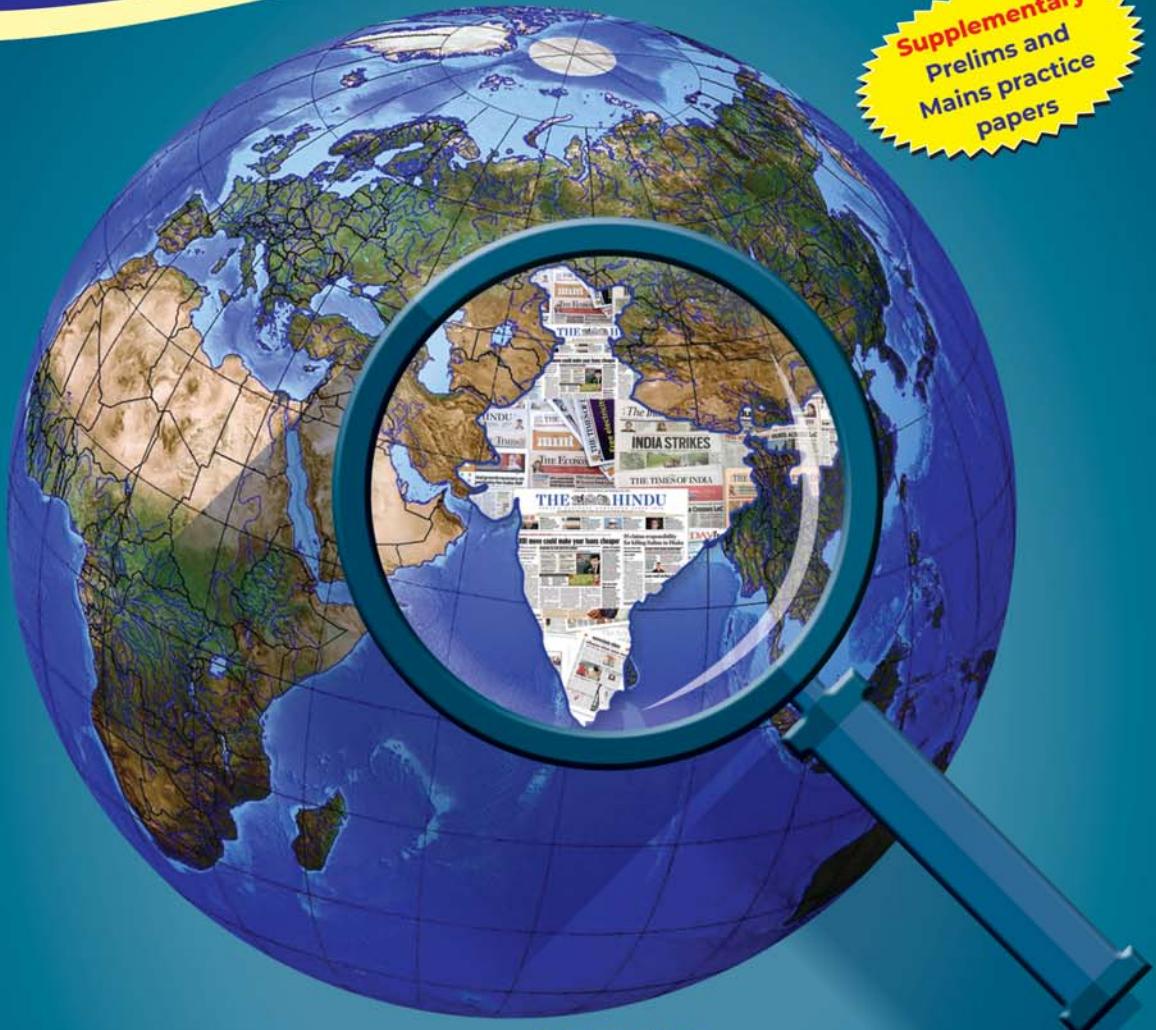


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Mr.Srikanth Vinnakota Congratulating UPSC Toppers



SRIKANTH SIR WITH REVU MUTHYALA RAJU



RANK **18**

C M Saikant Varma
2014



RANK **2017** **62**

Jameel Fatima Zeba
2017



RANK **80**

Musharraf
2014



RANK **100**

Nrapureddy Mourya
2017



RANK **104**

S Madhavi
2016



RANK **232**

K Pravallika
2015



RANK **281**

Venkateswar Rao
2013



RANK **423**

Ashwija B V
2018



RANK **476**

Somay Vinayak M
2015



RANK **642**

Y Jayasekar
2018





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Dear Students,

As part of my academic career I have had the good fortune of meeting some of the most amazing and highly motivated students. Of Course they had different aspirations in life. Some of them wanted to be Civil Servants and some wanted to be Mathematicians just to name a few vocations (there are many more). But what all of them had in common was their quest for knowledge. But as times change and young blood flows in, a plethora of changes took place in the learning ecosystem too. In this time and age of the digital uprising a new generation is taking over the reigns from the present, namely "The Millennials".



Srikanth Vinnakota
Editor-in-Chief

Now coming to "The Millennials". They are a different brand altogether. Apart from their "out-of-the-box" career choices what seems interesting to me is the breath of fresh air they bring into all the conventional employment. I am truly inspired by their grit and determination in learning something new altogether like picking up a new language or playing an instrument or staying updated on day to day events happening somewhere else in the world. Also I believe that this attitude is needed these days because finding formal employment through regular means is getting difficult day by day because of the kind of competition that is there for such jobs. In that case having the knowledge of diverse topics would be "the feather in the hat" if not more to be able to not just secure employment for self but to be able to give employment to others as well. The aim of our magazine '*Samiksha*' is to equip the reader with this kind of information which is diverse, authentic and useful not only in the present day but also for the future.

Our publishing team which is a dynamic amalgamation of young and the experienced, puts together all the important happening of a month for you. The information is collected from authentic sources and the views expressed are carefully curated keeping in view the realities of our day and age. We pay utmost attention to the fact that our reader can be a college going student or a Civil Services Aspirant or for the matter of fact any other person who is just curious. We try our best to give a comprehensive 360 Degree view of the given topic and cover it in all dimensions possible. We deem it as our privilege to be able to serve the young of our society. In the words of Desiderius Erasmus; "The main hope of a nation lies in the proper education of its youth."

I take your leave and wish you happy reading.

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SCHOOL BAG POLICY-2020

The Directorate of Education has issued a circular asking schools to follow the new 'School Bag Policy, 2020' released by the National Council of Educational Research and Training (NCERT).

Key Points

The Circular:

- ★ School teachers should inform the students in advance about the books and notebooks to be brought to school on a particular day and frequently check their bags to ensure that they are not carrying unnecessary material.
- ★ It is the duty and the responsibility of the school management to provide quality potable water in sufficient quantities to all the students in the school so that they do not need to carry water bottles from their homes.
- ★ It lays down the guidelines on homework and weight of school bags for classes I to XII.
- ★ School bags should not be more than 10% of the body-weight of students across classes I to X and there should be no bags in pre-primary students.
- ★ It recommends no homework up to class II and a maximum of two hours per week for classes III to V, one hour a day for classes VI to VIII and two hours a day for classes IX and above.
- ★ The Policy will also require schools to introduce infrastructural changes as students will not be able to carry many books daily.
- ★ The schools need to provide lockers right from preschool to senior secondary to enable children to leave books in school and carry home only what is required.
- ★ It adds that the teachers should take the responsibility of checking the weight of school bags of the students every three months on a day selected for the whole class and any information about heavy bags should be communicated to the parents.
- ★ It adds that files and thin/light exercise books should be preferred to thick/heavy ones.

Problems of heavy school bags:

- ★ The heavy school bag has severe/adverse physical effects on growing children which can cause damage to their vertebral column and knees.
- ★ A heavy backpack can pull on the neck muscles contributing to headache, shoulder pain, lower back pain and neck and arm pain.
- ★ The posture of the body also gets affected to a great extent which in the long term develops imbalances in the body and affects the health of the nervous system.

About the School Bag Policy 2020:

- ★ It lays down the guidelines on homework and weight of school bags for classes I to XII.



INDIA'S VACCINE DIPLOMACY

India has decided to ship out doses of the novel coronavirus vaccine to 'neighbouring and key partner countries'.

- ★ The first batches of vaccine have been **already delivered to Bhutan and Maldives** by special planes as a **grant or gift**.

India's Coronavirus Vaccines

- ★ Recently, the **Drug Controller General of India (DCGI)** granted the approval for two vaccines - **COVISHIELD** by Serum Institute of India and **COVAXIN** by Bharat Biotech.
- ★ **COVISHIELD:** It is the name given to an Oxford-AstraZeneca Covid-19 vaccine which is technically referred to as AZD1222 or ChAdOx 1 nCoV-19.
- ★ **COVAXIN:** It is India's only indigenous Covid-19 vaccine. This vaccine has been found to be safe and no major side effects are expected.
- ★ Of the two vaccines, COVAXIN is an inactivated vaccine whereas COVISHIELD is a live vaccine.

Key Points

Vaccine Diplomacy:

- ★ **Meaning:** Vaccine diplomacy is the **branch of global health diplomacy** in which a nation

uses the development or delivery of vaccines to strengthen ties with other nations.

- ★ **Collaborative Effort:** It also includes the joint development of life-saving vaccines and related technologies, with the major actors typically scientists coming together to work irrespective of the kind of diplomatic relationship between the participating countries.
- ★ **Benefit for India:** It could provide innovative opportunities to promote India's foreign policy and diplomatic relations between nations in its neighbourhood and across the globe.
- ★ India had earlier supplied hydroxychloroquine, Remdesivir and paracetamol tablets, as well as diagnostic kits, ventilators, masks, gloves and other medical supplies to a large number of countries to help them deal with the pandemic.
- ★ India has also carried out capacity building and training workshops for neighbouring countries.

India's Vaccine Diplomacy Plan:

- ★ Shipments have begun arriving in the Maldives, Bhutan, Bangladesh and Nepal. Myanmar and the Seychelles

are next in line to get consignments.

- ★ In cases of Sri Lanka, Afghanistan and Mauritius, India is awaiting their confirmation of necessary regulatory clearances.
- ★ The only exception to India's regional vaccine diplomacy would be Pakistan, which has cleared the AstraZeneca vaccine for use, but has neither requested nor discussed any doses from India yet.

Importance of India's Vaccine Diplomacy:

- ★ **Strategic:**
- ★ **Earning long term goodwill:** By financing shipments from India's assistance programmes for cash-strapped neighbouring countries desperately needing such assistance, India shall earn the long-term goodwill of its immediate neighbours and across Indian ocean countries
- ★ It is in line with India's neighbourhood first initiative.
- ★ **Advantage over Chinese:** China recently offered its vaccines to Nepal, Afghanistan, Sri Lanka and Bangladesh as it held a multilateral dialogue with the four countries and Pakistan on anti-epidemic prevention.

★ Early shipment from India in these countries could help counter China's vaccine and mask diplomacy in its neighbourhood.

★ **Leverage over western countries:** While the affluent western world, notably the US and Europe, are focused almost exclusively on their own problems, India is being appreciated for helping its neighbours and developing countries, who could not afford US and European vaccines.

Economic:

★ **Make India global supply centre:** Beyond India's immediate neighbours, South Korea, Qatar, Bahrain, Saudi Arabia, Morocco and South Africa have all shown inclinations to purchase vaccines from India which is estimated to be 60% of the global supply of inoculants.

★ **Boost Pharma Manufacturing in India:** India can become the pharmacy of the world. If Indian vaccines help developing countries to meet their urgent needs, they can become the future long term destination for market expansion of Indian pharmas.

