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# ESE-2021

## (Preliminary Examination)

### Current Issues

(September - 2021)

**ACE is the leading institute for coaching in ESE, GATE & PSUs**

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**19 All India 1<sup>st</sup> Ranks in ESE**

**62 All India 1<sup>st</sup> Ranks in GATE**

# Current Issues

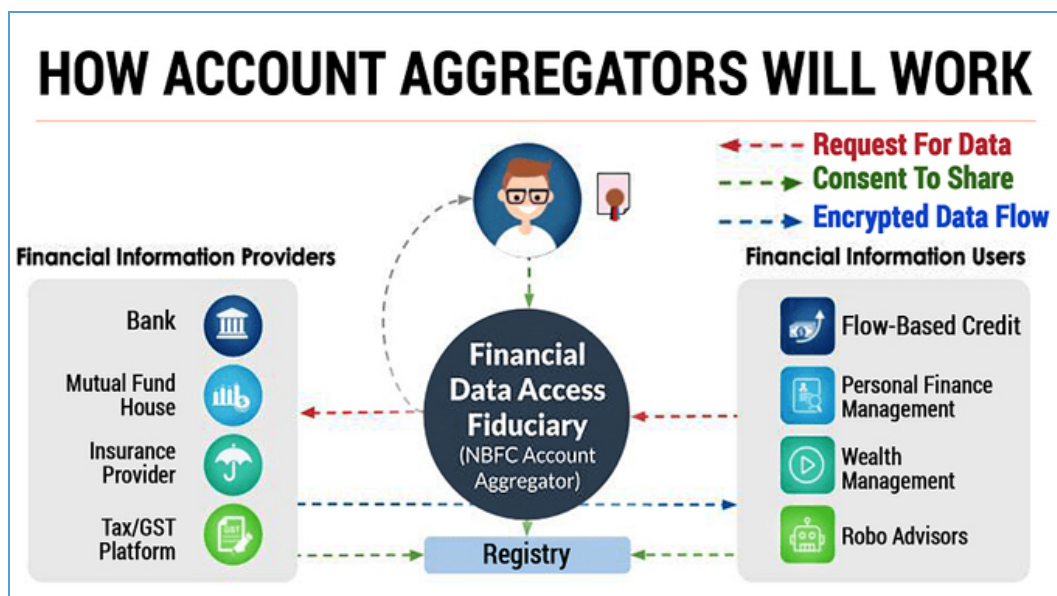
(September - 2021)

## ECONOMY AND INDUSTRIAL DEVELOPMENT

### BANKING

#### Account Aggregators

- An Account Aggregator is a non-banking financial company engaged in the business of providing, under a contract, the service of retrieving or collecting financial information pertaining to its customer.
- It is also engaged in consolidating, organising and presenting such information to the customer or any other financial information user as may be specified by the bank.
- The account aggregator system in banking has kicked off with eight of India's largest banks, including HDFC Bank, ICICI Bank and Axis Bank.
- When fully functional, the system can make lending and wealth management a lot faster and cheaper.
- It has a three-tier structure: Account Aggregator, FIP (Financial Information Provider) and FIU (Financial Information User).
- An FIP is the data fiduciary, which holds customers' data. It can be a bank, NBFC, mutual fund, insurance repository or pension fund repository.
- An FIU consumes the data from an FIP to provide various services to the consumer. An FIU is a lending bank that wants access to the borrower's data to determine if the borrower qualifies for a loan.



### Benefits:

- to get a better understanding about potential customers, make informed decisions and ensure smoother transactions.
- to avail various financial services from a host of providers on a single portal based on a consent method.
- reduces the need for individuals to wait in long bank queues, use Internet banking portals, share their passwords, or seek out physical notarisation to access and share their financial documents.
- reduce transaction costs.

### Stablecoin

- A stablecoin is a type of cryptocurrency that is typically pegged to an existing government-backed currency.
- The majority of the dozens of stablecoins that currently exist use the dollar as their benchmark asset, but many are also pegged to other fiat currencies issued by governments like the euro and yen.

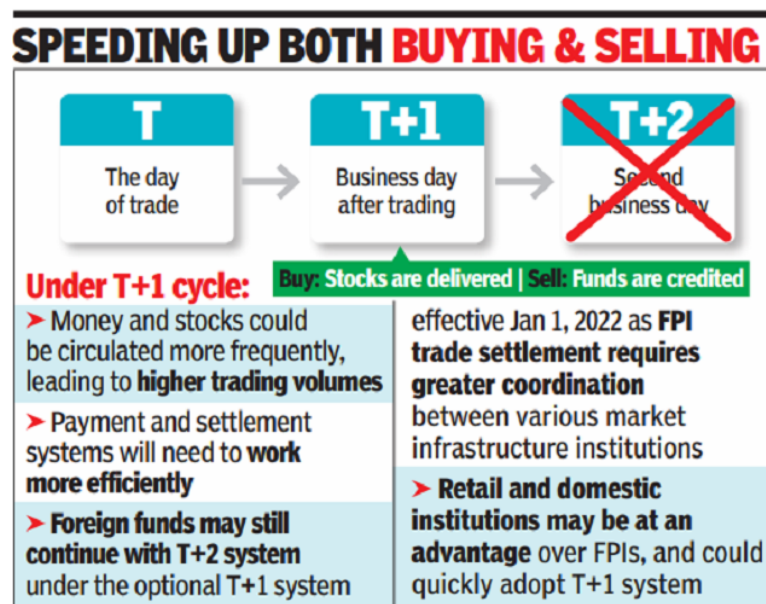


- As a result, the price of stablecoins fluctuates very little, unlike high-profile cryptocurrencies like bitcoin and ethereum that are prone to sudden ups and downs.
- Stablecoins are useful because they allow people to transact more seamlessly in cryptocurrencies that function as investments, such as Bitcoin. They form a bridge between old-world money and new-world crypto.
- The first stablecoin, created in 2014, was Tether, which many other stablecoins are modeled after.

## FINANCIAL MARKETS

### T+1 settlement system

- Securities and Exchange Board of India (SEBI) has offered T+1 settlement system for stock Market exchanges.
- If the stock exchange agrees to the proposal, investors will get money for shares they sold or bought in their accounts faster, and in a safer and risk-free environment.
- T+1 (T+2, T+3) are abbreviations that refer to the settlement date of security transactions.
- The “T” stands for transaction date, which is the day the transaction takes place.
- The numbers 1, 2, or 3 denote how many days after the transaction date the settlement—or the transfer of money and security ownership—takes place.
- Stocks and mutual funds are usually T+1 and bonds and money market funds vary among T+1, T+2, and T+3.



### Dubai's second biggest trade partner

- India has emerged as the second biggest trading partner of Dubai, after China. India's overall volume, in the first half of 2021, is touching 38.5 billion dirhams.
- As per a statement of Dubai government, Dubai had a trade volume of 86.7 billion dirham with China in H1 (first half) of 2021. It is followed by India and the U.S. respectively at second and third positions.
- Trade with India has increased by 74.5% year-on-year to 67.1 billion dirhams in 2021 from 38.5 billion dirham in H1 of year 2020.
- Saudi Arabia was placed at fourth position.
- Saudi Arabia is followed by Switzerland with trade volume of 24.8 billion dirham.
- Gold topped the list of commodities in H1 external trade of Dubai, amounting to 138.8 billion dirhams. It accounts for 19.2% of Dubai trade.
- Gold is followed by telecoms amounting to 13% of total trade. It is followed by Diamonds, jewellery and vehicle trade.
- Non-oil external trade of Dubai has increased by 31% in the first half of 2021.

