charge enormous fees from parents to preserve cells.
- The concern here is that it is merely by emotional marketing that companies convince parents to bank the cells for several years promising future therapeutic use.
- Private companies who have forayed into this field offer packages anywhere between Rs 50,000 and Rs 1 lakh to store and preserve the cells in right conditions.
- So far there is no scientific basis for preservation of cord blood for future self-use and this practice, therefore, raises ethical and social concerns.
- The Indian Council of Medical Research (ICMR) does not recommend commercial stem cell banking.

#### **Uses of Cord Blood**

- The umbilical cord fluid is loaded with stem cells. They can treat cancer, blood diseases like anaemia, and some immune system disorders, which disrupt your body's ability to defend itself.

- The fluid is easy to collect and has 10 times more stem cells than those collected from bone marrow.
- Stem cells from cord blood rarely carry any infectious diseases and are half as likely to be rejected as adult stem cells.

## KYASANUR FOREST DISEASE (KFD)

### ◎ CONTEXT

- Recently, the Karnataka government has allocated Rs 15 crore for establishing research centre on Kyasanur Forest Disease (KFD) in Sagar, Karnataka.

### ◎ ABOUT

- The ECI has stated that it would not be able to prohibit or check candidates' expenditure or expenditure by others over and above that which is provided for by the state.
- Kyasanur Forest Disease (KFD) is caused by Kyasanur Forest disease Virus (KFDV), a member of the virus family Flaviviridae.
- It was first identified in 1957 in a sick monkey from the Kyasanur Forest in Karnataka.
- Since then, about 400-500 human cases per year have been reported.
- It is also called **monkey fever** by locals as KFD is endemic to the Indian state of Karnataka.
- Rodents, shrews, and monkeys are common hosts for KFDV after being bitten by infected Hard ticks (*Haemaphysalis Spinigera*). KFDV can cause epizootics (outbreak of the disease in animals) with high fatality in primates.

#### Transmission:

- To humans, it may occur after a tick bite or contact with an infected animal (a sick or recently dead monkey).

#### Signs and Symptoms:

- After an incubation period of 3-8 days, the symptoms like chills, fever, headache, severe muscle pain, vomiting, gastrointestinal symptoms and bleeding may occur.
- Patients may experience abnormally low blood pressure, and low platelet, red blood cell, and white blood cell count.
- In most cases, patients can recover without complication after 1-2 weeks - but the convalescent period is typically long, lasting for several months.
- The estimated fatality rate is from 2% to 10% for KFD, as per the National Health Portal, India.

#### Diagnosis:

- It can be diagnosed in the early stage of illness by molecular detection by **Polymerase Chain Reaction (PCR)** or **virus isolation** from the blood.
- Later, **serologic testing** using **enzyme-linked immunosorbent serologic assay (ELISA)** can be performed.

#### Treatment and Prevention:

- There is no specific treatment for KFD although a vaccine is available.

#### Global scenario:

- Initially, the KFD virus was suspected as a **Russian spring-summer (RSS) complex of viruses**. But as of now, this disease is only reported from India.
- The other viruses which are closely related to KFD are :

- 'Omsk hemorrhagic fever' virus in Siberia
- 'Alkhurma virus' in Saudi Arabia
- 'Nanjanyin virus' in China

#### What's worsening the situation?

- **Deforestation:** Deforestation for cultivation causes changes in tick fauna. It is considered as an important risk factor for outbreaks.
- **Climate change:** Increase in global warming and changes in normal climate have significantly contributed to the emergence of new types of diseases including KFD.
- **Population growth:** Moreover, population growth has also played a big role in disease transmission and the gradual expansion of the disease.

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## NATIONAL SCIENCE DAY: WHAT IS THE 'RAMAN EFFECT'?

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### ◎ CONTEXT

- In 1986, the Government of India designated February 28 as National Science Day, to commemorate the announcement of the discovery of the "Raman effect".