★ **Help in reviving the economy:** If India becomes the manufacturing hub to corona vaccines across the world, it shall give a boost to the GDP of India.

Rescue from cold war over vaccine:

★ The US-China cold war has been accused of making distri-



bution of vaccines "political football", which caused the inordinate delay in commencing the inoculation programmes by WHO. Thus, early shipment of vaccines by India is seen as a rescue from this bipolar tussle.

Earning moral right:

★ India's vaccine distribution comes at a time when WHO director-General has criticised moral corruption of drug manufacturers from rich countries for delaying distribution of vaccines and targeting shipments to rich countries only. This could help India have a moral right to have greater say in international forums.

Disrupts vaccine nationalism:

★ Vaccine Nationalism is the mechanism through which a country manages to secure doses of vaccines for its own citizens or residents and prioritises its own domestic markets before they are made available in other countries through pre-

purchase agreements with a vaccine manufacturer.

★ The major drawback of vaccine nationalism is that it puts countries with fewer resources and bargaining power at a disadvantage. India's intervention by making vaccines available to needy countries disrupted the vaccine nationalism.

Facilitating global collaboration:

★ India vaccines supply could cater greatly to the global collaboration which is being done through the WHO-backed COVAX Facility mechanism.

Way Forward

★ **India needs to balance its domestic needs with diplomatic commitments.** The vaccination drive in India commenced in January, 2021 is going to be the **World's Largest Vaccination Program**. India has the challenge that while it distributes the vaccine to the world, it should ensure the much needed vaccine supply to those in India who cannot afford it.



EASE OF DOING BUSINESS REFORMS

Odisha has become the 7th state, after Andhra Pradesh, Karnataka, Madhya Pradesh, Rajasthan, Tamil Nadu and Telangana to achieve the 'Ease of Doing' business reforms in the country.

1. Department of Expenditure, Ministry of Finance has stipulated that Odisha has successfully undertaken the 'Ease of Doing' reforms to become the 7th state in the country.
 2. This would help the state to get additional grant of Rs 1,429 crore through open market borrowings.
 3. Until now a total of additional grants sanctioned to other six states, Andhra Pradesh, Karnataka, Madhya Pradesh, Rajasthan, Tamil Nadu and Telangana is Rs 20,888 crore.
 4. To enable faster growth of the economy, Government of India in May 2020 decided to give additional grant permission to the states those who completed the ease of doing reforms.
 5. Seeing the requirement of resources during COVID pandemic government has increased the borrowing limit by 2 per cent of the state GSPD. Half of this additional (extra) grant was to be given to states who undertake citizen centric reforms.
 6. The four citizen centric areas where reforms were spotted were
 - (a) Implementation of One Nation One Ration Card System,
 - (b) Ease of doing business reform,
 - (c) Urban Local body/ utility reforms and
 - (d) Power Sector reforms.
7. Hitherto, One Nation One Ration Card system has been implemented in 10 states, Ease of Doing business reforms have been completed by 7 states and two states have done local body reforms.
8. Reforms that are set forth for additional borrowing permissions to States are:
- a) Fulfillment of first assessment of 'District Level Business Reform Action Plan'.
 - b) Withdrawal of prerequisite of renewal of registration certificates/approvals/licenses obtained by businesses under various Acts.

- c) Implementation of computerized central random inspection system.

Ease of Doing Business

Two leading economists at the World Bank, Simeon Djankov and Gerhard Pohl, jointly created the Ease of Doing Business Index. Higher rankings (a low numerical value) indicate better, usually simpler, regulations for businesses and stronger protections of property rights.

A nation's ranking on the index is based on an average of 10 sub-indices:

- ★ Start of business - Procedures, time, cost, and minimum capital to open a new business
- ★ Dealing with construction permits - Procedures, time, and cost to build a warehouse
- ★ Getting electricity - procedures, time, and cost required for a business to obtain a permanent electricity connection
- ★ Getting credit - Strength of legal rights index, depth of credit information index
- ★ Protecting investors - Indices on the extent of disclosure, the extent of director liability, and ease of shareholder suits
- ★ Paying taxes - Number of taxes paid, hours per year spent preparing tax returns, and total tax payable as a share of gross profit
- ★ Trading across borders - Number of documents, cost, and time necessary to export and import
- ★ Enforcing contracts - Procedures, time, and cost to enforce a debt contract
- ★ Resolving insolvency - The time, cost, and recovery rate (%) under a bankruptcy proceeding

for a newly constructed warehouse

India ranks 63rd out of 190 nations in Ease of Doing business, 2020. India has jumped 14 positions in comparison to previous year. New Zealand has been at the top rank since past three years from 2018 to 2020.

Department for Promotion of Industry and Internal Trade (DPIIT) ranked Andhra Pradesh as the top state in the annual ranking of states and Union Territories in ease of doing business. The ranking promotes completion among states that improves the business climate to attract domestic as well as foreign investments. Uttar Pradesh is at the 2nd position registering a jump of 10 places in the rankings.

The broader aim of attracting investments and escalating ease of doing business in each State was sought to be achieved by introducing an element of healthy competition through a system of ranking States based on their performance in the implementation of Business Reform Action Plan.



According to the India Meteorological Department (IMD)'s State of the Climate Report, the year 2020 was the eighth warmest since India started keeping records in 1901.

- ★ The State of the Climate Report looks at temperature and rainfall trends annually.

Key Points

Eighth Warmest Year 2020:

- ★ **Average Temperature:** During the year, the annual average temperature in the country was **0.29 degree Celsius (C) above normal** (29-year average from 1981-2010).
- ★ However, it was **much lower than 2016 (+0.71 degrees Celsius)**, which **remains the warmest ever year** the country has recorded since 1901.
- ★ Such temperature trends were reported **despite the cooling effect of La Nina**, a global weather pattern that prevailed in 2020 and is linked to substantially below normal temperatures in winter.
- ★ La Nina typically has a cooling effect on global temperatures, but this is now **offset by global warming due to greenhouse gas emissions**.
- ★ As a result, **La Nina years now are warmer than years with El Niño events of the past**.
- ★ El Nino and La Nina are the **extreme phases of the El Niño and the Southern Oscillation (ENSO) cycle**.
- ★ ENSO is a periodic fluctuation in sea surface temperature and the air pressure of the overlying atmosphere across the equatorial Pacific Ocean. It has a major influence on weather and climate patterns such as heavy rains, floods and drought.



STATE OF THE CLIMATE REPORT 2020

- ★ According to the report "Preparing India for Extreme Climate Events" released by the Council on Energy, Environment and Water (CEEW), over 75% of districts in India are hotspots of extreme climate events.

Comparison to Global Average Temperature:

- ★ India's nearly 0.3 degree rise was less than the average global temperature rise of 1.2 degree (January to October, as per the World Meteorological Organisation's State of the Global Climate).

Warmest Years over India:

- ★ The **eight warmest years** on record in order were: **2016 (+0.71 degree C) > 2009 (+0.55 degree C) > 2017 (+0.541 degree C) > 2010 (+0.539 degrees C) > 2015 (+0.42 degree C) > 2018 (+0.41 degree C) > 2019 (+0.36 degree C) > 2020 (+0.29 degree C)**.
- ★ The **past decade (2011-2020) was the warmest on record**.

Extreme Weather Events:

- ★ Extremely heavy rain, floods, **cold waves** and thunderstorms led to significant loss of lives and properties.

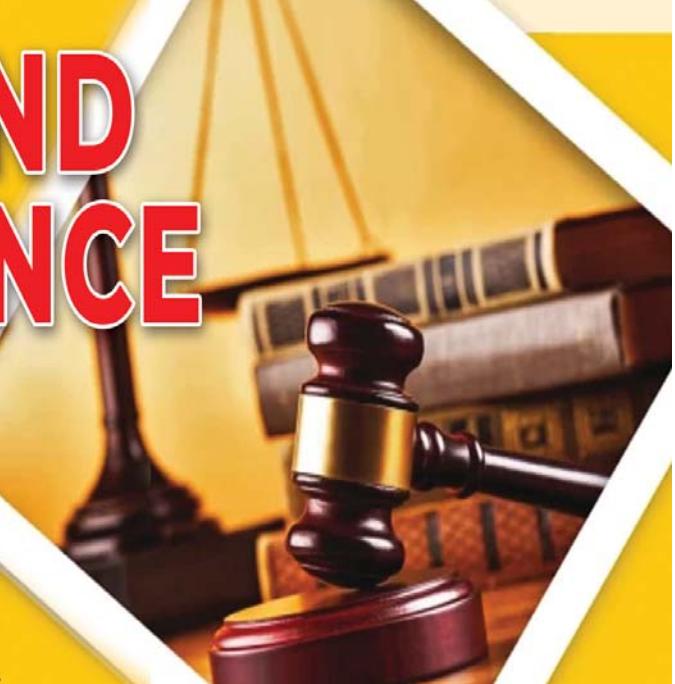
Data on Tropical Storms:

- ★ Globally, the Atlantic Ocean experienced one of the most active years, with over 30 tropical storms originating here.
- ★ The Indian Ocean region - the Arabian Sea and the Bay of Bengal, together reported five cyclones - Amphan, Nisarga, Gati, Nivar and Burevi.
- ★ Of these, Nisarga & Gati formed over Arabian Sea, while the remaining 3 cyclones formed over the Bay of Bengal.

Data on Rainfall:

- ★ The annual rainfall over the country in 2020 was 109% of the Long Period Average (LPA) calculated for the period of 1961-2010.

POLITY AND GOVERNANCE



Supreme Court (SC) on Judicial Review

Recently, the Supreme Court (SC) refused to treat the Central Vista project as a unique one requiring greater or heightened judicial review.

- ★ The SC said the government was "entitled to commit errors or achieve successes" in policy matters without the court's interference as long as it follows constitutional principles.
- ★ The Central Vista project of New Delhi includes Rashtrapati Bhawan, Parliament House, North and South Block, India Gate, National Archives among others.
- ★ The Indian Constitution adopted the Judicial Review on lines of the American Constitution.

Key Points

- ★ **Judicial Review:** It is a type of court proceeding in which a judge reviews the lawfulness of a decision or action made by a public body.

★ In other words, judicial reviews are a **challenge to the way in which a decision has been made**, rather than the rights and wrongs of the conclusion reached.

Concepts of Law:

- ★ **Procedure Established by Law:** It means that a law enacted by the legislature or the concerned body is valid only if the correct procedure has been followed to the letter.
- ★ **Due Process of Law:** It is a doctrine that not only checks if there is a law to deprive the life and personal liberty of a person but also ensures that the law is made fair and just.
- ★ India follows **Procedure Established by Law**.
- ★ It is the power exerted by the courts of a country to examine the actions of the legislatures, executive and administrative arms of government and to ensure that such actions conform to the provisions of the nation's Constitution.

★ Judicial review has two important functions, like, of legitimizing government action and the protection of constitution against any undue encroachment by the government.

- ★ Judicial review is considered a basic structure of the constitution (Indira Gandhi vs Raj Narain Case 1975).
- ★ Judicial review is also called the interpretational and observer roles of the Indian judiciary.
- ★ **Suo Moto cases** and the **Public Interest Litigation (PIL)**, with the discontinuation of the principle of **Locus Standi**, have allowed the judiciary to intervene in many public issues, even when there is no complaint from the aggrieved party.

Types of Judicial Review:

- ★ **Reviews of Legislative Actions:** This review implies the power to ensure that laws passed by the legislature are in

compliance with the provisions of the Constitution.