## AGRICULTURE AND INDUSTRY

### Edible Oil Prices

- Edible oil prices are likely to reduce by December as international commodity futures show a declining trend and the production of domestic oilseed crops.
- Last year, the retail prices of six edible oils — groundnut, mustard, vanaspati, soya, sunflower, and palm oil had risen up to 48%. This was due to
  - ✓ Surge in global prices, and lower domestic production of soybean which is India's largest oilseed crop.
  - ✓ Excessive buying of edible oil by China.
  - ✓ Many major oil producers are aggressively pursuing biofuel policies and diverting their edible oil crops for that purpose.
  - ✓ Governmental taxes and duties also make up a major chunk of the retail price of edible oils in India.

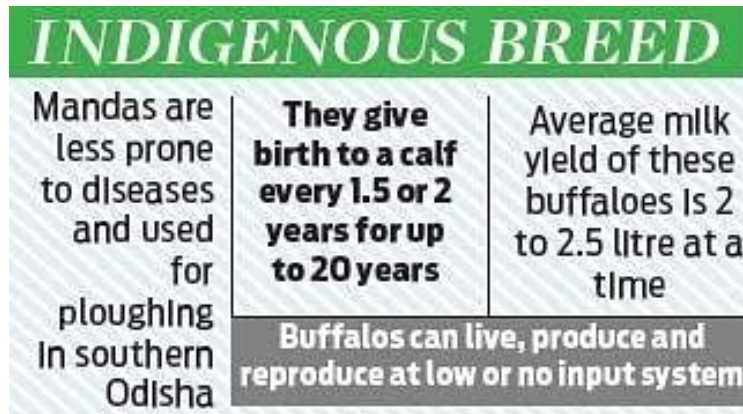
India is the world's biggest vegetable oil importer.

India imports about 60% of its edible oil needs, leaving the country's retail prices vulnerable to international pressures.

It imports palm oil from Indonesia and Malaysia, soyoil from Brazil and Argentina, and sunflower oil, mainly from Russia and Ukraine.

## Manda buffalo

- The National Bureau of Animal Genetic Resources (NBAGR) has recognised the Manda buffalo as the 19th unique breed of buffaloes found in India.
- It is found in the Eastern Ghats and plateau of Koraput region of Odisha.
- The Manda are resistant to parasitic infections, less prone to diseases and can thrive on modest resources.



## Fortified Rice Kernels (FRK)

- Central government, for the first time issued uniform specifications for Fortified Rice Kernels (FRK) for grade A & Common Rice. The specifications have been issued by the Ministry of Consumer Affairs, Food and Public Distribution.
- The fortified rice is to be distributed under various government schemes, including the public distribution system (PDS) and midday meals in schools, by 2024.

### Need for Rice fortification:

- The country has high levels of malnutrition among women and children.
- According to the Food Ministry, every second woman in the country is anaemic and every third child is stunted.
- India ranks 94 out of 107 countries and is in the 'serious hunger' category on the Global Hunger Index (GHI).
- Malnutrition and lack of essential nutrients in poor women and poor children poses major obstacles in their development.



Food fortification is defined as the practice of adding vitamins and minerals to commonly consumed foods during processing to increase their nutritional value.

It is a proven, safe and cost-effective strategy for improving diets and for the prevention and control of micronutrient deficiencies.

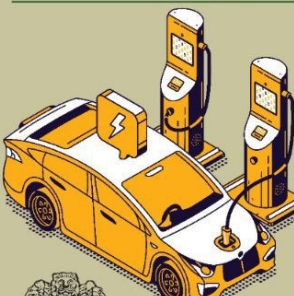
## ENERGY

### Shoonya Campaign

- Recently, NITI Aayog and Rocky Mountain Institute (RMI) and RMI India have launched the Shoonya Campaign.
- It is an initiative to promote zero-pollution delivery vehicles by working with consumers and industry.
- The campaign will promote the adoption of electric vehicles (EVs) in the urban deliveries segment and create consumer awareness about the health, environmental and economic benefits of electric vehicles.

## Shoonya Campaign

#UPSC #CSE



**Why in news?**  
The Shoonya campaign was launched by NITI Aayog and the Rocky Mountain Institute.

**Aim**

- In the urban delivery market, accelerate the use of electric vehicles.
- Make consumers aware of economic advantages of zero-pollution delivery.

**Challenges**

- Lack of electrical manufacturing in India.
- Lack of clarity about AC vs. DC charging stations

**Need of EVs**

- India would be able to lessen its reliance on oil by switching to electric vehicles.
- EVs have no tailpipe emissions, which can help to improve air quality significantly.

**Urban freight vehicles in India**

- India's freight-related CO<sub>2</sub> emissions are accounted for by 10% by urban freight vehicles.
- By 2030, these emissions are predicted to increase by 114%.

**Initiative Taken**

- National Electric Mobility Mission Plan
- National Mission on Transformative Mobility and Battery Storage.

- As part of the campaign, a corporate branding and certification programme is being launched to recognise and promote the industry's efforts towards transitioning to EVs for final-mile deliveries.
- RMI is an independent nonprofit organization founded in 1982.

## ISSUES ON SOCIAL DEVELOPMENT

### HEALTH

#### Ayush prophylactic medicines

- Ayush Ministry kickstarts campaign to distribute prophylactic medicines.
- The kit of Ayurveda prophylactic medicines for Covid-19 contains Sanshamani Vati, which is also known as Guduchi or Giloy Ghan Vati and Ashwagandha Ghan Vati.
- The kit and the guidelines have been prepared by the Central Council for Research in Ayurvedic Medicines (CCRAS).
- In the next one year, the immunity booster medicines and the guidelines to combat Covid-19 will be distributed to 75 lakh people across the country.
- Special focus will be on geriatric (people of 60 years and above age) population and the front-line workers.
- Distribution of Ayush prophylactic medicines will help citizens to boost immunity against the coronavirus.

A prophylactic is a medication or a treatment designed and used to prevent a disease from occurring.

#### Pollen calendar

- Pollen calendars are graphical representations of the time dynamics of airborne pollen taxa in a certain geographic area.
- They are location-specific, with concentrations strongly tied to the flora found in the area.
- They provide easy-to-understand visual information on diverse airborne pollen species that are present throughout the year, as well as their seasonality, in a single image.
- Pollens are considered major outdoor airborne allergens responsible for allergic rhinitis, asthma, and atopic dermatitis in humans.
- These calendars can identify potential allergy triggers and provide a clear understanding for clinicians as well as allergy sufferers about their causes to help limit their exposure during high pollen loads.
- The city of Chandigarh now has its first pollen calendar.



## ACTS AND POLICIES

### Assam Cattle Preservation Act

- Various pressure groups in Assam recently held a rally against the Assam Cattle Preservation Act, 2021, stating that the law was an assault on the farm economy in the name of religion.
- It is aimed at regulating slaughter, consumption and transportation of cattle.