### ◎ ABOUT

- National Science Day is an occasion to salute the talent and tenacity of our scientists. Their innovative zeal and pioneering research have helped India and the world.
- The theme of this year's Science day is "Women in Science".
- Born on November 7, 1888, CV Raman was a physicist of Tamil origin who made a ground-breaking discovery in the spectrum of light scattering.
- The Raman Effect won scientist, Sir CV Raman, the Nobel Prize for physics in 1930.
- The nation honoured him with the Bharat Ratna, its highest civilian award, in 1954.
- CV Raman was appointed to be the first Indian director of Indian Institute of Science (IIS) in 1933.
- After India gained independence in 1947, Raman became the first National Professor of the country.

#### The Raman Effect

- The Raman effect is the inelastic scrambling of a photon by molecules which are energised to higher rotational energy or vibrational levels. This effect is also known as the **Raman scattering**.
- This phenomenon also forms the foundation of Raman spectroscopy which is utilised by physicists and chemists to know more information about materials.
- In 1928, Raman discovered that when a stream of light passes through a liquid, a fraction of the light scattered by the liquid is of a different colour.
- Raman conducted his Nobel-prize winning research at IACS, Calcutta.
- While he was educated entirely in India, Raman travelled to London for the first time in 1921, where his reputation in the study of optics and acoustics was known to physicists such as JJ Thomson and Lord Rutherford.
- A commemorative booklet prepared jointly by IACS and ACS on Raman mentions that his speciality was the study of vibrations and sounds of stringed instruments such as the Indian veena and tambura, and Indian percussion instruments such as the tabla and mridangam.
- Significantly, it notes that the Raman Effect is "very weak" — this is because when the object in question is small (smaller than a few nanometres), the light will pass through it undisturbed.

- But a few times in a billion, light waves may interact with the particle. This could also explain why it was not discovered before.
- In general, when light interacts with an object, it can be reflected, refracted or transmitted.
- One of the things that scientists look at when light is scattered is if the particle it interacts with can change its energy.
- The Raman Effect is when the change in the energy of the light is affected by the vibrations of the molecule or material under observation, leading to a change in its wavelength.

### Significance of National Science Day:

- The sole message of National Science Day is to spread the message that Science and Technology should be applied in everyday life.
- On this day, scientists and science enthusiasts come together as programmes are held to bring the scientific community closer.
- Educational institutes also hold science fairs and science researchers get a chance to share their latest work.

## WHAT DO YOU MEAN BY PANDEMIC DISEASE DECLARED BY WHO?

### ◎ CONTEXT

- The World Health Organization (WHO) declared the COVID-19 outbreak a pandemic.

### ◎ ABOUT

- A pandemic is a measure of the spread of disease.
- When a new disease spreads over a vast geographical area covering several countries and continents, and most people do not have immunity against it, the outbreak is termed a **pandemic**.
- It implies a higher level of concern than an epidemic, which the US Centers for Disease and Control Prevention (CDC) define as the spread of a disease in a localised area or country.
- There is no fixed number of cases or deaths that determine when an outbreak becomes a pandemic.
- The Ebola virus, which killed thousands in West Africa, is an epidemic as it is yet to mark its presence on other continents.
- Other outbreaks caused by coronaviruses such as MERS (2012) and SARS (2002), which spread to 27 and 26 countries respectively, were not labelled pandemics because they were eventually contained.

### Outbreaks that have been declared pandemics in the past

- A major example is the **Spanish flu outbreak of 1918**, which killed between 20-50 million.
- Cholera pandemics have been declared multiple times between 1817 and 1975.
- In 1968, a pandemic was declared for H3N2 that caused about a million deaths.
- The last pandemic declared by the WHO was in **2009, for H1N1**.

### How does the WHO decide whether to call it a pandemic?

- Cases that involve travellers who have been infected in a foreign country and have then returned to their home country, or who have been infected by that traveller, known as the "index case" do not count towards declaring a pandemic.
- There needs to be a second wave of infection from person to person throughout the community.