- ★ **Review of Administrative Actions:** This is a tool for enforcing constitutional discipline over administrative agencies while exercising their powers.

- ★ **Review of Judicial Decisions:** This review is used to correct or make any change in previous decisions by the judiciary itself.

- ★ **Importance of Judicial Review:** It is essential for maintaining the supremacy of the Constitution.

- ★ It is essential for checking the possible misuse of power by the legislature and executive.
- ★ It protects the rights of the people.
- ★ It maintains the federal balance.
- ★ It is essential for securing the independence of the judiciary.
- ★ It prevents tyranny of executives.

- ★ **Problems with Judicial Review:** It limits the functioning of the government.

- ★ It violates the limit of power set to be exercised by the constitution when it overrides any existing law.
- ★ In India, a separation of functions rather than of powers is followed.
- ★ The concept of separation of powers is not adhered to strictly. However, a system of checks and balances have been put in place in such a manner that the judiciary has the power to strike down any unconstitutional laws passed by the legislature.
- ★ The judicial opinions of the judges once taken for any case

becomes the standard for ruling other cases.

- ★ Judicial review can harm the public at large as the judgment may be influenced by personal or selfish motives.
- ★ Repeated interventions of courts can diminish the faith of the people in the integrity, quality, and efficiency of the government.

Way Forward

- ★ With the power of judicial review, the courts act as a custodian of the fundamental rights.
- ★ With the growing functions of the modern state, judicial intervention in the process of making administrative decisions and executing them has also increased.
- ★ When the judiciary surpasses the line of the powers set for it in the name of judicial activism, it could be rightly said that the judiciary then begins to invalidate the concept of separation of powers set out in the Constitution.
- ★ Making laws is the function and duty of the legislature, to fill the gap of laws and to implement them in a proper manner is responsibility of the executive. So that the only work remaining for the judiciary is interpretations. Only a fine equilibrium between these government bodies can sustain the constitutional values.

Women must be centre-stage in water and sanitation

The right to water and sanitation is recognised as fundamental

to attaining all other human rights. However, globally, 2.1 billion people do not have access to safe drinking water at home, and 2.3 billion do not have basic sanitation and 1 billion still practice open defecation.

Amongst this, women are the most vulnerable section. Women and girls are disproportionately affected by the lack of access to essential water, sanitation and hygiene facilities.

Women are largely responsible for household water, sanitation and hygiene management; they bear a disproportionate burden when these basic services are lacking, and face health, security and psychological vulnerabilities due to inadequate access and decision-making control.

Therefore, access to water and sanitation, if delivered well, empowers women economically and socially. Done poorly, it may undermine women's position at home and in the community.

- ★ **Interconnection:** Water, Sanitation & Hygiene With Women's Rights

- ★ **Women's Water-Fetching Responsibility:** Women and girls are responsible for fetching water in most households where a drinking water source is off-premises.

- ★ This practice has implications for women's health, workloads, and caloric expenditure.
- ★ When girls carry water over long distances, the time available to them to pursue education is reduced.
- ★ Water-fetching responsibilities also add to the burden of **unpaid domestic work**, decrease time towards other income-generating activities,

and affect leisure and nonessential activities.

★ **Sanitation Access and Gender-Based Violence:** There is enough evidence of sanitation-related gender-based violence, highlighting a range of vulnerabilities women and girls face who are forced to defecate openly.

★ This leads to the fear of sexual violence that can restrict freedom of movement and affect equal opportunities.

★ **Women's Water, Sanitation and Hygiene Needs:** Women have an increased need for water for hydration, sanitation and hygiene during menstruation, pregnancy, the postnatal period, and caring for sick family members or young children.

★ When these basic needs are not met, women and girls are unable to participate equally in society.

★ **Linkage With SDGs:** The Sustainable Development Goals (SDGs) make an essential initial step in connecting water, sanitation and hygiene (SDG 6) and gender equality and empowerment (SDG 5) through target 6.2.

★ Target 6.2 of SDG emphasises 'access to equitable sanitation and hygiene and women and girls' needs.

★ Further, SDG 10 aims to reduce inequalities within and between countries. Equal access to clean water and sanitation is critical to reducing overall disparities.

Associated Challenges

★ **Lack of Women's Participation in Decision-making:** The central role of women and girls in the procurement and manage-

ment of water, sanitation and hygiene at the household level is recognised.

★ However, women's water, sanitation & hygiene governance and household decision-making control over such resources are scarce.

★ For example, women not being consulted in decisions taken on sanitation-related matters such as the building and using toilets. It also fails to take into account the prevalent socio-cultural norms.

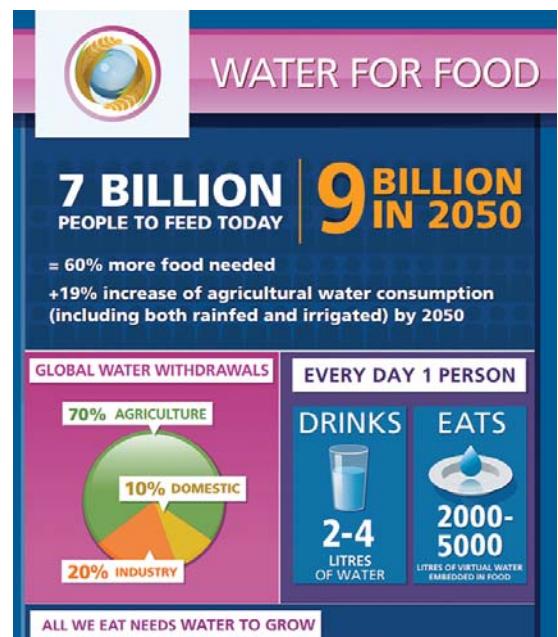
★ **Lack of Data:** Measurement of the burden placed on women and girls, the opportunity costs of these burdens, and female empowerment related to water, sanitation and hygiene decision-making and autonomy are limited.

★ **Lack of Adequate Infrastructure:** In many parts of India (especially in rural India) water, sanitation and hygiene in health-care facilities are far from adequate.

★ In schools, the lack of necessary infrastructure, privacy, spaces, materials and guidance to manage menstruation has been associated with harassment, sexual exploitation, psychosocial impacts, decreased school attendance rates and drop-out for girls.

Way Forward

★ **Gender-Neutral Approach:** There is a need for the political imperative to recognise that both women and men's involve-



WATER FOR FOOD

7 BILLION
PEOPLE TO FEED TODAY

9 BILLION
IN 2050

= 60% more food needed

+19% increase of agricultural water consumption (including both rainfed and irrigated) by 2050

GLOBAL WATER WITHDRAWALS



EVERY DAY 1 PERSON



ment are integral to sustainable water, sanitation, and hygiene management.

★ Policy Framework for Women Leadership:

Women's leadership and decision making power in water and sanitation is critical. Therefore, enabling policy frameworks backed by resources, training and political will, are vital to developing and sustaining women's leadership in the water sector at the local, national and global level.

★ In this context, there is a need to invest in developing the next generation of water, sanitation and hygiene leaders, by collaborating with colleges, water utilities and districts, using experiential learning, internships and interacting with experts.

★ Sustained Focus on Swachh Bharat Mission:

The rallying call of the Swachh Bharat Mission (SBM) campaign of "Satyagraha se Swachhagraha" has led to the significant change in sanitation habits in India.

- ★ The next SBM phase should envisage finding solutions for sustained behaviour change, addressing women and their hygiene needs.
- ★ **Role of Society:** As the women already spend 2.6 times more hours than men on unpaid activities, including caregiving and domestic work.
- ★ Citizenry as a part of society to ensure their involvement in water and sanitation services does not further contribute to the burden of unpaid work, or decrease the ability to earn an income.
- ★ **Role of SHGs:** There are rapidly increasing examples throughout the country, with women being able to push through reforms through the help of support groups or community-led efforts.
- ★ Therefore, women SHG should be promoted to take up the cause of water, sanitation and Hygiene.
- ★ In this context, Jharkhand's example is worth emulating. Trained women masons built over 15 lakh toilets in one year and the state was declared open defecation free (rural) much ahead of the national cut-off date of October 2, 2019.

Conclusion

As countries work to achieve SDG 10, access to clean water and sanitation can be a game-changer for prosperity and transformation. Policies on water and sanitation need to keep women centre-stage needs and enable them to be agents of change.

This is the time for governments, businesses, NGOs and academic institutions to look at how

they are investing in women's leadership in the water, sanitation and hygiene sector, from local committees to the international stage.

Maximum Governor: On Governor's Role

Recently, the Governor of Kerala refused to convene a special session of the Kerala Assembly that was intended to discuss the ongoing farmer protest in New Delhi.

This conduct is comparable to the many actions of governors of Karnataka, Madhya Pradesh, Maharashtra, etc., that led to unwarranted interference of centre in states' politics. These states happen to be ruled by the political parties governed by the opposition parties at the centre.

Such instances portray the negative image of the state governors as an agent of the centre. The Governor's office's misuse to undermine duly elected State governments undermines democratic processes and compromises one of the Basic Structure doctrine elements, i.e. federalism.

★ **Governor:** Acting As Agent of Centre & It's Effect

★ **Source:** Article 163 of Indian Constitution states that the Governor should exercise his functions based on the **state's Council of Ministers' aid and advice**, except it is required to exercise his functions at his discretion.

★ Therefore, Article 163 acts as a source of the discretionary power of the governor.

★ As the union government nominates the governor, the combined effect with Article

163 provides the scope centre meddling in the state's affairs.

★ **Nature of Intervention:** The present controversies have been around issues like:

- ★ Selecting the Chief Minister,
- ★ Determining the timing for proving legislative majority,
- ★ Demanding information about day-to-day administration,
- ★ Giving assent to bills or reserving bills for the President,
- ★ Frequent use of Article 356 for removing state governments run by opposition parties based on the governor's recommendation.

★ Commenting adversely on specific policies of the state government.

★ **Effect:** The encroachment upon the legislature's powers and the elected government amounts to an abuse of Governor's authority as a nominal head under the Constitution.

★ Various wrongdoings of the centre through the governor's office damage India's essential federal structure and the democratic process.

Envisaged Role of Governor

★ **Taking Clues From Constituent Assembly Debates:** On analysing the constituent assembly debates, it can be inferred that the constituent assembly envisaged creating



- 'responsible government' in the states as much as at the centre.
- ★ According to Dr Ambedkar, "I have no doubt in my mind that discretionary power is in no sense a negation of responsible government. It is not a general clause giving the governor power to disregard the advice of his ministers in any matter in which he finds he ought to disregard."
 - ★ **Taking Clues From Constitution:** As the states were indeed sovereign within their own domain, the discretionary power, beyond the specific situations mentioned in the constitution, does not enable a governor to override the state government.
 - ★ Therefore, selecting a chief minister of his choice or creating/utilising opportunities for defections to change the party in power cannot be a governor's job.
 - ★ **Taking Clues from Various Committees on Centre-States Relation:** In the last few decades, various committees were appointed to understand the governor's role in India's federal democratic setup.
 - ★ These committees made extremely valuable recommendations to make the governor's office the "**linchpin of the state's constitutional apparatus.**"

Way Forward

- ★ **Governor's Discretion Should Be Only Her Discretion:** For the smooth functioning of a democratic government, it is equally essential that the governor must act judiciously, impartially and efficiently while exercising his discretion

and personal judgment.