#### Details:

- Slaughter of cow, calf and heifer is prohibited.
- Transportation of cattle from or through Assam is prohibited.
- Sale of beef or beef products is prohibited in areas predominantly inhabited by Hindu, Jains, Sikhs, and other non-beef eating communities.
- Sale of beef or beef products is prohibited within a 5-km radius of any temple, satra or other Hindu religious institutions.
- Those found violating the rules shall be punishable with imprisonment for a term not less than three years and up to eight years or a fine that may vary between Rs 3 lakh and Rs 5 lakh or both. If someone convicted is found guilty of the same or a related offence the second time, the punishment will be doubled.

## Key points of Assam Cattle Preservation Bill

- Applies to bulls, bullocks, cows, heifer, calves, male and female buffaloes and buffalo calves
- **Fit-for-slaughter certificate must.**
- A cow cannot be slaughtered regardless of age
- **Permit needed to transport via state or from Assam to states where slaughter of cattle is not regulated**
- No person can "directly or indirectly" sell or buy beef other than in permitted places by the authorities
- **No sale of beef in areas predominantly inhabited by Hindu, Jain, Sikh and other "non-beef eating communities", or within a 5-km radius of any temple**



## Right to Sit

- The Tamil Nadu government has tabled a Bill in the Legislative Assembly making it mandatory for establishments to provide seating facilities for employees. It is popularly being called the “Right to Sit”.
- It is aimed to benefit thousands of employees of large and small establishments, particularly those working in textile and jewelry showrooms.
- The bill mandates for every premises of establishments to have suitable seating arrangements for all employees so that they may take advantage of any opportunity to sit in the course of their work.
- The bill seeks to amend the Tamil Nadu Shops and Establishments Act, 1947, by adding a sub-section.

### Need for:

- Persons employed in shops and establishments in the State are made to stand throughout their duty time resulting in varied health issues.
- Most owners of shops and other retail outlets forbid women, the bulk of the shop workforce, to sit. Even leaning against a wall was punished. They had developed varicose veins and joint pain from standing.
- Right to Sit would avoid the ‘on their toes’ situation throughout the working hours.

## INTERNATIONAL ISSUES

### Afghanistan's membership in SAARC

- Uncertainty over the present administration in Afghanistan brought about by the Taliban takeover of power has given rise to the membership of the country in the South Asian Association for Regional Cooperation (SAARC).
- SAARC is scheduled to meet in the month of October this year.
- Some experts believe that the fate of Afghanistan's membership and even the future of SAARC to some extent depend on the Taliban creating an inclusive government.
- The concern of granting a seat to Afghanistan under Taliban at UN or even SAARC stems from the violent activities and human rights violations that Taliban regime is known for. The regime since taking power in Afghanistan has been accused of extra-judicial killings of its detractors in the country.
- Afghanistan was admitted into the SAARC as the eighth member in 2007 when the country was led by President Hamid Karzai
- South Asian Association for Regional Cooperation (SAARC) was established with the signing of the SAARC Charter in Dhaka on 8 December 1985.
- SAARC comprises 3% of the world's area, 21% of the world's population and 3.8% (US\$2.9 trillion) of the global economy.
- SAARC countries have common tradition, dress, food and culture and political aspects thereby synergizing their actions.
- All the SAARC countries have common problems and issues like poverty, illiteracy, malnutrition, natural disasters, internal conflicts, industrial and technological backwardness, low GDP and poor socio-economic condition.

### Economic emergency in Sri Lanka

- President of Sri Lanka declared an economic emergency on account to contain inflation which saw a huge spike after a steep fall in valuation of its currency caused a spike in food prices.
- Since November 2019, the value of Sri Lankan rupee has eroded by about 20%
- High global market price due to the pandemic has escalated the prices of essential items.
- Hoarding by traders has also contributed to Sri Lanka taking this emergency route to combat the crisis.
- Tourism which happens to be one of the main businesses of Sri Lanka has suffered due to the travel restrictions placed owing to the pandemic. Sri Lanka's economy shrank by a record 3.6% last year.
- The declaration of economic emergency will empower Sri Lankan government to:
  - ✓ Prevent the hoarding of essential items by traders
  - ✓ Ensure essential items are sold at government-determined prices

- ✓ It will also help the government to realize import duties owed to the state by the traders
- ✓ Inflation and the pandemic

### Ministry to deal with climate crisis

- Greece government has created a new Ministry to address the impact of climate change.
- This is done in the wake of massive wildfires that burned more than 1,000 square kilometers (385 square miles) of forest on the island of Evia and in southern Greece.
- The Ministry will look into firefighting, disaster relief and policies to adapt to rising temperatures resulting from climate change.

### 13th BRICS Summit

- The 13th BRICS Summit is going to be held under India's Chairship in 2021. It will be the third time that India will be hosting the BRICS Summit after 2012 and 2016.
- The Indian Chairship of BRICS this year coincides with the fifteenth anniversary of BRICS, as reflected in the theme for the Summit.
- The theme for the Summit: 'BRICS@15: Intra-BRICS cooperation for continuity, consolidation and consensus.'
- India had outlined four priority areas for its Chairship. These are Reform of the:
  1. Multilateral System.
  2. Counter Terrorism.
  3. Using Digital and Technological Tools for achieving SDGs.
  4. Enhancing People to People exchanges.

### Collective Security Treaty Organization

- The Collective Security Treaty Organisation (CSTO) is planning to hold large military drills in Tajikistan next month, amid what it described as a deteriorating situation in neighbouring Afghanistan.
- Tajikistan is the only country out of the six-member bloc led by Russia that shares a border with Afghanistan.
- Moscow has moved to cement its position as a key player in the region after the United States' hasty retreat from Afghanistan and the Taliban's takeover of the country.
- The group also said it has taken "collective measures" to ensure Tajikistan's security in case of an "aggravation" on its border with Afghanistan.

**Collective Security Treaty Organization:**

It is an intergovernmental military alliance (six countries) that came into effect in 2002.

Its' origin can be traced to the Collective Security Treaty, 1992 (Tashkent Treaty).