- Once a pandemic is declared, it becomes more likely that community spread will eventually happen, and governments and health systems need to ensure they are prepared for that.
- An epidemic, on the other hand, is a sudden increase in cases of an illness or disease that can be unique to one country or community.
- There is no threshold, such as a certain number of deaths or infections, or a number of countries affected, that needs to be met.

### Does the declaration change the approach to the disease?

- Describing the situation as pandemic does not change WHO's assessment of the death risk posed by the virus, it does not change what WHO is doing, and it doesn't change what countries do.
- Categorisation as a pandemic can lead to more government attention.
- The categorisation by WHO indicates the risk of disease for countries to take preventive measures.
- It will help improve funding by international organisations.

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## GENDER SOCIAL NORMS INDEX 2020

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### ◎ CONTEXT

- Recently, the 1<sup>st</sup> edition of 'Gender Social Norms Index (GSNI) 2020' was released by the United Nations Development Programme (UNDP).

### ◎ ABOUT

- **GSNI 2020:** The 1<sup>st</sup> edition of 'Gender Social Norms Index (GSNI 2020)' was released by UNDP, in an attempt to tackle gender norms which eventually are a broad contributor to gender inequalities.
- The Report commemorates the 25th anniversary of the adoption of the **Beijing Declaration and Platform for Action (Beijing+25)**.
- **No country has yet achieved gender equality:** Despite remarkable progress in some areas, **no country in the world**— rich or poor— has achieved gender equality.
- According to the report, the world is not on track to achieve gender equality by 2030.
  - Overall, **progress in gender inequality has been slowing in recent years**. Based on current trends, it would take **257 years to close the gender gap** in economic opportunity.
- **Social norms and biases** are a major cause in strengthening gender inequalities. Social norms held by individuals and their reference groups are **values, beliefs, attitudes and practices** that assert preferred power dynamics for interactions between individuals and institutions.

### Situation of women around the world

- **Few women leaders:** The number of female heads of government is lower today than five years ago, with **only 10 women in such positions among 193 countries** (down from 15 in 2014).
- In Sub-Saharan Africa, **1 woman in every 180 giving birth dies** (more than 20 times the rate in developed countries).
- There is parity in entry-level **political participation, where power is very diffused**. But when more concentrated political power is at stake, women appear severely underrepresented.
- The **higher the power and responsibility, the wider the gender gap**— and for heads of state and government, it is almost **90 percent**. Only **24 percent of parliamentary seats** are held by women.

- Women represent only **21 percent of the world's employers** and **12 percent of the top billionaires**.
- In S&P 500 companies, **only 5.8 percent of CEOs are female**.
- Large differences persist in **occupational choices**, with the share of **female graduates in science, technology, engineering and mathematics (STEM) programmes lower than 15 percent** for most countries.
- Women on average comprise **43 percent of the agricultural labour** force in developing countries, while the share of female **holders of agricultural land is only 18 percent**.

### Gender social norms index—measuring beliefs, biases and prejudices:

- GSNI was **introduced in the 2019** Human Development Report for the first time and comprises of **four dimensions—political, educational, economic and physical integrity**.
- It is constructed based on responses to **seven questions from the World Values Survey**, which are used to create **seven indicators**.
- For indicators for which the answer choices are strongly agreed, agree, disagree and strongly disagree, the index defines individuals with **bias if they strongly agree or disagree**.
- **Political indicators** represent a bias for the choice of ratings of **7 or lower**.
- For each indicator, a variable takes the **value of 1 when an individual has a bias** and 0 when the individual does not.