- ★ As the Sarkaria Commission put it, the governor's task "**is to see that a government is formed and not to try to form a government.**".
- ★ **Strengthening of Federalism:** In order to check misuse of the office of governor, there is a need to strengthen federal setup in India.
- ★ In this regard, the Inter-State council and the role of Rajya Sabha as the chamber of federalism must be strengthened.
- ★ **Reform the Method of Appointment of Governor:** In order to end the monopoly of the centre in selecting its 'own man' as governor, the appointment can be made from a panel prepared by the state legislature and actual appointing authority should be the Inter-state Council, not the central government.
- ★ **Code of Conduct for Governor:** In order to enable the governor to successfully discharge his functions under the centre and states governments should agree on a 'Code of Conduct'.
- ★ This 'Code of Conduct' should lay down certain 'norms and principles' which should guide the exercise of the governor's 'discretion' and his powers which he is entitled to use and exercise on his judgment.
- ★ In this context, the inspiration for such a code can be derived from the various recommendations of the Sarkaria Commission on centre-states relations.

Conclusion

The governor's role is not merely an agent of the centre sitting in state capitals; he is the

lynchpin of India's federalism and democracy at the state's level. Therefore, the governor's role is indispensable for the successful working of constitutional democracy, and he must withhold the virtue of impartiality.

Death Penalty for Sexual Offences!

Sexual offences against women and children are one of the most heinous crimes against humanity. Given this, the public has a real and legitimate interest in addressing such concerns, leading to the death penalty's demand to deter sexual offences purportedly.

In this context, on Human Rights Day 2020, the Maharashtra cabinet approved the Shakti Bill, enlarging the scope of harsher and mandatory sentences — including the death penalty — for non-homicidal rape (excluding Marital Rape).

The Shakti Bill comes amid the recent legislative trend to invoke the death penalty for sexual offences. For instance, the Andhra Pradesh government passed the Disha Bill in 2020 (pending presidential assent), that provides the death penalty for the rape of adult women.

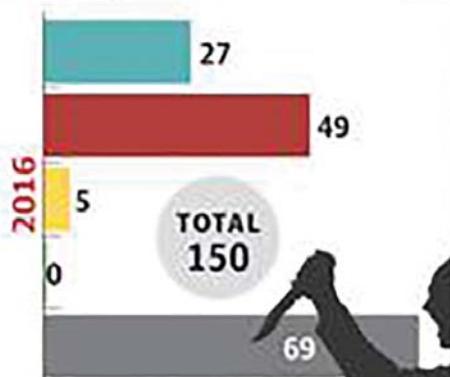
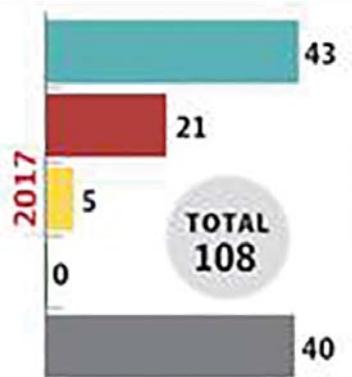
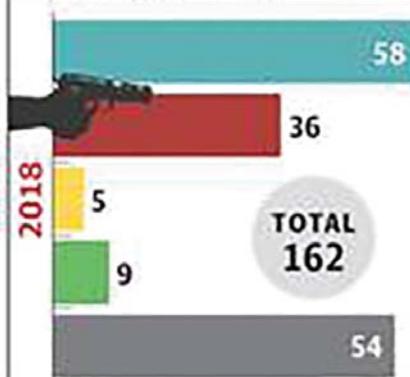
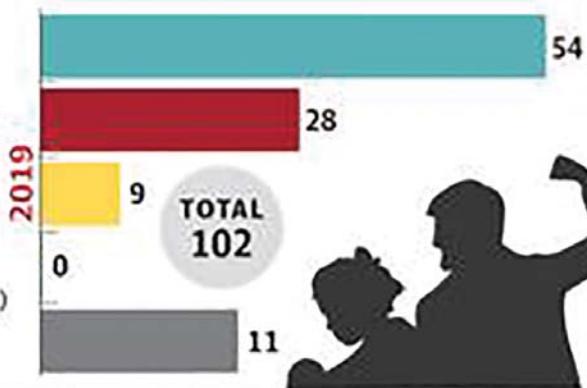
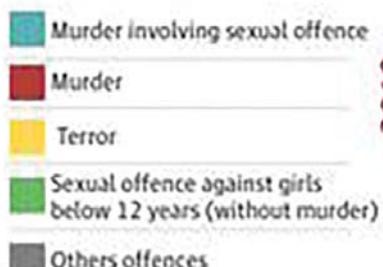
However, introducing the death penalty diverts attention from deep-rooted issues & long-term solutions. It suggests that the reason for such crimes is that the punishment is not severe enough.

Associated Issues with Death Penalty Against Sexual Offences

- ★ **May Do More Harm To Victim:** Women's right groups have argued that the death penalty is a knee-jerk and populist solution to counter sexual offences.

CRIMINAL JUSTICE

Number of death penalties awarded from 2016-2019



SOURCE: PROJECT 39A'S DEATH PENALTY IN INDIA ANNUAL STATISTICS REPORT 2019

- ★ Also, Child-right activists insist that introducing capital punishment for non-homicidal rape may lead rapists to kill their victims to erase testimonial evidence.
- ★ **Death Penalty Won't Remove Prejudice:** Introducing harsher penalties does not remove systemic prejudices from the minds of judges and the police.
- ★ Generally, police might refuse to register complaints or acquit offenders in cases they do not consider "serious" enough to warrant a mandatory minimum.
- ★ **Lower Rate of Conviction:** According to crime data from the **National Crime Records Bureau**, in 93.6% of sexual offences, the perpetrators were known to the victims.
- ★ Therefore, introducing capital

punishment would deter complainants from registering complaints.

- ★ **Delay in Closure of Justice:** The execution of a death sentence comes at the end of multiple stages of appeals and avenues of seeking clemency.
- ★ This time extended to the defendant to exhaust all legal remedies will delay the judicial process's finality and closure—militating against the competing interest of ensuring speedy justice.
- ★ It might also see an increase in instances of instant retribution, such as the extrajudicial killing of gang-rape and murder suspects in Hyderabad late in 2019.
- ★ **Regressive Step:** The **Justice Verma Committee Report** that

made several recommendations on the laws on sexual offences (after Nirbhaya rape case 2012), held that the death penalty's deterrent effect is "a myth".

- ★ The report stated that it would be a regressive step to introduce the death sentence in non-homicidal cases.

Other Issues Related to Shakti Bill

- ★ The other anti-women assertion in the bill moves away from the standard of affirmative consent in cases involving adult victims and offenders.
- ★ Significant advocacy from the women's movement led to introducing an affirmative standard of consent, rooted in unequivocal voluntary agreement by women through

words, gestures or any form of verbal or non-verbal communication.

- ★ In a sharp departure, the bill stipulates that valid consent can be presumed from the "conduct of the parties" and the "circumstances surrounding it".
- ★ Rape trials continue to be guided by misogynistic notions, expecting survivors to necessarily resist the act, suffer injuries and appear visibly distressed.
- ★ Therefore, the bill's vaguely worded explanation holds dangerous possibilities of expecting survivors to respond only in a particular manner, thus creating the stereotype of an "ideal" victim.

Way Forward

- ★ **Plugging Gaps in Justice Delivery:** The most severe gaps in the justice delivery system are reporting a police complaint. Therefore, the focus of the criminal justice system needs to shift from sentencing and punishment to the stages of reporting, investigation, and victim-support mechanisms. In this context, the following measures must be ensured:

- ★ The victim reports a case without any fear.
- ★ Police to conduct a sound investigation.
- ★ Victim protection throughout the trial.
- ★ Making testimony as easy and as quick as possible.
- ★ Allocation of resources and more robust implementation of the law than is currently evident.
- ★ **Sensitisation At a Broader Level:** Despite the ever-increas-

ing ambit of the death sentence, there has been little effort to address prejudices in society.

- ★ Addressing the prejudices in the society against sexual offences requires sensitisation of functionaries of the justice system & more importantly society.

Conclusion

Instead of merely enhancing punishment, tackling crimes against women and children requires broader social reforms, sustained governance efforts and strengthening investigative and reporting mechanisms.

Crowdfunding for Rare Diseases



Recently, the Delhi High Court has ordered the Ministry of Health and Family Welfare to explore Crowdfunding to help two children, who are suffering from a Rare Disease known as Duchenne Muscular Dystrophy.

Key Points

- ★ **Constitutional Provision Involved:** The HC held that 'Right to Health and Healthcare' is a fundamental right which has been recognised by the Supreme Court to be a part of the 'Right to life' under Article 21 of the Constitution.

- ★ **Direction to the Society and Authorities:** The High Court directed the society in general and authorities in particular to ensure that the life of such children is not compromised, even if there is a small window of improving their chances of survival or even providing a better quality of life.

- ★ Directed the Ministry of Health and Family Welfare to give a specific timeline in respect of the finalisation and notification of the Draft Health Policy for Rare Diseases, 2020. The draft policy has a section where the government proposed crowdfunding for treatment of high-cost Rare Diseases.

CrowdFunding

About:

- ★ Crowdfunding is a method of raising capital through the collective effort of a large number of individual investors.
- ★ This approach taps into the collective efforts of a large pool of individuals, primarily online via social media and crowdfunding platforms and leverages their networks for greater reach and exposure.

Types:

- ★ **Donation-Based Crowdfunding:** Donation-based crowdfunding is a way to source money for a project by asking a large number of contributors to individually donate a small amount to it. In return, the backers may receive token rewards that increase in prestige as the size of the donation increases. For the smallest sums, however, the funder may receive nothing at all.

- ★ **Rewards-Based Crowdfunding:** Rewards-based crowdfund-

ing involves **individuals contributing to a business in exchange for a "reward,"** typically a form of the product or service which company offers. Even though this method offers backers a reward, it's still generally considered a subset of donation-based crowdfunding since there is no financial or equity return.

★ **Equity-Based Crowdfunding:** Unlike the donation-based and rewards-based methods, equity-based crowdfunding allows contributors to become part-owners of the company by trading capital for equity shares. As equity owners, the contributors receive a financial return on their investment and ultimately receive a share of the profits in the form of a dividend or distribution.

Benefits:

★ **Reach** - By using a crowdfunding platform, one has access to thousands of accredited investors who can see, interact with, and share the fundraising campaign.

★ **Presentation** - By creating a crowdfunding campaign, one goes through the invaluable process of looking at the business from the top level—its history, traction, offerings, addressable market, value proposition, with digestible packages.

★ **PR & Marketing** - From launch to close, one can share and **promote the campaign** through social media, email newsletters, and other online marketing tactics.

★ **Validation of Concept** - Presenting the concept or business to the masses affords an excel-

lent opportunity to **validate and refine offering.**

★ **Efficiency** - One of the best things about online crowdfunding is its **ability to centralize and streamline fundraising efforts.**

Rare Diseases

★ A rare disease is a **health condition of low prevalence** that affects a **small number of people** compared with other prevalent diseases in the general population.

★ There is no universally accepted definition of rare diseases and the definitions usually vary across different countries.

★ Though rare diseases are of low prevalence and individually rare, collectively they affect a considerable proportion of the population.

★ 80% of rare diseases are genetic in origin and hence disproportionately impact children.

★ In India there are 56-72 million people affected by rare diseases.

Supreme Court Dismissed Aadhaar Review Petitions

Recently, the Supreme Court (SC) has dismissed petitions seeking a review of its 2018 judgment upholding the constitutional validity of the Aadhaar Act (2016).

Key Points

Background:

★ In 2018, the SC upheld the country's biometric identity system and also cleared mandatory Aadhaar enrolment of recipients of government welfare benefits.

★ The court, in its verdict, had also approved the passage of Aadhaar law by the Parliament as a money bill, which did not require an approval of the Rajya Sabha.