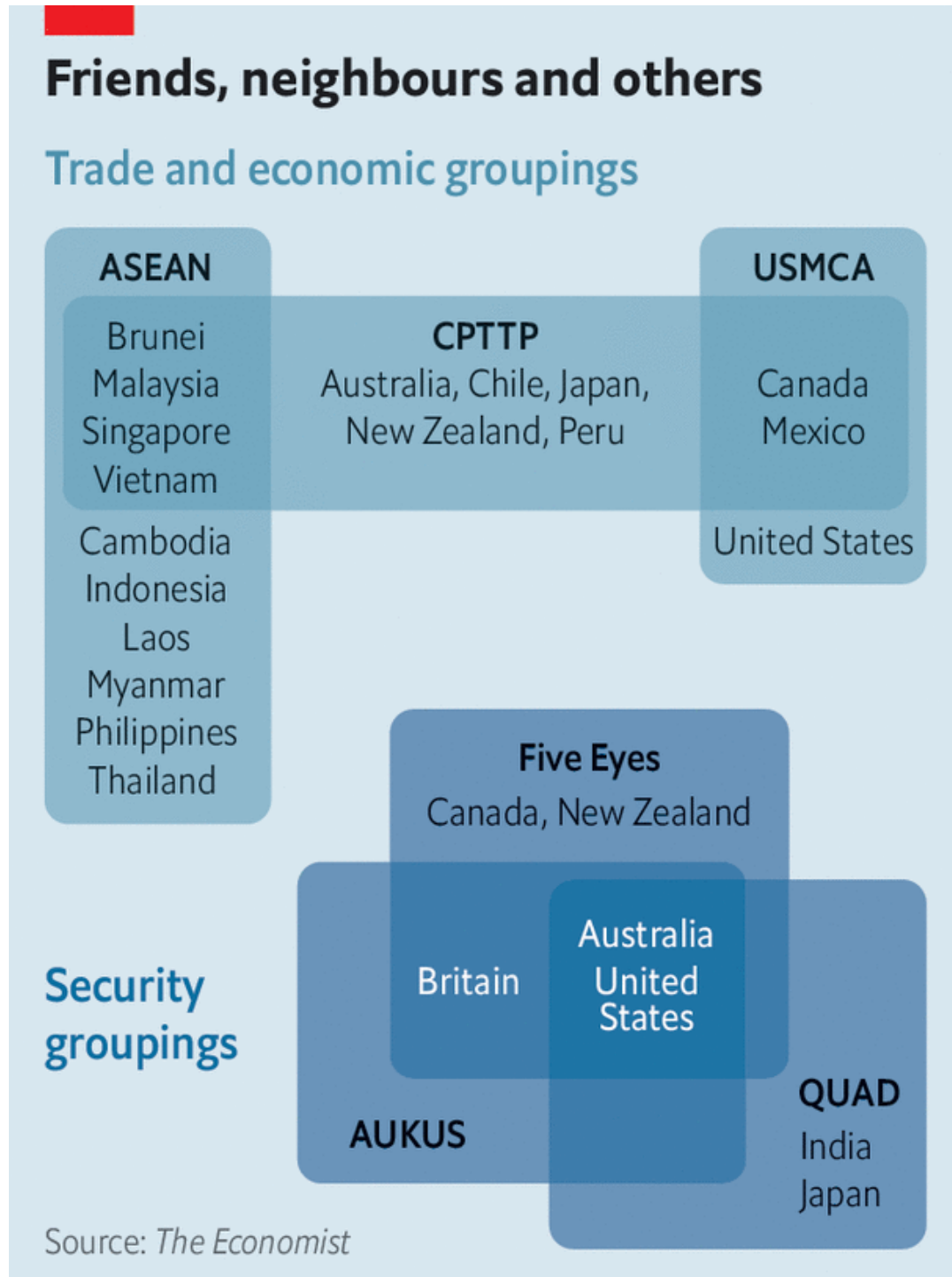
The headquarter is located in the Russian capital of Moscow.

The objectives of the CSTO is to strengthen peace, international and regional security including cybersecurity and stability, the protection on a collective basis of the independence, territorial integrity and sovereignty of the member states.

- Current CSTO members are Armenia, Belarus, Kazakhstan, Kyrgyzstan, the Russian Federation and Tajikistan.
- Afghanistan and Serbia hold observer status in the CSTO.
- Membership presumes certain key security assurances – the most significant of which is deterring military aggression by third countries.
- In the CSTO, aggression against one signatory is perceived as aggression against all.

### AUKUS Alliance

- The UK, US and Australia have announced a historic security pact in the Asia-Pacific, in what's seen as an effort to counter China. It is called the AUKUS pact and AUKUS alliance.
- Under the AUKUS alliance, the three nations have agreed to enhance the development of joint capabilities and technology sharing, foster deeper integration of security and defence-related science, technology, industrial bases and supply chains.
- Under the first major initiative of AUKUS, Australia would build a fleet of nuclear-powered submarines with the help of the US and the UK, a capability aimed at promoting stability in the Indo-Pacific region.
- These submarines are much faster and harder to detect than conventionally powered fleets. They can stay submerged for months, shoot missiles longer distances and also carry more.
- Having them stationed in Australia is critical to US influence in the region, analysts say.
- The US is sharing its submarine technology for the first time in 50 years. It had previously only shared technology with the UK.
- Australia will become just the seventh nation in the world to operate nuclear-powered submarines, after the US, UK, France, China, India and Russia.
- Australia has reaffirmed it has no intention of obtaining nuclear weapons.
- China has condemned the agreement as “extremely irresponsible”.
- In recent years, Beijing has been accused of raising tensions in disputed territories such as the South China Sea.





## ENVIRONMENT

### Sand and dust storms

- Sand and dust storms impact over 500 million in India, according to Asian and Pacific Centre for the Development of Disaster Information Management (APDIM) report Sand and Dust Storms Risk Assessment in Asia and the Pacific.
- APDIM is a regional institution of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

### Key Findings:

- More than 500 million people in India and more than 80 per cent of the populations of Turkmenistan, Pakistan, Uzbekistan, Tajikistan and Iran are exposed to medium and high levels of poor air quality due to sand and dust storms.
- Sand and dust storms contribute significantly to poor air quality in Karachi, Lahore and Delhi in 'southwest Asia'. Nearly 60 million people in these places experienced more than 170 dusty days a year in 2019.
- The risk of impacts from sand and dust storms is projected to increase in the 2030s due to more extreme drought conditions in parts of Western Australia, south-eastern Turkey, Iran and Afghanistan.
- Sand and dust storms are common meteorological hazards in arid and semi-arid regions. They are usually caused by thunderstorms – or strong pressure gradients associated with cyclones – which increase wind speed over a wide area.
- These strong winds lift large amounts of sand and dust from bare, dry soils into the atmosphere, transporting them hundreds to thousands of kilometres away.
- Some 40% of aerosols in the troposphere (the lowest layer of Earth's atmosphere) are dust particles from wind erosion. The main sources of these mineral dusts are the arid regions of Northern Africa, the Arabian Peninsula, Central Asia and China.

### Environmental impact:

- Sand and dust storms are a transboundary meteorological hazard. They affect agriculture, energy, environment, aviation, human health.
- In some places, much of this dust is characterised by high salt content, making it toxic for plants.
- Very high dust deposition also occurs in the Himalaya-Hindu Kush mountain range and the Tibetan Plateau, that are the sources for fresh water for more than 1.3 billion people in Asia.
- The deposition of dust on glaciers induces a warming effect, increasing the melting of ice, with direct and indirect impacts on society through numerous issues, including food security, energy production, agriculture, water stress and flood regimes.

- Sand and dust storms directly affect 11 of the 17 United Nations-mandated sustainable development goals (SDG):
  1. Ending poverty in all forms
  2. Ending hunger
  3. Good health and well-being
  4. Safe water and sanitation
  5. Affordable and clean energy
  6. Decent work and economic growth
  7. Industry innovation and infrastructure
  8. Sustainable cities and communities
  9. Climate action
  10. Life below water
  11. Life on land
- The impacts of dust storms are not all negative. They can increase the nutrient content in the areas of deposition and benefit vegetation.
- Dust particles that carry iron can enrich parts of oceans, improving the phytoplankton balance and impacting marine food webs.