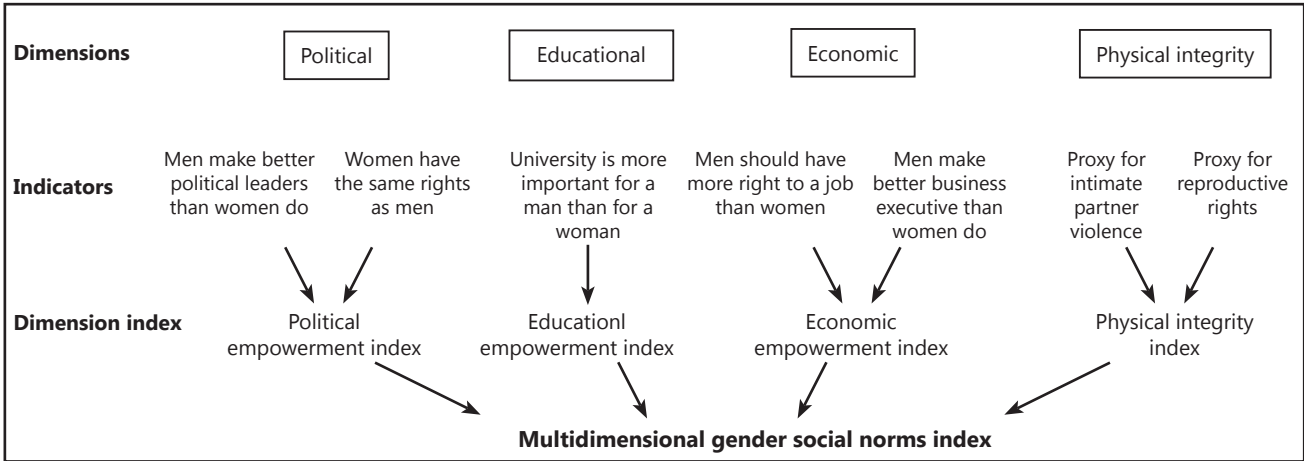
### Definition of bias for the indicators of the multidimensional gender social norms index

Dimension	Indicator	Choices	Bias definition
Political	Men make better political leaders than women do	Strongly agree, agree, disagree, strongly disagree	Strongly agree and agree
	Women have the same rights as men	1, not essential, to 10, essential	Intermediate form 1-7
Educational	University is more important for a man than for a woman	Strongly agree, agree, disagree, strongly disagree	Strongly agree and agree
Economic	Men should have more right to a job than women	Agree neither, disagree	Strongly agree and agree
	Men make better business executives than women do	Strongly agree, agree, disagree, strongly disagree	Agree
Physical integrity	Proxy for intimate partner violence	1, never, to 10, always	Strongest form 2-10
	Proxy for reproductive rights	1, never, to 10, always	Weakest form: 1