★ Thereafter, **review petitions** were filed against the judgement.

Issue Involved:

★ Whether the decision of the Lok Sabha Speaker under Article 110 (3) of the Constitution to certify a bill as a money bill under Article 110 (1) is final and binding, or can be subject to judicial review.

★ If the decision is subject to judicial review, whether the Aadhaar Act, 2016 has been correctly certified as a money bill.

SC's Ruling:

Majority Decision:

★ Majority of the bench (i.e 4 out of 5) held that "no case for review" of the 2018 judgment was made and dismissed the petitions.

★ The 2019 judgment in Rojer Mathew v South Indian Bank Ltd was not sufficient to press for a reconsideration of the 2018 Aadhaar judgment.

★ **Royer Mathew v South Indian Bank Ltd 2019:** The judgment in this case said that the **speaker's decision was not beyond judicial review** though the scope was extremely restricted.

★ It had also said that the 2018 Aadhaar verdict had not answered conclusively the question as to what constitutes a money Bill under Article 110 (1) and had directed that it be referred to a larger Bench which has not been constituted yet.

★ **Dissenting Judgment:** One of the five judges dissented with the majority view and said that the 2019 judgment questioning the correctness of the Aadhaar verdict was a relevant fact and that the apex court must wait for the larger bench of seven judges to decide these pertinent issues.

★ He also referred to the **Sabarimala case** where a nine-judge Bench in February 2020 had **referred certain questions of law arising in the context of an earlier decision** by a five-judge Bench in September 2019 to a larger Bench while keeping the review petitions pending.

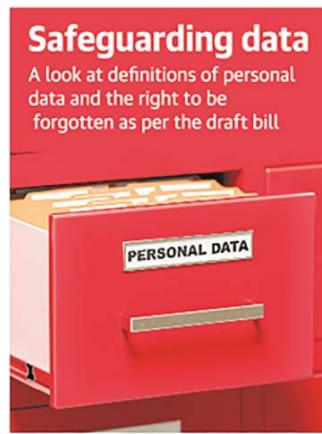
★ He held that it is a constitutional error to hold at this stage that no ground exists to review the judgment and it would have serious consequences not just for judicial discipline, but also for the ends of justice.

★ Final Judgement:

★ Even as one of the five judges on the bench termed it a "constitutional error," the SC by a majority verdict has dismissed a clutch of petitions seeking a review of its 2018 judgment that validated the Aadhaar Act.

Debate on WhatsApp and Privacy

Recently, WhatsApp has updated its policy, which states that it may share information of any of its users with its family of companies (Facebook). This new update has caused a lot of concern over the privacy of the people that use this application.



WHAT IS PERSONAL DATA?

■ Data relating to a natural person who is directly or indirectly identifiable, having regard to any characteristic, trait, attribute or any other feature of the identity of such natural person, or any combination of such features, or any combination of such features with any other information

THE RIGHT TO BE FORGOTTEN

As per the B.N.Srikrishna Committee report on data privacy:

- The right to be forgotten refers to the ability of individuals to limit, delink, delete, or correct the disclosure of personal information on the internet that is misleading, embarrassing, irrelevant, or anachronistic
- Such disclosure may or may not be a consequence of unlawful processing by the data fiduciary. This is because the right flows from the general obligation of data fiduciaries to not only process lawfully, but also in a manner that is fair and reasonable

Privacy experts and antitrust bodies have also raised the alarm at this new privacy policy of WhatsApp. Moreover, Indian users are more vulnerable due to the absence of any data protection law.

As the Supreme court in K. Puttaswamy's judgment held that the right to privacy is a fundamental right, the WhatsApp new policy is yet another reason why India needs data protection law.

Issues Related to New WhatsApp Policy

★ **WhatsApp As the Owner of Data:** The information that WhatsApp automatically collects and will be sharing with Facebook includes the mobile phone number, user activity, and other basic information of the WhatsApp account.

★ WhatsApp's recent privacy policy to share commercial user data with Facebook establishes that it is the owner of the data rather than an intermediary.

★ The policy essentially takes away the choice users had until now to not share their data with other Facebook-owned and third-party apps.

★ **Against the Recommendations of the Srikrishna Committee Report:** The new WhatsApp pol-

icy contradicts the recommendations of the Srikrishna Committee report, which forms the basis of the Data

Protection Bill 2019. For Example:

★ The principle of Data Localisation, which aims to put curbs on the transfer of personal data outside the country, may come in conflict with WhatsApp's new privacy policy.

★ The report stated that using the information for purposes that are reasonably linked to the purpose for which the information was given. However, the updated privacy policy of WhatsApp can be seen as a move to ensure subtle forms of commercial exploitation and micro-targeting by political campaigns (Cambridge Analytica scandal).

★ **Sharing of Metadata:** WhatsApp held that the end-to-end encryption clause remains intact, which will ensure that it can't see your messages or share them with anyone.

★ However, with the updated privacy policy, WhatsApp can now share one's metadata, essentially everything beyond the conversation's actual text.]

Metadata

- ★ It virtually gives a 360-degree profile into a person's online activity.
- ★ This level of insight into a person's private and personal activities is done without any government oversight at present or regulatory supervision.
- ★ **Take it or Leave it' Policy:** If users disagree with the messaging platform's updated privacy policy, they will have to quit WhatsApp when the new terms of service are set to come into effect.

Way Forward

- ★ **Expediting Data Protection Law:** India's data protection law has been languishing for two years now. If India had a data protection law in place, WhatsApp would not have been able to go ahead with this update in the first place.
- ★ For instance, WhatsApp's updated privacy policy guidelines won't be applicable if you live in the European Region thanks to the data protection law (**GDPR**) in place there.
- ★ Therefore, India must expedite the process of finalizing the data protection law.
- ★ Further, India should use the current WhatsApp issue to update the already under-process intermediary guidelines.
- ★ **Public Awareness:** According to many experts, WhatsApp users in India will not care too much about this issue, what with privacy policies being generally difficult to be understood by the public.
- ★ Therefore, the government and civil society must engage in

awareness programs to make the public aware of the importance of digital privacy.

Conclusion

The privacy of a billion citizens is too important a thing to be left just to the practices of a commercial enterprise. It will be reassuring if a strong law guarantees it.

Digital Education can-not Substitute for Real Learning

The Covid-19 outbreak has disrupted children's lives, pushed out many, and stalled classes and examinations across the country. To ensure students do not miss out on studies, schools shifted the classes to online mode.

With the pandemic forcing the teaching and learning process to migrate to the online mode, the education system has faced an upheaval like never before. Many of the students have been left clinging to their phones and computer screens.

However, the 2017-18 National Sample Survey suggested that less than 15% of rural Indian households have Internet as opposed to 42% of their urban counterparts.

Therefore, this shift to the e-learning system has sparked a debate on whether it helped the students to learn or has impeded their progress, social and emotional well-being, and

more importantly if this is indeed education.

Digital Education

- ★ Digital education is the innovative use of digital tools and technologies during teaching and learning and is often referred to as Technology Enhanced Learning (TEL) or e-Learning.
- ★ Exploring the use of digital technologies gives educators the opportunity to design engaging learning opportunities in the courses they teach, and these can take the form of blended or fully online courses and programs.

Technology as a Saviour

- ★ **Flexibility:** Online education enables both the teacher as well as the students to set their own learning pace plus provides the flexibility of setting a schedule that fits everyone's agenda. Consequently, providing a better work-study balance.
- ★ **A Wide Range of Courses:** In a space as vast and wide as the internet, infinite skills and subjects are there to teach and learn.



- ★ A growing number of universities and higher education schools are coming forward to offer online versions of their programs for various levels and disciplines.
- ★ **More Cost-Effective than Conventional Learning:** Lesser monetary investment is there with better results.
- ★ With the online mode of learning, the money spent on study materials along with commute charges is considerably less.
- ★ **A Comfortable Learning Environment:** Online learning allows students to work in the environment that best suits them.

The Other Side of the Coin

- ★ **Lack of a Healthy Learning Environment:** Education is not just about classes but interactions, broadening of ideas, and free-flowing open discussions.
- ★ Students learn more from each other while engaging in challenging collective tasks and thinking together.
- ★ There is substantial learning that is lost when education goes online. Staring at a screen prevents them from using their mind and acting as remote receptors of what is beamed.
- ★ **Lack of Technology Access:** Not everyone who can afford to go to school can afford to have phones, computers, or even a quality internet connection for attending classes online.
- ★ Due to this, the mental stress that students have to undergo is very high.
- ★ **In Contradictory with Right to Education:** Technology is not affordable to all, shifting towards online education com-

- pletely is like taking away the **Right to Education** of those who cannot access the technology.
- ★ Moreover, the **National Education Policy** that talks about the digitization of education is also in contradiction with the right to education.
- ★ **Health - Eye issues:** Younger students, especially in classes 1 to 3 were most likely to suffer from eye-health issues due to staring at the computer or mobile screen for extended periods.
- ★ Other health issues like neck and back pain etc. due to bad posture and lack of movement have been noticed in older students.

Way Forward

- ★ **A Multi-Pronged Approach:** Flexible rescheduling the academic timetable and exploring options in collaboration with schools, teachers, and parents for providing access to education to a larger section of students.
- ★ Staggering teacher-student interactions in physical mode with not more than 50% of the total strength attending schools on alternate days.
- ★ Giving priority to the less advantaged students who do not have access to e-learning.
- ★ Genuine efforts must be invested to ensure every child gets good quality equitable education as a fundamental right.
- ★ **Making Online Education More Effective:** Shorter but quality discussions rather than long hours of monotonous sitting and one-way communication, should be preferred.

★ The teacher's role has to go beyond just being in control of the class to being a facilitator for the transfer of knowledge.

★ **Focussing more on Knowledge Aspect:** Education is not about competence but more about motivation. The students are meant to discover not just cover the syllabus.

★ The system should not just heartlessly push the students and teachers in only finishing the course regardless of any gain of knowledge, stress should be upon quality learning and not quantity cramming.

Conclusion

'Equality of Opportunity' is one of the basic principles of the Indian Constitution. Shifting to a system that benefits only a section of people and leaves behind the neediest ruins the very notion of this statement.

Moreover, digital education is something where India is not successful yet. There is still a lot to do in terms of checking if students' entitlements are not being compromised or in providing meaningful academic curriculum alternatives.

A New Framework around Caste and the Census

Enumerating, describing, and understanding the population of society and what people have access to, and what they are excluded from is important not only for social scientists but also for policy practitioners and the government.

In this regard, the Census of India, one of the largest exercises of its kind, enumerates and collects demographic and socio-eco-

nomic information on the Indian population.

However, the critiques of the exercise of the census consider it as both a data collection effort and a technique of governance, but not quite useful enough for a detailed and comprehensive understanding of a complex society.

In this context, the Socio-Economic and Caste Census (SECC) was conducted in 2011, but it has its own issues.