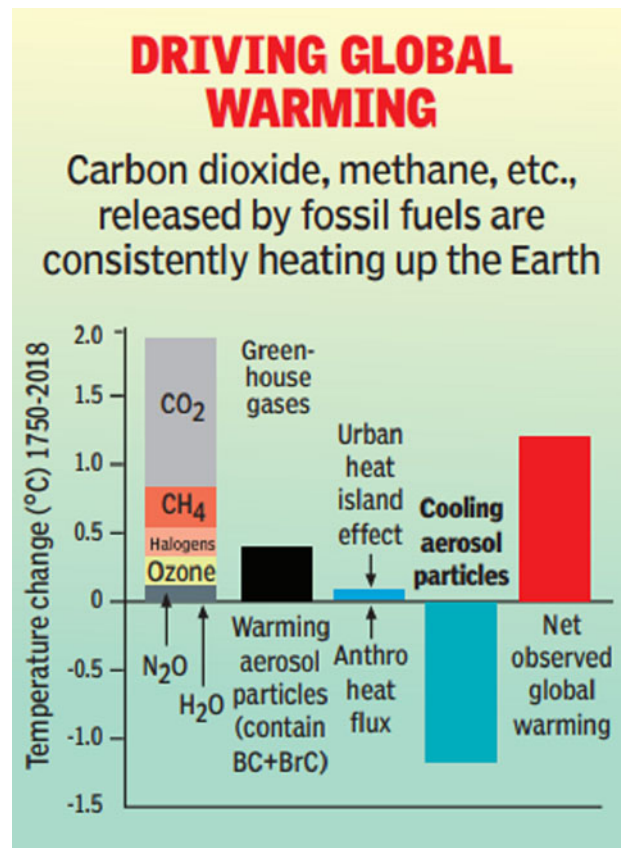
### **Fossil fuel extraction**

- According to a new study (published in the journal Nature), global fossil fuel extraction needs to go down to keep global warming to below 1.5 degrees Celsius, which is the target set by the 2015 Paris Climate Agreement.
- The global oil and gas production should decline by three per cent per year until 2050 to reach the target set by the 2015 Paris Climate Agreement.
- As of now, both planned and operational fossil fuel extraction projects are not conducive to meeting the targets set.
- A substantial number of regions in the world have already reached their peak fossil fuel production and that any increase in fossil fuel production will have to be offset by a decline elsewhere, if the goal wants to be achieved.
- The required unextracted reserves need to be 58 percent for oil, 59 percent for fossil methane gas and 89 percent for coal by 2050.

### The need to limit the use of fossil fuels:

- Global cost of air pollution from fossil fuels is high: It was around \$2.9 trillion per year, or \$8 billion per day, which was 3.3 per cent of the world's GDP at the time.
- India is estimated to bear a cost of \$150 billion from air pollution caused by fossil fuels.

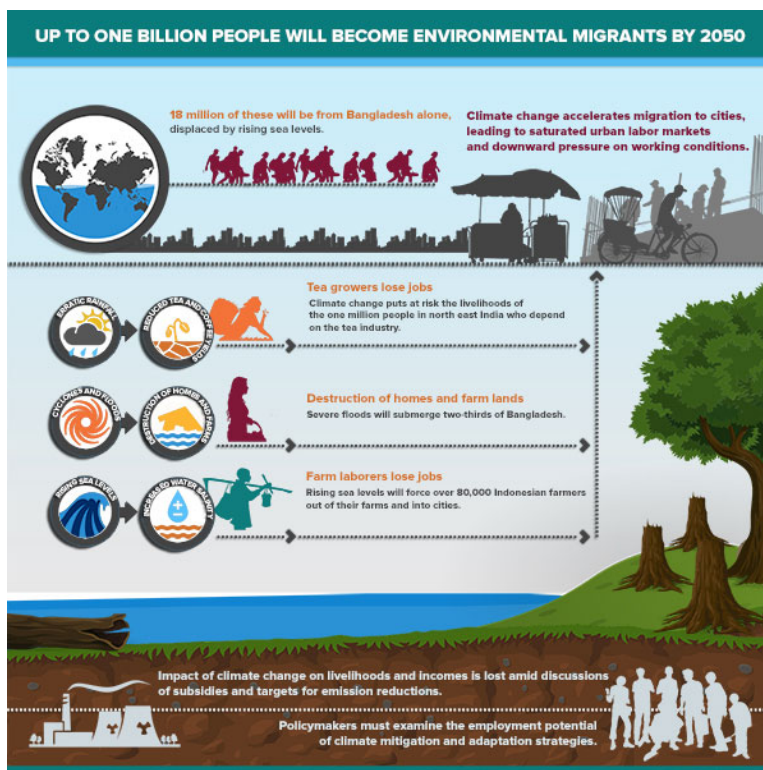
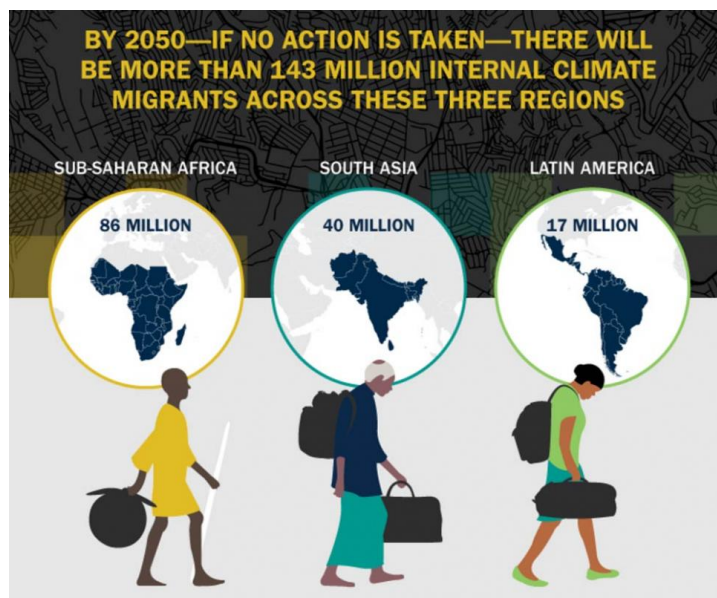
- As of now, human activities have already caused global temperatures to rise by about 1 degree Celsius above pre-industrial levels (1950-1900).
- Currently, countries' emissions targets are not in line with limiting global warming to under 1.5 degrees.



### Climate migration - report

- The Report was recently released by the World Bank. It examined how the impacts of slow-onset climate change, such as water scarcity, decreasing crop productivity and rising sea levels, could lead to millions of what it describes as “climate migrants” by 2050.
- The report considers three different scenarios with varying degrees of climate action and development. These include:
  1. Most pessimistic scenario with a high level of emissions and unequal development: The report forecasts up to 216 million people moving within their own countries across the six regions analysed. Those regions are Latin America; North Africa; Sub-Saharan Africa; Eastern Europe and Central Asia; South Asia; and East Asia and the Pacific.
  2. In the most climate-friendly scenario, with a low level of emissions and inclusive, sustainable development, the world could still see 44 million people being forced to leave their homes.

3. In the worst-case scenario, Sub-Saharan Africa — the most vulnerable region due to desertification, fragile coastlines and the population's dependence on agriculture — would see the most migrants, with up to 86 million people moving within national borders.
- Hotspots of internal climate migration could emerge as early as 2030 and continue to spread and intensify by 2050.