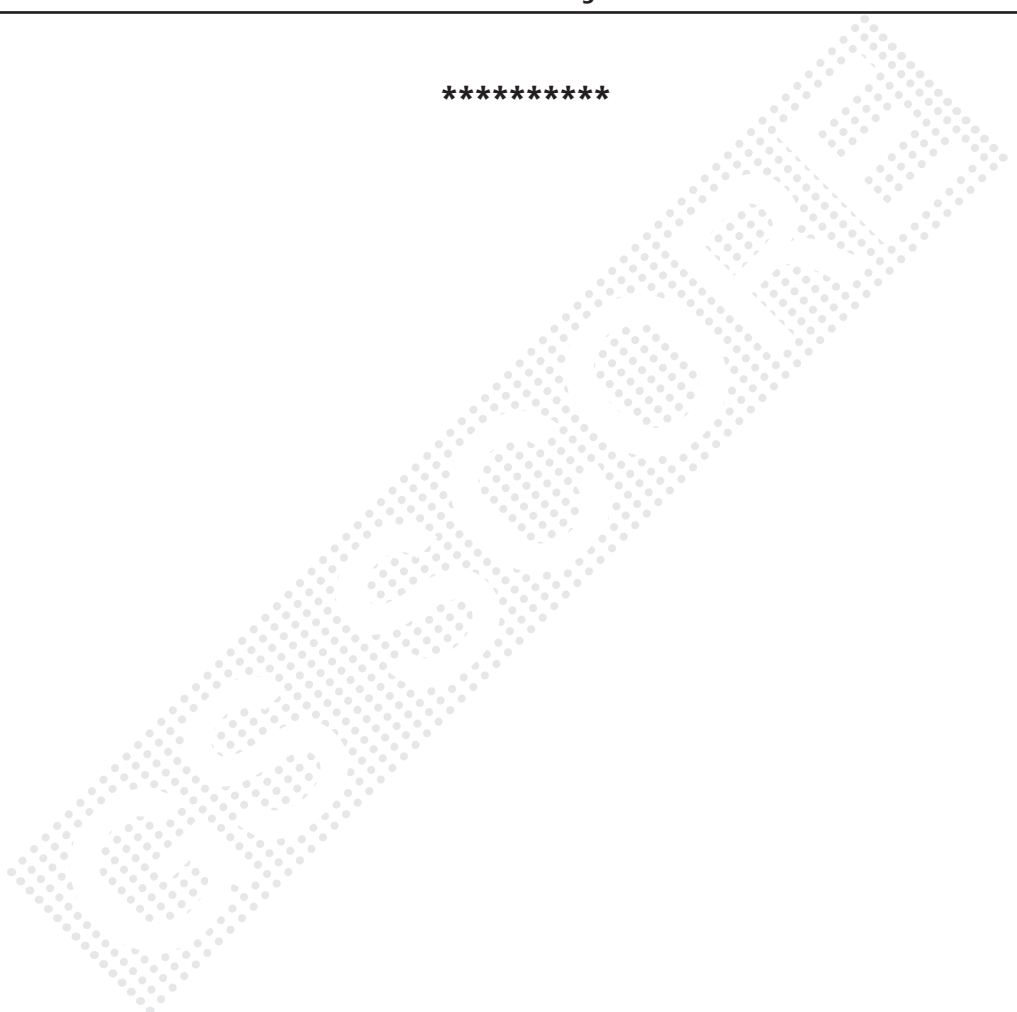
- GSNI captures how social beliefs can obstruct gender equality along multiple dimensions.
- **Two methods of aggregation** are used in reporting results in the form of an Index.
  - **Core GSNI:** It is based on “**union approach.**” It measures the percentage of people with bias(es), independent of the number of biases.
  - **GSNI2:** This second GSNI is based on “**intersection approach.**” It measures the percentage of people with at least two biases.
- **Methods are applied to two sets of countries:** The first set consists of countries with data for either wave 5 (2005–2009) or wave 6 (2010–2014) of the World Values Survey and uses the latest data available. This set includes **75 countries and territories** accounting for **81 percent of the global population**
  - **The second set** consists of only countries with data for both wave 5 and wave 6. This set includes **31 countries and territories** accounting for **59 percent of the global population.**

### Results from GSNI 2020 study

- **Very few have absolute zero gender biases:** Only **14 percent of women and 10 percent of men** worldwide have no gender social norms biases. Overall, bias against gender equality is on the rise.
- **The majority have at least one clear bias:** In areas such as politics, economic, education, intimate partner violence and women’s reproductive rights, **91 percent of men and 86 percent of women** show at least one clear bias against gender equality.
- **Biasness:** About **50 percent of men and women** interviewed across 75 countries say they think men make better political leaders than women.
- **Bias that men make better business leaders:** More than **40 percent** felt that men made better business executives.
- **Compromised physical integrity:** Almost **30 percent** of people agree it is justifiable for a man to beat his partner.
- **Men are relatively more biased:** Women are skewed towards less bias against gender equality and women’s empowerment. **52 percent men have two to four gender social norm biases.**
- **Bias against gender equality is increasing in some countries:** There is evidence of backlash in attitudes among both men and women. According to GSNI2, the proportion of people with moderate and intense biases against gender equality **grew over the last few years in 15 countries** (out of 31).
- **Countries which made progress:** Progress in the share of men with no gender social norms bias was largest in **Chile, Australia, United States** and the **Netherlands.**
- **Countries which degressed:** Share of men with no bias fell in **Sweden, Germany, India and Mexico.**
  - Other countries which showed a backlash include **India, South Africa and Romania.**
- **Positive correlation between biased social norms and gender inequality:** Countries with higher social norms biases tend to have higher gender inequality.