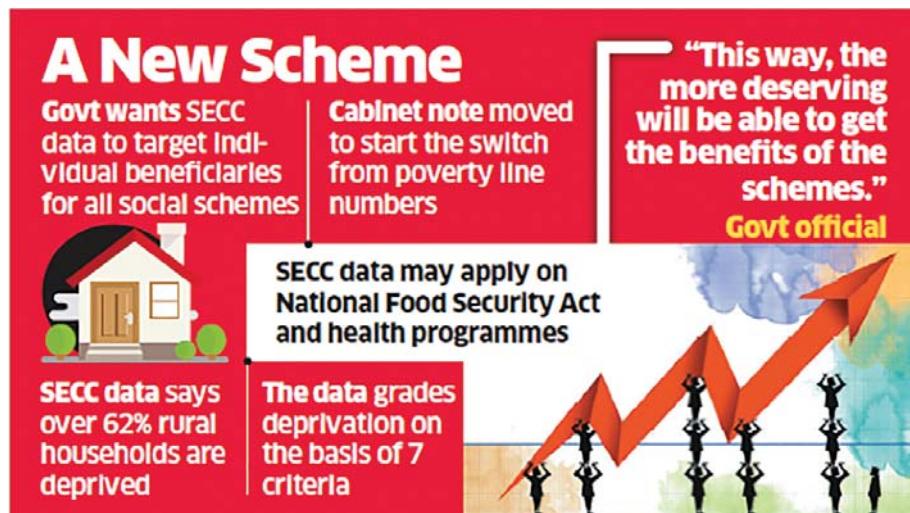
Census, SECC & Difference

Census

- ★ The origin of the Census in India goes back to the colonial exercise of 1881.
- ★ Census has evolved and been used by the government, policymakers, academics, and others to capture the Indian population, access resources, map social change, delimitation exercise, etc.
- ★ However, as early as the 1940s, W.W.M. Yeatts, Census Commissioner for India for the 1941 Census, had pointed out that "the census is a large, immensely powerful, but blunt instrument unsuited for specialized inquiry."

SECC

- ★ SECC was conducted for the first time since 1931.
- ★ SECC is meant to canvass every Indian family, both in rural and urban India, and ask about their:
- ★ Economic status, so as to allow Central and State authorities to come up with a range of indicators of deprivation, permutations, and combinations of which could be used by each



authority to define a poor or deprived person.

- ★ It is also meant to ask every person their specific caste name to allow the government to re-evaluate which caste groups were economically worst off and which were better off.
- ★ SECC has the potential to allow for a mapping of inequalities at a broader level.

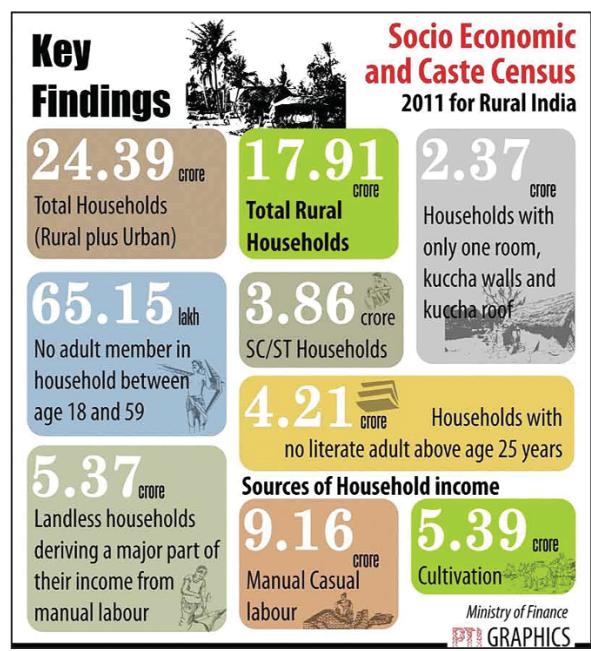
Difference Between Census & SECC

- ★ The Census provides a portrait of the Indian population, while the SECC is a tool to identify beneficiaries of state support.
- ★ Since the Census falls under the Census Act of 1948, all data are considered confidential, whereas according to the SECC website, "all the personal information given in the SECC is open for use by Government

departments to grant and/or restrict benefits to households."

Associated Concerns With SECC

- ★ **Repercussions of a Caste Census:** Caste has an emotive element and thus there exist the political and social repercussions of a caste census.
- ★ There have been concerns that counting caste may help solidify or harden identities.
- ★ Due to these repercussions, nearly a decade after the SECC, a sizeable amount of its data



remains unreleased or released only in parts.

★ **Caste Is Context-specific:**

Caste has never been a proxy for class or deprivation in India; it constitutes a distinct kind of embedded discrimination that often transcends class. For example:

★ People with Dalit last names are less likely to be called for job interviews even when their qualifications are better than that of an upper-caste candidate.

★ They are also less likely to be accepted as tenants by landlords. Thus difficult to measure.

★ Marriage to a well-educated, well-off Dalit man still sparks violent reprisals among the families of upper-caste women every day across the country.

Way Forward

★ **Utilizing Existing Data:** As SECC has its own concerns, linking and syncing aggregated Census data to other large datasets such as the National Sample Surveys may help the governments realize the intended benefits of SECC.

★ National Sample Surveys cover issues that the Census exercises do not, such as maternal health, information of land and asset ownership, consumption expenditure, nature of employment, which would be significant for a more comprehensive analysis.

★ **Digital Alternatives:** Statisticians such as Atanu Biswas point out that Census operations across the world are going through significant changes, employing digital methods that are precise, faster,

and cost-effective.

- ★ However, care must be taken to ensure that digital alternatives and linking of data sources involving Census operations are inclusive and non-discriminatory, especially given the sensitive nature of the data being collected.

Conclusion

While the Census authorities present documents on methodology as part of a policy of transparency, there needs to be a closer and continuous engagement between functionaries of the Census and SECC, along with academics and other stakeholders concerned, since the Census and the SECC are projects of governance as well as of academic interest.

Collegium System for the Appointment of Judges

Recently, the Supreme Court (SC) questioned the government about the delay in

clearing Collegium recommendations for judicial appointments to various High Courts (HC).

Key Points

Collegium System:

- ★ It is the system of appointment and transfer of judges that has evolved through judgments of the SC, and not by an Act of Parliament or by a provision of the Constitution.

Evolution of the System:

First Judges Case (1981):

- ★ It declared that the "primacy" of the Chief Justice of India (CJI)s recommendation on judicial appointments and transfers can be refused for "cogent reasons."

- ★ The ruling gave the Executive primacy over the Judiciary in judicial appointments for the next 12 years.

Second Judges Case (1993):

- ★ SC introduced the Collegium system, holding that "consulta-

A JURY OF JUDGES

WHAT IS THE COLLEGIUM SYSTEM?

- A forum which decides on appointments, transfers (A/Ts) of judges.
- Comprised of Chief Justice of India, 4 Supreme Court Judges
- President merely approves CJI's choice
- Born from 'Three Judges Cases' which gave primacy to CJI's call on A/Ts
- Judiciary gets greater say than Executive on A/Ts

CRITICISMS

- Administrative burden of checking professional background data
- Closed-door affair, lacks transparency
- Exclusivity sidelines talented junior judges, advocates

SOME OF THE CHANGES SOUGHT:

- CJI cannot make unilateral choice
- Consulted judges' views need to be in writing
- Non-compliance must make CJI choice non-binding
- Transfer of Judges reviewable only in case of non-compliance

- tion" really meant "concurrence".
- ★ It added that it was not the CJI's individual opinion, but an institutional opinion formed in consultation with the two senior-most judges in the SC.
 - ★ **Third Judges Case (1998):**
 - ★ SC on President's reference **expanded the Collegium to a five-member body**, comprising the CJI and four of his senior-most colleagues.
 - ★ **The SC collegium is headed by the CJI and comprises four other senior most judges of the court.**
 - ★ **A HC collegium is led by its Chief Justice and four other senior most judges of that court.**
 - ★ Names recommended for appointment by a HC collegium reaches the government only after approval by the CJI and the SC collegium.
 - ★ Judges of the higher judiciary are appointed only through the collegium system and the **government has a role only after names have been decided by the collegium.**
 - ★ **The government's role is limited to getting an inquiry conducted by the Intelligence Bureau (IB)** if a lawyer is to be elevated as a judge in a High Court or the Supreme Court.
 - ★ **Intelligence Bureau (IB):** It is a reputed and established intelligence agency. It is authoritatively controlled by the **Ministry of Home Affairs.**
 - ★ **It can also raise objections** and seek clarifications regarding the collegium's choices, **but if the collegium reiterates** the same names, the government is bound, under Constitution Bench judgments, to appoint them as judges.
- ★ Procedure for Various Judicial Appointments:**
- ★ For CJI:**
- ★ The President of India appoints the CJI and the other SC judges.
 - ★ As far as the CJI is concerned, the outgoing CJI recommends his successor.
 - ★ In practice, it has been strictly by seniority ever since the supersession controversy of the 1970s.
- ★ For SC Judges:**
- ★ For other judges of the SC, the proposal is initiated by the CJI.
 - ★ The CJI consults the rest of the Collegium members, as well as the senior-most judge of the court hailing from the High Court to which the recommended person belongs.
 - ★ The consultees must record their opinions in writing and it should form part of the file.
 - ★ The Collegium sends the recommendation to the Law Minister, who forwards it to the Prime Minister to advise the President.
- ★ For Chief Justice of High Courts:**
- ★ The Chief Justice of High Court is appointed as per the policy of having Chief Justices from outside the respective States.
 - ★ The Collegium takes the call on the elevation.
 - ★ High Court judges are recommended by a Collegium comprising the CJI and two senior-most judges.
 - ★ The proposal, however, is initiated by the outgoing Chief Justice of the High Court concerned in consultation with two senior-most colleagues.
 - ★ The recommendation is sent to the Chief Minister, who advises the Governor to send the proposal to the Union Law Minister.
- ★ Criticism of the Collegium System:**
- ★ Opaqueness and a lack of transparency.
 - ★ Scope for nepotism.
 - ★ Embroilment in public controversies.
 - ★ Overlooks several talented junior judges and advocates.
- ★ Attempts to reform the Appointment System:**
- ★ The attempt made to replace it by a 'National Judicial Appointments Commission' was struck down by the court in 2015 on the ground that it posed a threat to the independence of the judiciary.

Related Constitutional Provisions

- ★ **Article 124(2)** of the Indian Constitution provides that the Judges of the Supreme Court are appointed by the President after consultation with such a number of the Judges of the Supreme Court and of the High Courts in the States as the President may deem necessary for the purpose.
- ★ **Article 217** of the Indian Constitution states that the Judge of a High Court shall be appointed by the President consultation with the Chief Justice of India, the Governor of the State, and, in the case of appointment of a Judge other than the Chief Justice, the Chief Justice of the High Court.

Way Forward

- ★ Filling up of vacancies is a continuous and collaborative process involving the executive and the judiciary, and **there cannot be a time frame for it**. However, it is time to think of a **permanent, independent body to institutionalize the process** with adequate safeguards to preserve the judiciary's independence guaranteeing **judicial primacy** but **not judicial exclusivity**.
- ★ It should ensure **independence, reflect diversity, demonstrate professional competence and integrity**.
- ★ Instead of selecting the number of judges required against a certain number of vacancies, the **collegium must provide a panel of possible names to the President** to appoint in order of preference and other valid criteria.

India Justice Report 2020

The India Justice Report (2020) prepared by the Tata Trusts in collaboration with the Centre for Social Justice, Common Cause, DAKSH, Vidhi Centre for Legal Policy and the Commonwealth Human Rights Initiative has been released recently.

- ★ The Report assesses the capacity of various states to deliver justice.

Key Points

- ★ **About the Report:** The report analysed expenditure, vacancies, representation of women, human resources, infrastructure, workload, diversity across 18 large and medium-sized states with a population of over 1 crore and 7 small states.

Findings:

Overall Ranking:

- ★ The overall ranking is a result of a state's ranking across the four pillars of justice delivery system - Judiciary, Police, Prisons and Legal aid.
- ★ **Maharashtra** was ranked **topmost** among 18 states for the second time in a row, followed by Tamil Nadu and Telangana. **Uttar Pradesh** remains **last**.
- ★ Amongst the **smaller states**, **Goa** remained at the **top** and **Arunachal Pradesh** at the **bottom**.