## International Blue Flag Certification

- Two more Indian Beaches (Kovalam in Tamil Nadu and Eden in Puducherry) get coveted International Blue Flag Certification. India now has 10 Blue Flag beaches.
- This is another recognition of India's commitment to protect and conserve the pristine coastal and marine ecosystems through holistic management of the resources.
- 8 nominated beaches in India were awarded the Blue Flag certificate last year
- These are:
  1. Shivrajpur-Gujarat.
  2. Ghoghla-Diu.
  3. Kasarkod -Karnataka.
  4. Padubidri-Karnataka.
  5. Kappad-Kerala.
  6. Rushikonda- Andhra Pradesh.
  7. Golden-Odisha.
  8. Radhanagar- Andaman and Nicobar.

Blue Flag certification is a globally recognised eco-label accorded by “Foundation for Environment Education in Denmark” based on 33 stringent criteria.

The Blue Flag Programme for beaches and marinas is run by the international, non-governmental, non-profit organisation the ‘Foundation for Environmental Education (FEE).

Neat and clean beaches are an indicator that the coastal environment is in good health and the Blue Flag certification is a global recognition of India's conservation and sustainable development efforts.

The ‘Blue Flag’ beach is an ‘eco-tourism model’.

It marks out beaches as providing tourists and beachgoers clean and hygienic bathing water, facilities/amenities, a safe and healthy environment, and sustainable development of the area.







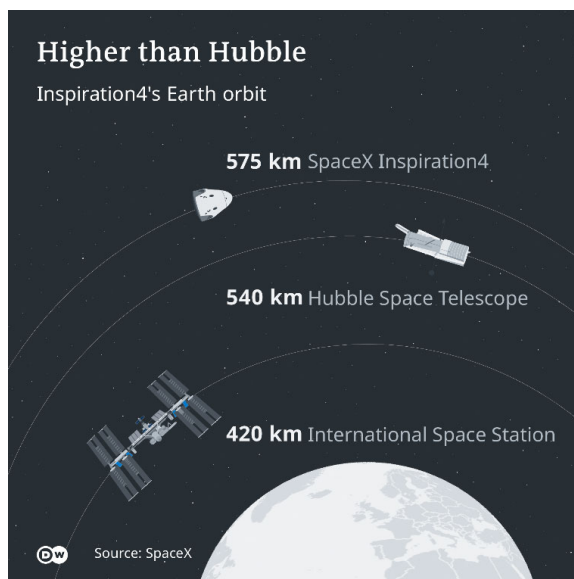
## SCIENCE AND TECHNOLOGY

### Mu variant of coronavirus

- World Health Organization (WHO) has classified another SARS-CoV-2 variant — B.1.621 — as a variant of interest (VOI) and has called it Mu variant.
- The four other variants of interest are Eta, Iota, Kappa and Lambda.
- Mu variant was first found in Colombia in January 2021, and has been found in about 39 countries so far.
- There have been few reported cases of the Mu variant and some larger outbreaks have been reported from countries in South America and in Europe.
- A VOI is classified based on factors such as genetic changes that affect virus characteristics such as transmissibility, disease severity, immune escape etc.
- Variant of concern are associated with factors such as an increase in transmissibility or detrimental change in epidemiology, etc.
- Variants of a virus have one or more mutations that differentiate it from the other variants that are in circulation.

### Inspiration4

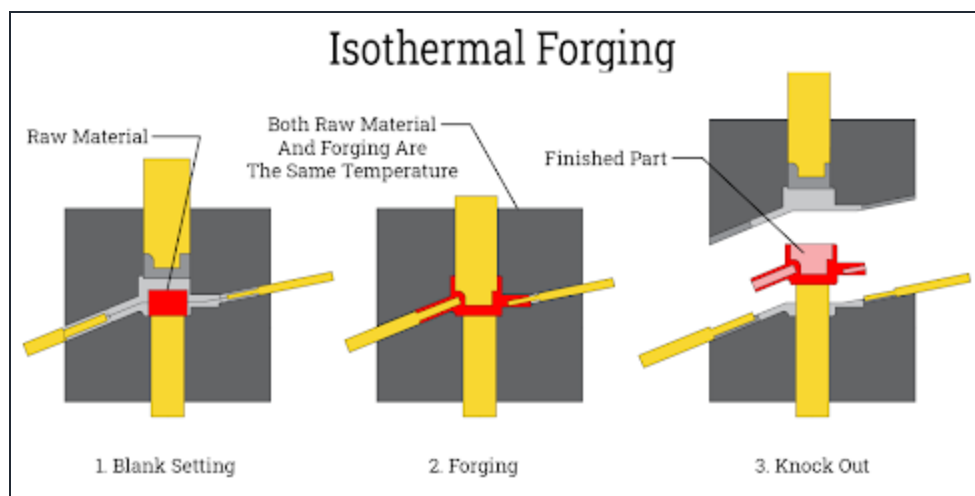
- Entrepreneur Elon Musk's SpaceX recently announced that 'Inspiration4', its first all-civilian, non-governmental spaceflight, is on track for launch on September 15.
- The mission involves circling the Earth for three days, and then splashing down into the Atlantic Ocean.
- Inspiration4 will orbit the Earth at 575km, higher than the International Space Station (408km) and the Hubble space telescope (547km).



- The Crew Dragon spacecraft is set to be launched from NASA's Kennedy Space Centre in Florida in the US.
- It will take a group of four private citizens into space for three days.
- All four seats on the spacecraft have been purchased by US billionaire Jared Isaacman, founder of the fintech company Shift4 Payments.
- This is a part of an effort to raise millions for the Tennessee-based St. Jude Children's Research Hospital, a paediatric treatment and research facility that focuses on children's catastrophic diseases, particularly leukaemia and other cancers.
- According to the reports, the journey will present an opportunity for collecting large amounts of health data that will aid in planning future crewed space missions.
- This will also help in assessing behavioural and cognitive changes over the journey.
- Along with the recent space journeys by billionaires Jeff Bezos and Richard Branson, Inspiration4 is seen as part of an effort to open up space travel to non-professionals.

### Isothermal Forging Technology

- DRDO has developed Critical near Isothermal Forging Technology for aeroengines.
- Isothermal forging is a closed-die process in which the dies and the workpieces are heated to the same temperature, so that forming can take place without loss of temperature in the workpiece.



- It's a preferred process for forming engineered parts, including jet-engine and other aerospace components in high-density lightweight alloys.
- In this process, the workpiece is formed to shape at a slow rate and at a temperature almost equal to that of the heated die.
- The long forging time, alongside forces exerted by the die, help to form an almost 'ready to use' component needing minimal supplementary machining.

- This is a crucial technology for establishing self-reliance in aeroengine technology.
- With this development, India has joined the league of limited global engine developers to have the manufacturing capabilities of such critical aero engine components.

## MISCELLANEOUS

### AWARDS

#### Ramon Magsaysay award

- Bangladeshi vaccine scientist and a microfinance pioneer from Pakistan were among the five recipients of this year's Ramon Magsaysay Award — regarded as the Asian version of the Nobel Prize
- Apart from Firdausi Qadri from Bangladesh and Muhammad Amjad Saqib from Pakistan, the other winners are Filipino fisher and community environmentalist Roberto Ballon, American Steven Muncy for humanitarian work and refugee assistance and Indonesian torch bearer for investigative journalism, Watchdoc.
- The Ramon Magsaysay Award is an annual award established to perpetuate former Philippine President Ramon Magsaysay's example of integrity in governance, courageous service to the people, and pragmatic idealism within a democratic society.
- Vinoba Bhave was the 1st Magsaysay Award winner when the award was instituted in 1958.