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# **MISCELLANEOUS**

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## **CURRENT AFFAIRS**

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## ADMISSION24 LAUNCHES NEW APP

- **Admission24 – India’s leading online education hub** announced the launch of its **new mobile app** in order to **make this admission time far simpler and more exciting for students** as well as parents.
- The mobile app has been designed to create **extensive awareness on every significant factor** that helps students to set up the right foundation of their promising career.
- One of its interesting features is its **Comparison Tool** that provides an opportunity to students or parents **evaluating and assessing all potential study avenues available such as colleges, schools, vocational courses, etc.** for them to have the best-desired start of their career.
- The app also **offers post-admission convenience to parents and students**. The app is one of the most convenient sources of engagement for parents with schools. Now, **parents can avail all the services of educational institutions** such as paying fees, accessing online study materials for their kids, along with **live tracking feature** where they **can monitor and manage the performance of their kids by getting a real-time update** on Home Works, Assignments, etc.
- With its **LIVE CHAT feature**, the app helps schools to easily track the inquiries and sort the queries of parents and students, pertaining to different aspects in no time.
- Admission24’s new app is thus a platform that has the **best of interests for both students and institutions in the plan**.

## BUILDING RESOURCES ACROSS COMMUNITIES

- **Bangladesh-based international development organization** BRAC has retained its position as the **top NGO** of the world for the 5th consecutive year.
- The rankings for 2020 were announced by the **Geneva-based organization NGO Adviser** which publishes the rankings every year based on **publicly available data for the top 500 global NGOs**.
- In drawing the rankings the Public Adviser focuses on **the impact, innovation, governance and sustainability of the NGO**.

### About BRAC:

- BRAC was **founded by Sir Fazle Hasan Abed in 1972** immediately after Bangladesh came into existence as an independent nation in 1971 to help **the returning war refugees with small-scale relief and rehabilitation project**.
- BRAC also **runs a university, a bank, insurance company, a seed company** among other things.
- BRAC is the **largest non-governmental development organisation in the world, in terms of number of employees** as of September 2016.

## CHINESE SEAWEED

- Scientists have spotted in **rocks from northern China** what **may be the oldest fossils of a green plant ever found**, tiny seaweed that carpeted areas of the seafloor **roughly a billion years ago** and were **part of a primordial revolution** among life on Earth.
- The plant, called **Proterocladus antiquus**, was about the **size of a rice grain** and boasted **numerous thin branches**, thriving in **shallow water** while **attached to the seafloor** with a **root-like structure**.
- Proterocladus - **a form of green algae** - was **one of the largest organisms of its time**, sharing the seas mainly with bacteria and other microbes. It **engaged in photosynthesis, transforming energy from sunlight into chemical energy and producing oxygen**.
- Proterocladus antiquus is a **close relative of the ancestor of all green plants alive today**. The fossils were detected in rock dug up in **Liaoning Province near the city of Dalian**.

- **The first land plants**, thought to be descendents of green seaweeds, **appeared about 450 million years ago**.
- **There was an evolutionary shift on Earth perhaps 2 billion years ago** from simple bacteria-like cells to the first members of a group called eukaryotes that spans fungi, plants and animals. The **first plants were single-celled organisms**.
- **Proterocladus is 200 million years older than the previous** earliest-known green seaweed. One of its **modern relatives is a type of edible seaweed called sea lettuce**.
- Proterocladus represents the **oldest unambiguous green plant fossil**. Fossils of possible older single-celled green plants are still a matter of debate.