Women Ratio in Police Force:

- ★ **Bihar** leads the list of 25 states for employing most women in its **police force** which is 25.3%.
- ★ It is the only state to have more than **20% women in the police force**. However, women account for only **6.1% in the officer category**.
- ★ **Tamil Nadu** has the **highest percentage of women police officers** (24.8%), followed by Mizoram (20.1%).

Women Ratio in Judiciary:

- ★ Overall, **only 29% judges in High Courts** across the country are women, but no state **except Sikkim** has over 20% women judges.
- ★ Four states - Bihar, Uttarakhand, Tripura and Meghalaya **have no woman judges in high courts**.

Social Justice:

- ★ **Karnataka** is the only state to meet its quotas for SC, ST and

TOP 10 AMONG 18 STATES WITH POPN OVER 1 CRORE

(Score Out of 10)

1 Maharashtra	(5.77)	
2 Tamil Nadu	(5.73)	
3 Telangana	(5.64)	
4 Punjab	(5.41)	
5 Kerala	(5.36)	
6 Gujarat	(5.17)	
7 Chhattisgarh	(5.13)	
8 Jharkhand	(5.12)	
9 Haryana	(4.94)	
10 Rajasthan	(4.93)	

When it comes to providing legal aid, Maharashtra tops 18 L-M sized states, while Goa ranks best among 7 small states

OBC in both officer cadre and constabulary.

- ★ **Chhattisgarh** being the only other state that meets the diversity requirements for constabulary.
- ★ **Lack of Finances:** In the last 25 years, only **1.5 crore** people have received legal aid with the Centre spending **Rs. 1.05 per capita** in 2019-20.

High Proportion of Undertrials:

- ★ **Two-thirds** of all prisoners are **undertrials** awaiting a conviction.
- ★ A person who is being held in custody awaiting trial for a crime.

Causes of Poor Justice Delivery:

- ★ Legal services institutions remain affected by a lack of infrastructure, uneven human resource distribution, poor utilization of central funds and an inability to effectively harness Lok Adalats to ease the burden on the judiciary.

INTERNATIONAL RELATIONS



Dealing with India's two-front challenge

In the last century, Indian strategic thinking was overwhelmingly focused on Pakistan and the security considerations emanating from there. However, in recent decades India's military intelligentsia is firm on the view that a collusive China-Pakistan military threat is a real possibility.

The Chinese intrusions in Ladakh in May 2020 and the deadlock in negotiations have now made the Chinese military threat more apparent and real. But some media reports had indicated that Pakistan had moved 20,000 troops into Gilgit-Baltistan, matching the Chinese deployments in Eastern Ladakh.

Given this, it would be prudent for India to be ready for a two-front threat.

Growing China-Pakistan Military Links

- ★ The Sino-Pakistan relationship is nothing new, but it has far serious implications today than perhaps ever before.
- ★ China has always looked at Pakistan as a counter to India's influence in South Asia.
- ★ China, through its chequebook diplomacy, wants to exercise this hegemony over the South-Asian neighbours. In this pursuit, China would want to drain India's economic resources on the border confrontation.
- ★ Thus, a two-front war scenario can be a strategy by China to

undermine India's role in its neighbourhood.

- ★ Over the years, the ties between the China & Pakistan countries have strengthened and there is a great deal of alignment in their strategic thinking.
- ★ This can be understood by the fact that China has made massive investments in Pakistan via the **China-Pakistan Economic Corridor**.
- ★ Apart from this, military cooperation is growing, with China accounting for 73% of the total arms imports of Pakistan between 2015-2019.

India & Issues Related to Two-front War Scenario

- ★ **Threat to Regional Peace:** A two-front war scenario that might lead to a full-blown war between three nuclear-armed states.
- ★ **Dilemmas For India:** A two-front conflict presents the Indian military with two dilemmas of resources and strategy.
- ★ **Resources:** A major decision will be the quantum of resources to be allocated for the two-front attack scenario.
- ★ For example, according to some estimates that about 60 combat squadrons are needed to deal with a serious two-front threat. This is double the number of squadrons currently with the Indian Air Force (IAF).
- ★ **Strategy:** If a majority of the assets of the Indian Army and the Indian Air Force are sent

towards the northern border, it will require the military to rethink its strategy for the western border.

- ★ Also, adopting a more offensive strategy against Pakistan could draw limited resources into a wider conflict.
- ★ **Economic Constraints:** Capability building also requires a serious debate, particularly in view of the fact that the country's economic situation will not permit any significant increase in the Defence Budget for the foreseeable future.

Way Forward

- ★ **Requirement of Security Doctrine:** Developing a doctrine will require close interaction with the political leadership. Any doctrine that is prepared without a political aim and guidance will not stand the test when it is actually to be executed.
- ★ **Finding the Right Balance of Technologies:** There is too much focus on major platforms such as aircraft, ships, and tanks, and not enough on future technologies such as robotics, artificial intelligence, cyber, electronic warfare, etc.
- ★ The right balance will have to be struck based on a detailed assessment of China and Pakistan's war-fighting strategies.
- ★ **Crucial Role of Diplomacy:** Diplomacy has a crucial role to play in meeting the two-front challenge.

★ Improving Relations in South Asian Neighbourhood:

Asian Neighbourhood: To begin with, India would do well to improve relations with its neighbours so as not to be caught in an unfriendly neighbourhood given how China and Pakistan will attempt to contain and constrain India in the region.

★ Improving Relations in Extended Neighborhood:

The government's current engagement of the key powers in West Asia, including Iran, should be further strengthened in order to ensure energy security, increase maritime cooperation and enhance goodwill in the extended neighbourhood.

★ Improving Relation With Russia:

India must also ensure that its relationship with Russia is not sacrificed in favour of India-United States relations given that Russia could play a key role in defusing the severity of a regional gang up against India.

★ Improving Condition in Kashmir:

From a long-view perspective, a political outreach to Kashmir aimed at pacifying the aggrieved citizens there would go a long way towards that end.

Conclusion

China, a rising and aggressive and a superpower next door is the bigger strategic threat for India and with Pakistan being a second-order accessory to China's Contain India strategy'. In this context, it is certain that the threat of a two-front war cannot be ignored and therefore we need to develop both the doctrine and the capability to deal with this contingency.

New Indian Missions

The Union Cabinet has approved the opening of 3 Indian Missions in Estonia, Paraguay and Dominican Republic in 2021.

Key Points

Objective:

- To build a conducive environment for India's growth and development through partnerships with friendly countries.

Expected Benefits:

- Opening of Indian Missions in these countries will help expand India's diplomatic footprint, deepen political relations, enable growth of bilateral trade, investment and economic engagements, facilitate stronger people-to-people contacts, bolster political outreach in multilateral fora and help garner support for India's foreign policy objectives.
- Indian missions in these countries will also better assist the Indian community and protect their interests.
- Enhancement of India's diplomatic presence will, inter-alia, provide market access for Indian companies and bolster Indian exports of goods and services.
- This would have a direct impact in augmenting domestic production and employment in line with the goal of a self-reliant India or 'Atmanirbhar Bharat'.

Relations with the 3 Countries:

Estonia:

- It is the northernmost of the three Baltic states.
- Baltic states, northeastern region of Europe containing the

countries of Estonia, Latvia, and Lithuania, on the eastern shores of the Baltic Sea.

- The Baltic region is not rich in natural resources. Though Estonia is an important producer of oil shale, a large share of mineral and energy resources is imported.

- It welcomed the decision saying it would strengthen ties in trade and cybersecurity in particular.

- The decision had been awaited since 2013, when Estonia set up its embassy in Delhi, while India has dealt with it through its embassy in neighbouring Finland.

- India and Estonia will also serve together in the Security Council next year.

- There is significant room for enhanced economic engagement in information technology, cyber security, e-governance and block chain.

- Total bilateral trade in 2018-19 was 172.53 USD million, an increase of 22.5% from 2017-18.

Paraguay:

- It is a landlocked country in south-central South America.
- Rivers provide access to the Atlantic Ocean and serve as sites for the hydroelectric power plants that have made Paraguay one of the world's largest exporters of hydropower.

- Paraguay is a member of MERCOSUR.

- The Southern Common Market (MERCOSUR for its Spanish initials) is a regional integration process, initially established by Argentina, Brazil, Paraguay, and Uruguay and subsequently

joined by Venezuela and Bolivia.

- ★ India has a preferential trade agreement with MERCOSUR.
- ★ It had set up its **mission in Delhi in 2006**.
- ★ For the fiscal year 2018-19, India's exports to Paraguay were valued at USD 161 million, while Paraguay's exports to India were valued at USD 21 million. Soybean oil accounts for over 90% of Paraguay's exports to India.

Dominican Republic:

- ★ It is a **country of the West Indies** that occupies the eastern two-thirds of Hispaniola, the second largest island of the Greater Antilles chain in the **Caribbean Sea**.
- ★ It had set up its mission in Delhi in 2006.
- ★ **India's exports to the Dominican Republic are small but growing.** Bilateral two way trade stands at around **USD 120 million**.
- ★ Main items of **India's exports** are cotton textiles and ready-made garments, drugs and pharmaceuticals, furniture, transport equipment, manufactures of metals, chemicals, plastic and linoleum products, tea, processed foods and marine products.

Gulf Countries Solidarity and Stability Deal

Recently, Gulf states signed a 'solidarity and stability' deal at the 41st Gulf Cooperation Council (GCC) summit held in Al Ula, Saudi Arabia.



Key Points

Background:

Sanctions on Qatar:

- ★ In June 2017, Saudi Arabia and its allies, the United Arab Emirates (UAE), Bahrain and Egypt severed ties with Qatar and imposed a naval, air and land blockade on the country.

Reasons:

- ★ Qatar was charged to be too close to Iran and backed radical Islamist groups.
- ★ The country was alleged to support and fund terror through its support of Iran and Muslim Brotherhood (a Sunni Islamist political group outlawed by both Saudi Arabia and the UAE).

Solidarity and Stability Deal:

- ★ Members of the GCC signed a deal in Al-Ula, Saudi Arabia to remove all the sanctions over Qatar and re-open their land, sea and air borders to Qatar.

- ★ Bahrain, Kuwait, Oman, **Qatar**, Saudi Arabia and UAE are the members of **GCC**.

Reason:

- ★ To unite efforts to promote the Gulf region and to confront challenges that surround them, especially the threats posed by the Iranian regime's nuclear and ballistic missile programme and its plans for sabotage and destruction.

Gulf Cooperation Council

- ★ **GCC** is a political, economic, social, and regional organisation which was established by an agreement concluded in 1981 among Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE in view of their special relations, geographic proximity, similar political systems based on Islamic beliefs, joint destiny and common objectives.
- ★ The structure of the **GCC** consists of the Supreme Council

(the highest authority), the Ministerial Council and the Secretariat General. The Secretariat is located in Riyadh, Saudi Arabia.

India's Relation with Gulf Region

- ★ **India and GCC:** The economic and political relationship of India with the GCC has improved in recent years.
- ★ The friendly relation has been reflected in the bilateral trade of around USD 121 billion and remittances of USD 49 billion from a workforce of over nine million.
- ★ GCC suppliers account for around 34% of India's crude imports.
- ★ **India and Iran:** India has always shared a friendly relationship with Iran. But the India-Iran relation faces one of the most complex phases at all times due to the USA's pressure which has politico-economic impacts.
- ★ In May 2018, the USA abandoned the nuclear deal (Joint Comprehensive Plan of Action) and reinstated economic sanctions against Iran.
- ★ **India and Qatar:** Recently, India's External Affairs Minister met the top leaders of Qatar and discussed strengthening the economic and security cooperation between the two countries.
- ★ India shares a friendly relation with Qatar and even at the time of sanctions on Qatar, India maintained a cordial relation with the oil rich nation.
- ★ **India's Overall Role in the Region:** India has avoided involvement in local or regional disputes in the region, since Indian inter-

ests do not entail power projection but necessitate peace and regional stability.