## Global award for turtle conservation

- Indian biologist Shailendra Singh has been awarded the Behler Turtle Conservation Award for bringing three critically endangered turtle conservation species back from the brink of extinction- Red-crowned Roofed Turtle (Batagur kachuga), Northern River Terrapin (Batagur baska), and Black Softshell Turtle (Nilssonia nigricans)
- This award is bestowed by several global bodies involved in turtle conservation such as Turtle Survival Alliance, IUCN/SSC Tortoise and Freshwater Turtle Specialist Group, Turtle Conservancy, and the Turtle Conservation Fund.
- There are 29 species of freshwater turtles and tortoises in the country.

Tortoises have more rounded and domed shells where turtles have thinner, more water-dynamic shells. Tortoises spend most of their time on land and turtles are adapted for life spent in water.

- The Turtle Survival Alliance (TSA) was formed in 2001 as an International Union for Conservation of Nature (IUCN) partnership for sustainable captive management of freshwater turtles and tortoises, and initially designated a Task Force of the IUCN Tortoise and Freshwater Turtle Specialist Group.

## Right Livelihood Award

- Right Livelihood Award 2021 was conferred to Delhi-based environmental organisation “Legal Initiative for Forest and Environment (LIFE)”. This award is also known as “Sweden’s alternative Nobel Prize”.
- LIFE has received the award for its “grassroots approach to empower vulnerable communities in protecting their livelihoods and claiming their right for a clean environment.”
- Other awardees include:
  - ✓ Cameroonian women rights activist Marthe Wandou,
  - ✓ Environmental activist from Russia, Vladimir Slivyak and
  - ✓ Indigenous rights defender from Canada, Freda Huson.

Right Livelihood Award was established by Ole von Uexkull who happens to be the executive director of Right Livelihood. The award honours and supports people in solving global problems. It comprises of a cash prize of 1 million Swedish crowns and a long-term support that highlights and expands Laureates’ work.

- LIFE received the Award for its innovative legal work of empowering communities to protect their resources following the “environmental democracy in India.” According to Right Livelihood, despite a robust environmental protection law framework in India, access to justice for those planning to protect remaining forests and biodiversity in India is often limited. Thus, to bridge this gap, LIFE was founded.

## Earthshot Prize

- On September 17, 2021 two Indian Projects have been selected to get the Environment Prize.
- One of the selected projects is- Solar-Powered Ironing Cart project that has been designed by a 14-year-old Tamil Nadu schoolgirl.
- Second project is- Agricultural Waste Recycling Concept developed by an entrepreneur from Delhi.
- Total of 15 finalists have been selected out of hundreds of nominations from across the world for the Environmental Prize.

The first-ever Environment Prize, called Earthshot Prize, was launched by Britain's Prince William (Duke of Cambridge) and David Attenborough in 2020. This prize is conferred annually from 2021 to 2030, to five winners each year.

Winners are selected for their solutions or protects that substantially help the environment. It is given by the Royal Foundation, England.

Award is given in five separate categories with the support of UN Sustainable Development Goals.

Winners are selected by the Earthshot Prize Council which is a global team spanning six continents.





## BOOKS AND AUTHORS

Authors Name	Book Name
‘Haryana Environment and Pollution Code’	Dheera Khandelwal
‘A Rude Life: The Memoir’	Vir Sanghvi
‘Know Your Rights and Claim Them: A Guide for Youth’	Angelina Jolie and Geraldine Van Bueren
‘Back to the Roots’	Tamannaah Bhatia and Luke Coutinho
‘Gita Govinda: Jayadeva’s Divine Odyssey’	Dr. Utpal K Banerjee
‘Human Rights and Terrorism in India’	Subramanian Swamy
‘Translating Myself and Others’	Jhumpa Lahiri
‘Shining Sikh Youth of India’	Dr. Prabhleen Singh
‘The Three Khans: And the Emergence of New India’	Kaveree Bamzai
‘400 Days’	Chetan Bhagat
‘Jungle Nama’	Amitav Ghosh
‘The Long Game: How the Chinese Negotiate with India’	Vijay Gokhale
‘The Fractured Himalaya: How the Past Shadows the Present in India-China Relations’	Nirupama Rao
The Battle of Rezang La	Kulpreet Yadav
My Life in Full: Work, Family and Our Future	Indra Nooyi

## INDICES AND REPORTS

### Doing Business rankings

- The World Bank Group has decided to discontinue publication of its 'Doing Business' rankings of country business climates after a review of data irregularities in the 2018 and 2020 reports.
- In August 2020, World Bank paused the publication of Doing Business reports following a number of irregularities were reported regarding changes to the data.
- The irregularities in Doing Business reports had affected four countries: China; Saudi Arabia; United Arab Emirates; and Azerbaijan.
- World Bank's annual report matters to several nations, especially developing ones, since it greatly influenced investor decisions by releasing a ranking of economies based on how easy it is to open up, and operate, a business.
- But while the report was hugely popular among investors, it was heavily criticized by many governments for its methodology that, leaders said, inaccurately captured the realities on the ground.

It provides objective measures of business regulations and their enforcement across 190 economies and selected cities at the subnational and regional level.

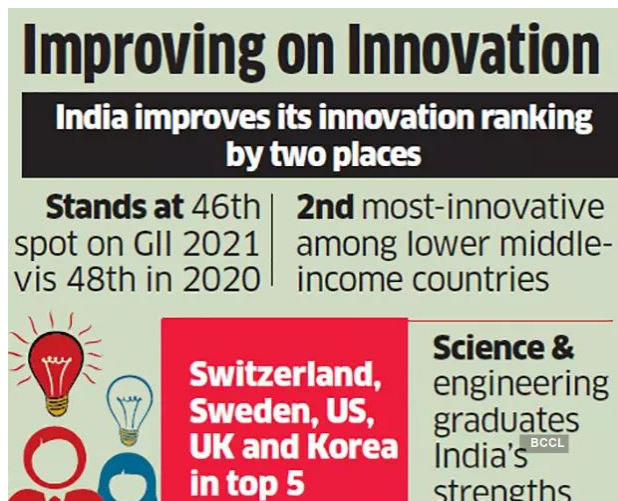
Launched in 2003, looks at domestic small and medium-size companies and measures the regulations applying to them through their life cycle.

It ranks countries on the basis of Distance to Frontier (DTF) score that highlights the gap of an economy with respect to the global best practice.

### Global Innovation Index

- India has climbed two spots and has been ranked 46th by the World Intellectual Property Organization (WIPO) in the Global Innovation Index 2021 rankings.
- India has been on a rising trajectory, over the past several years in the Global Innovation Index (GII), from a rank of 81 in 2015 to 46 in 2021.
- The consistent improvement in the GII ranking is owing to the immense knowledge capital, the vibrant start-up ecosystem, and the amazing work done by the public and the private research organizations.
- The Scientific Departments like the Department of Atomic Energy; the Department of Science and Technology; the Department of Biotechnology and the Department of Space have played a pivotal role in enriching the National Innovation Ecosystem.