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## CSIF RAISING DAY

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- **Central Industrial Security Force (CSIF)** Raising Day is celebrated every year on March 10. On this day, in 1969, the CISF was set up under an Act of the Parliament of India with a strength of 2,800 forces.
- The Central Industrial Security Force comes **directly under the Union Ministry of Home Affairs** and its **headquarters are at New Delhi**.
- The CISF is the **central armed force of India**. Although formed in the year 1969, **CISF was established into its current state on 15th June 1983**.

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## GENOME INDIA

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- **'Genome India: Cataloguing the Genetic Variation in Indians' project** has been sanctioned by **Department of Biotechnology (DBT)** on January 16, 2020 for a **period of 3 years** to 20 institutions from varied disciplines across the country. The **whole genome sequencing under GenomeIndia has just started**.
- The proposed target of **Whole Genome Sequencing (WGS)** is to do it for **total 10,000 individuals representing the country's diverse population** in 3 years.
- The information generated from whole genome sequencing can **facilitate future human genetics research in the country** with greater precision, and to **design a genome wide association array for the Indian population** to develop precision healthcare and diagnostics for major diseases at affordable costs.
- The data security and sharing measures for this project will be **governed by the rules and regulations formulated by Government of India**.
- The **personal information of all individuals** consenting to participate in the study is **stripped off from any further records in this project**.
- This process of de-identification ensures that **the personal information of the participants is not compromised**. Additionally, **ethical measures are strictly adhered to** in order to maintain data security and protection.

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## FIRST COUNTRY IN THE WORLD TO PROVIDE FREE PUBLIC TRANSPORT

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- **Luxembourg became the first country in the world** to introduce free public transport for everyone.
- It will **apply to all trams, trains and buses** and—unlike Estonia's capital—will be available to tourists as well as residents.
- **All standard-class journeys on public transport in the tiny and wealthy European country are now free of charge**, compared to an annual pass worth 440 euros (\$485) before. **Travellers can still pay for first class, at a cost of 660 euros a year**.
- **Luxembourg is Europe's richest country**. There are already cities that have introduced such measures—Tallinn—but **Luxembourg is the only to do it for a whole country**.

## INTERNATIONAL OCEAN SCIENCE PROJECT

- **UNESCO's Intergovernmental Oceanographic Commission and partners in Cabo Verde** (IMar, Ministry of Maritime Economy, OSCM) organised a **3-day workshop** aimed at improving the capacity of **North-West African countries** to better understand the impacts of climate change on the Canary Current marine ecosystem with the goal of achieving the sustainable use of marine resources.
- The training workshop addressed young researchers (postgraduate and postdoctoral students) from countries in the region (**Cabo Verde, Gambia, Guinea, Mauritania, Morocco, Senegal and Spain**), whose research focuses on the physical, biochemical or ecological processes of the **Canary Current Eastern Boundary Upwelling System**, with the aim to improve the capacities of a new generation of regional researchers through ad hoc scientific training and peer interaction.
- The fact that **Cabo Verde is 99% sea**, and has a privileged geographical position, highlights its obligation to adopt a collaborative approach with regard to the sustainable use of marine resources within its area of jurisdiction.
- This workshop is **part of a project funded by the Spanish Agency for International Development Cooperation (AECID)** and **implemented by IOC-UNESCO** in partnership with the Spanish Oceanographic Institute (IEO).

## KHELO INDIA WINTER GAMES

- The **first ever Khelo India Winter Games will begin on 7<sup>th</sup> March, 2020 at Gulmarg** in Jammu and Kashmir.
- **Organised by Jammu and Kashmir Sports Council** in **collaboration Union Ministry of Youth Affairs and Sports**, the Games will be held in various sports disciplines.
- The camp was **hosted to motivate and guide the youth** for their active participation in the promotion of unity, communal harmony, national integration, **FIT India**.
- **Sports material kits under FIT India campaign** and promotion of sports culture among rural youth were distributed to over 250 youth hailing from youth clubs from **Ganderbal and Srinagar district**.