Ranking	Country/Territory
1	 Switzerland
2	 Sweden
3	 United States
4	 United Kingdom
5	 South Korea
6	 Netherlands
7	 Finland
8	 Singapore
9	 Denmark
10	 Germany



**Improving on Innovation**

**India improves its innovation ranking by two places**

**Stands at 46th** | **2nd** most-innovative spot on GII 2021 among lower middle-income countries vis 48th in 2020

**Switzerland, Sweden, US, UK and Korea in top 5**

**Science & engineering graduates India's strengths**

## Fed to Fail

- UNICEF released its new report titled “Fed to Fail? The crisis of children’s diets in early life” on September 23, 2021.
- According to the report, Children aged under 2 are not getting the food or nutrients they need to thrive and grow well. This is leading to irreversible developmental harm.
- Report warns that rising poverty, conflict, inequality, climate-related disasters, and health emergencies like COVID-19 pandemic, are contributing to the nutrition crisis among those children.
- Poor nutritional intake in the first two years of life can harm the rapidly growing bodies and brains of the children. It also impacts their schooling, job prospects and futures. But there has been little progress towards providing right kind of nutritious and safe foods for them.
- While conducting the analysis across 91 countries, the report finds that, half of children aged 6-23 months are getting minimum recommended number of meals in a day.
- One third of the children consume the minimum number of food groups they need to grow.
- Children aged under two are most vulnerable to all forms of malnutrition like wasting, stunting, micronutrient deficiencies, overweight and obesity. As per UNICEF estimates, more than half of children aged under 5 are vulnerable to wasting, globally.

## OTHERS

### Appointment of Supreme Court Judges

- Nine new Supreme Court judges were administered their oaths of office by Chief Justice NV Ramana. It is for the first time in the history of Supreme Court that nine judges took oath of office at one go.
- With the swearing-in of the nine new judges, the strength of the Supreme Court has now increased to 33, including the CJI, out of the sanctioned strength of 34.
- Three of them were women judges. One of them, Justice B.V. Nagarathna, is slated to be Chief Justice of India in 2027. With this addition, the apex court will have four women judges for the first time.
- It was the first time the Supreme Court allowed a live telecast of the ceremony.

### Collegium System:

- It is the system of appointment and transfer of judges that has evolved through judgments of the Supreme Court, and not by an Act of Parliament or by a provision of the Constitution.
- There is no mention of the Collegium either in the original Constitution of India or in successive amendments.
- The Supreme Court collegium is headed by the CJI and comprises four other senior most judges of the court.
- A High Court collegium is led by its Chief Justice and four other senior most judges of that court.

### Ladakh adopts State animal and bird

- Ladakh adopted two endangered species, snow leopard and black-necked crane, as State animal and State bird
- Black-necked cranes are only found in Ladakh's Changthang region. The bird is classified as Near-Threatened, as per the IUCN classification; whereas Snow leopard has been classified as 'vulnerable'
- In India, Snow leopard's geographical range encompasses a large part of the western Himalayas including the UT of Jammu and Kashmir, UT of Ladakh, Himachal Pradesh, Uttarakhand and Sikkim and Arunachal Pradesh in the eastern Himalayas.

*Grus nigricollis*

# BLACK-NECKED CRANE

**11,000-13,500** POPULATION    **13 years** LIFESPAN    **135-139 cm** HEIGHT    **5-6 kg** WEIGHT

**AKA**  
cha thung-thung  
in Ladakhi

**ADULTS**  
RED CROWN  
BLACK HEAD, UPPER NECK  
LESS FEET  
TAIL-BAND AND FLIGHT FEATHERS  
GREY BODY

**JUVENILES**  
BUFF OR BROWN  
HEAD, NECK, AND  
MANTLE

**GEOGRAPHIC RANGE**  
Ladakh, India, China, and Bhutan. Occasional reports of spotting from Sikkim, West Bengal, Arunachal Pradesh and Nepal

**HABITAT**  
Summers are spent at high-altitude lakes, wetlands, and riverine marshes (3,000-5,000 m); winters in fallow cultivation and marshes

**EAT**  
Feed on plant roots, earthworms, insects, snails, shrimp, fish, frogs, lizards, rodents and other smaller creatures.

**ENDEMIC TO ASIA, THIS MIGRATORY BIRD IS THE ONLY ALPINE CRANE SPECIES**

ARRIVES IN LADAKH END-MARCH OR APRIL  
WINTERS IN BHUTAN LATE-OCTOBER TO MARCH-APRIL

**DANCE**  
ELABORATE COURTSHIP WITH SPECTACULAR DISPLAYS, DANCES, AND COLLABORATIVE NEST BUILDING, FOLLOWED BY MATING

# KNOW YOUR SNOW LEOPARD

The Snow Leopard's long, thick tail aids in balancing on the steep, narrow cliffs of its home range.

**Snow Leopard (*Panthera uncia*)**  
**VULNERABLE**

**1998**    **2018**

Snow Leopard numbers have declined by 20% in the last 20 years due to poaching, habitat loss and unsustainable hunting of its primary prey species.

**Size Comparison**

HUMAN    SNOW LEOPARD

They are found at altitudes as high as 11,483 ft (3500m) above sea level.

**RANGE:** [Pink Map of Central Asia]

Snow Leopards are native to the rugged, snowy highlands of Central Asia.

**Snow Leopard Day - October 23**

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## Qeqertaq Avannarleq

- It is a tiny, uninhabited and previously unknown island discovered recently off the coast of Greenland.
- Measuring 60×30 metres and with a peak of three metres above sea level, it has now become the new northernmost piece of land on Earth.
- Before this, Oodaaq was marked as the Earth's northernmost terrain.
- The discovery comes as a battle is looming among Arctic nations, the US, Russia, Canada, Denmark and Norway for the control of the North Pole and of the surrounding seabed, fishing rights and shipping routes exposed by melting ice due to climate change.

# LOCATION OF MOST NORTHERN ISLAND

The northernmost island in the world has been discovered by accident, according to scientists who were collecting samples off coast of Greenland





## Thamirabarani civilization

- A US-based lab has carbon-dated the remaining discovered from this ancient civilization in Tamil Nadu to at least 3,200 years.
- Thamirabarani (Porunai) is a river that originates in the Western Ghats (from the Agastyarkoodam peak of Pothigai hills) in the State and empties into the sea at the Gulf of Mannar after passing through Tirunelveli and Thoothukudi districts.
- Rivers have a unique association with civilisations. Thamirabarani in the southern district of Tirunelveli is no exception.
- This is the oldest civilization perhaps, older than the Vaigai civilization which is believed to be 2,600 years old.



## Tunisia's first female PM

- Najla Bouden Romdhane has become the first female prime minister of Tunisia on September 29, 2021.
- She has been named as Prime Minister, two months after President Kais Saied assumed his charge, dismissed the former prime minister and suspended parliament.
- Romdhane was assigned to form a new government in the midst of growing domestic and international discontent regarding president's power seizure.
- Romdhane is expected to have less direct power as compared to former prime ministers under the 2014 constitution. This is because, President Saied announced during the emergency period that the new government will be responsible to the president.
- Tunisia is the northernmost country of Africa. It is bordered by Algeria, Libya and the Mediterranean Sea. It also comprises eastern end of the Atlas Mountains and northern reaches of the Sahara Desert.