## SETTING UP OF KISAN RAIL & SOLAR POWER PROJECTS

- Based on Budget announcement for 2020-21, a **Committee has been formed under the aegis of Ministry of Agriculture and Farmers Welfare**, which includes **representative from Ministry of Railways** also, to work out the modalities of **Kisan Rail**.
- Ministry of Railways is planning for installation of **solar panels on unutilized Railway land for meeting its energy needs for both traction and non-traction purpose**.
- So far, **a total of 3 MW has already been set up on railway's unused land**. Further, action taken for installation of Solar power projects on unused Railway land are as follows:
  - **50 MW at Bhilai through Railway Energy Management Company Limited (REMCL)** in South East Central Railway
  - **1.7 MW at Sukhi Siwania in West Central Railway**
  - **2 MW at Diwana in Northern Railway**
- The solar power so generated, shall be **evacuated to proliferate either by connecting it to Grid or feeding it directly** to 25 Kilo Volt (kV) Alternating Current (AC) Traction System.
- In addition to above, the Indian Railways **is further planning to proliferate land based solar power on unused vacant Railway land** having no commercial value or future infrastructure requirement once above pilot projects are commissioned successfully.

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## SURROGACY (REGULATION) BILL, 2019

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- Government has taken up several progressive legislative measures for ensuring women's health. **The Surrogacy (Regulation) Bill, 2019 was introduced in the Lok Sabha in July last year.**
- The bill **aims to control the unethical practices in surrogacy**, prevent commercialization of surrogacy and prohibit potential exploitation of surrogate mothers and children born through surrogacy. It **allows for altruistic surrogacy but not commercial surrogacy.**
- The **Committee recommended** that surrogate motherhood should not be restricted to close relatives alone. It **should be allowed to any willing woman.**
- The other major changes recommended by the Committee include **allowing single woman**, be it a widow or a divorcee, **to be allowed to avail surrogacy.**
- The Committee has also **recommended removal of requirement of five years as the period of inability to conceive before opting for surrogacy.**

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## WORLD HERITAGE LIST FOR THE YEAR 2020

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- Government of India has submitted two nomination dossiers namely '**Dholavira: A Harappan City**' and '**Monuments and Forts of Deccan Sultanate**' for inclusion in the World Heritage List for the year 2020.
- **Govt. of Madhya Pradesh** has submitted the proposal of '**Group of Monuments at Mandu**' in the year 2019.
- The **dossier was further forwarded to World Heritage Centre (WHC)** for completeness check.
- A **consultation workshop was organized by the Wild Life Institute of India and State Govt. of Madhya Pradesh** to inventorize and prioritize the potential World Heritage Sites of M.P.
- The workshop has proposed **Bhedaghat (Narmada Valley)** as one of the **recommended potential site** subject to criteria set by **UNESCO World Heritage Centre.**

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## YIDAN PRIZE FOR EDUCATION RESEARCH

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- British Indian Neuroscientist **Usha Goswami** has been awarded **Yidan Prize for Education Research Laureate.**
- Goswami is a **professor of cognitive developmental neuroscience** at the University of Cambridge, and a Fellow of St John's College Cambridge.
- Goswami founded and **serves as director of the world's first Centre for Neuroscience in Education.**
- Her research has identified the **importance of children's awareness of linguistic rhythm patterns** for their reading acquisition, and has also revealed the brain basis of rhythm perception, **showing how this neural process is impaired in developmental dyslexia.**
- These discoveries are enabling **transformative educational interventions** that have the potential to benefit millions of children worldwide.
- Also named a laureate was **Sir Fazle Hasan Abed**, who won the **Yidan Prize for Education Development Laureate.**

### About Prize:

- The Yidan Prize is an **educational prize founded in 2016 by Chen Yidan.**
- The prize is awarded **each year to two individuals or organizations** whose work has made contributions to education research and development.
- The prize is financed and governed by a HK\$2.5 billion (about US\$320 million) independent trust.

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