- ★ The Gulf is among India's **top trading partners**. The **deepening energy interdependence** is marked by growing volumes of energy imports into India. There is also the prospect of substantive investments from the Gulf into the **Indian hydrocarbon sector**.
- ★ The number of Indian **migrant workers in the region** stands at more than **7 million**.
- ★ The expansion of the political engagement has been matched by the **growing security cooperation, especially on counter-terrorism**.
- ★ India and its Gulf partners are also **taking tentative steps towards defence cooperation**.
- ★ For example participation of Saudi Arabia, Oman, Kuwait, and others in **India's mega multilateral Milan Exercise**.

Way Forward

- ★ The Gulf region has historical, political, economic, strategic and cultural significance for India. **India-GCC Free Trade Agreement (FTA)** can provide a boost to the relations.
- ★ It has been assessed that Saudi Arabia is a fading power whereas UAE, Qatar and Iran are emerging as the new regional leaders. **Oman and Iraq will have to struggle to retain their sovereign identities**.
- ★ Thus, **Indian interests would be best served if the stability in the region** is ensured through cooperative security since the alternative, of competitive security options, cannot ensure durable peace.

China's Rising Influence in South Asia

China has held its third multi-lateral dialogue virtually with countries from South Asia to take forward closer cooperation on fighting Covid-19 and coordinating their economic agendas, reflecting a new approach in Beijing's outreach to the region.

Key Points

- ★ **Participating countries:** It brought together every country in the region barring India, Bhutan and the Maldives, and was aimed at "anti-epidemic cooperation and poverty reduction cooperation".
- ★ The recent meeting was attended by all five countries that have taken part in these dialogues: Pakistan, Nepal, Afghanistan, Sri Lanka and Bangladesh.
- ★ All three dialogues have been attended by Pakistan and Nepal.
- ★ **Engagements through other Platforms:** Previously at the July quadrilateral dialogue with Afghanistan, Nepal and Pakistan, China's proposed extending the China-Pakistan Economic Corridor (CPEC) to Afghanistan, as well as taking forward an economic corridor plan with Nepal, called the Trans-Himalayan Multi-dimensional Connectivity Network.
- ★ **Other Initiatives by China to Enhance Engagement in South Asia:** According to the American Enterprise Institute's China Global Investment Tracker, China has committed around 100 billion USD in the economies of Afghanistan,

Bangladesh, the Maldives, Pakistan, Nepal and Sri Lanka.

- ★ China is now the **largest overseas investor** in the Maldives, Pakistan, and Sri Lanka.

Afghanistan:

- ★ Beijing was a part of the trilateral China-Pakistan-Afghanistan foreign ministers dialogue which focuses on facilitating Afghan domestic political reconciliation, enhancing regional connectivity, and improving regional common development.
- ★ The trilateral discussions also agreed to push "forward under the Belt and Road Initiative (BRI)" and "to enhance connectivity by extending the CPEC to Afghanistan".

Bangladesh:

- ★ China and Bangladesh pledged to deepen defense cooperation, especially in the areas of "defense industry and trade, training, equipment and technology."
- ★ China is also the largest arms supplier of the Bangladeshi military, providing 71.8% of weapons from 2008 to 2018.

Bhutan

- ★ It does not have diplomatic relations with China.

Maldives:

- ★ China's relationship with the Maldives is near-exclusively focused on leveraging BRI to develop Maldives as well as to raise Chinese influence there to counter India.

Nepal:

- ★ Chinese President went to Nepal in 2019.

- ★ This was the first visit by a Chinese head of state in 23 years.
- ★ The countries have signed agreements to accelerate Infrastructure building in Nepal and improve connectivity between them.
- ★ Both the countries have also announced the launch of a feasibility study of the China-Nepal cross-border railway.

Sri Lanka:

- ★ Sri Lanka handed over Hambantota port on a 99-year lease to China to repay its loan back to China. Hambantota is geo-strategically located on the Indian Ocean, potentially bolstering Beijing's String of Pearls.

Concerns for India:

Security Concerns:

- ★ Growing cooperation between Pakistan and China.
- ★ Increasing nexus between Nepal and China.
- ★ Acceptance to China-Pakistan Economic Corridor by south Asian countries.

Leadership Roles in South Asia:

- ★ It shows increasing Chinese presence in South Asia and its acceptance by the countries as a torch bearer for the region which India wants for itself.

Economic Concerns:

- ★ Over the past decade, China has replaced India as the major trading partner of several South Asian countries. For instance, the share of India's trade with Maldives was 3.4 times that of China's in 2008. But by 2018, China's total

trade with Maldives slightly exceeded that of India.

- ★ China's trade with Bangladesh is now about twice that of India. China's trade with Nepal and Sri Lanka still lags India's trade with those countries but the gap has shrunk.

Way forward

- ★ India does not have the economic capacity as China. Thus it should cooperate with China for the development of these countries such that fruits of development collectively reach South Asia.
- ★ It should also strongly condemn the plans for extension of the China-Pakistan Economic Corridor.
- ★ Further India should invest in these countries where China falls short and maintain its good will in South Asia and prevent these nations from slipping off from India's influence.

What India should, and shouldn't, do in Nepal

Recently, Nepal has drifted into a political crisis following its Prime Minister (PM) KP Sharma Oli's decision to dissolve Parliament. The Nepalese PM has stated that this decision was on the backdrop of infighting within the ruling Nepalese Communist Party (NCP).

As India's role in the mediation of earlier political crises in Nepal has led to the development of anti-Indian sentiment in Nepal, India has done right by not meddling into Nepal's internal matters.

However, India is apprehensive that political instability in Nepal will expand space for China to intervene in Nepali politics and

shape a government that is favourable to China.

To counter Chinese influence on Nepal, India must pay attention to Nepal's core economic and strategic interests that in the first place pushed Nepal towards China.

Current Issues in India-Nepal Relations

★ Revision of 1950 Treaty:

Nepal has asked for a revision of the 1950 treaty, and India has accepted this.

★ However, the issue remains stuck because Nepal does not clarify how to strike a proper balance between India's security concerns and Nepal's developmental aspirations.

★ Recent Border Issue:

The Kalapani border dispute's question has spoiled popular perceptions in Nepal about India.

★ Taking advantage of this, Nepal's current leadership has taken a unilateral decision to draw new maps which show Kalapani, Lipulekh, and Limpiyadhura belongs to Nepal.

★ As India also claims these positions, this border issue has led to the lowest point in India-Nepal relations history.

★ **Tug of War Between China & India:** Nepal's geo-strategic location (sandwiched between India & China), has created a tug of war between India and China over Nepal.

★ China sees Nepal as a bulwark against the international movement targeting China.

★ For India, Nepal is essential for the region's security, acting as a buffer state.

★ Increasing Chinese Influence:

Sino-Nepali economic ties began to grow in 2015, but in 2018, China's influence in Nepal started to gather momentum.

★ Having played an essential role in the NCP's formation, China came to wield enormous influence over the NCP government.

★ It resulted in China ousting India as Nepal's number one investor.

★ More importantly, Nepal's foreign policy under the NCP government became strongly pro-China.

★ Moreover, this influence can be evidenced by the fact that China has now stepped up its self-assumed role as mediator in the ongoing crisis.

Way Forward

Seeking a friendly regime in the neighbourhood is a recognised norm in the realist world of international relations. India is no exception. Therefore, India should recalibrate its ties with Nepal. In this context:

★ **Demarking Red Lines:** India can improve ties with Nepal by picking up pending controversial issues such as the 1950 treaty, the Kalapani border dispute, and trade and investment matters.

★ However, India should categorically state its position, drawing red lines (security concerns emanating from China) that Nepal should not cross.

★ **Economic Measures:** On trade and investment issues, India needs to be more accommodative. Nepal sells less than \$1 bil-

lion worth of products to India while importing nearly \$8 billion.

★ Even though economies govern trade deficits, India can and must move to remove structural and procedural impediments to the entry of genuine Nepali goods into Indian markets.

★ Also, India should encourage Indian investments in such industries, including hydro-power production, to boost Nepali exports.

★ Completing big development projects such as the Pancheshwar multipurpose project could also be a breakthrough between the two countries.

★ **Cooperation Between Armies:** When it comes to resolving border disputes between the two countries, understanding the armies is vital.

★ In 2015, when India's economic blockade and the political leadership of both countries were at loggerheads, both armies' leadership played a vital role in lifting the talks' blockade and resumption.

★ So, robust army diplomacy between the two countries can substantially contribute to improving bilateral ties.

Conclusion

As no significant development in bilateral relations appears likely during the prevailing uncertainty, India must encourage consolidation of a people-driven polity, and improve its popular profile. This will only help India reclaim its contested strategic space.

India Oman Relations

Recently, a meeting of the India-Oman Strategic Consultative Group (IOSCG) was held with the first high-level official visit from Oman to India since the onset of Covid-19 pandemic.

Key Points

★ Partnership during Pandemic:

India assured assistance to Oman in its requirement for Covid-19 vaccines. India had also facilitated food and medical supplies to Oman during the pandemic.

★ Previously both the countries have expressed satisfaction on the operationalisation of the Air Bubble arrangement between the two countries during covid-19.

★ Air bubbles (travel corridors or travel bubbles) are systems established between two countries that perceive each other to be safe and allow carriers of both the countries to fly passengers either way without any restrictions.

★ **Comprehensive Review:** Both sides reviewed the entire spectrum of India-Oman relationship including in political, energy, trade, investment, defence, security, space, mining, Science & Technology, culture and consular fields.

Background:

★ The two countries across the Arabian Sea are linked by geography, history and culture and enjoy warm and cordial relations, which are attributed to historical maritime trade linkages.

★ While people-to-people contact between India and Oman can be



traced back 5000 years, diplomatic relations were established in 1955 and the relationship was upgraded to Strategic partnership in 2008. Oman has been a key pillar of India's West Asia Policy.

★ **Political Relations:** Visits at the highest level have been exchanged frequently between India and Oman. Ministerial level visits have taken place regularly.

★ The Sultanate of Oman is a strategic partner of India in the Gulf and an important interlocutor at the Gulf Cooperation Council (GCC), Arab League and Indian Ocean Rim Association (IORA) fora.

★ **Defence Cooperation:** The Ministries of Defence of both countries review their relations annually under the aegis of Joint Military Cooperation Committee meeting.

★ India and Oman conduct regular biennial bilateral exercises between all three services.

★ Army exercise: Al Najah

★ Air Force exercise: Eastern Bridge

★ Naval Exercise: Naseem Al Bahr

★ Since 2008, Oman has been extending its support to Indian

Navy's anti-piracy missions and Indian Naval Ships are regularly welcomed by Oman for Overseas Deployments.

★ **Economic & Commercial Relations:**

India accords a high priority to expanding its economic and commercial ties with Oman. Institutional mechanisms like Joint Commission Meeting (JCM) and Joint Business Council (JBC) oversee economic cooperation between India and Oman.

★ The bilateral trade and investment between India and Oman remain robust and buoyant.

★ India is among Oman's top trading partners.

★ For Oman, India was the 3rd largest (after UAE and China) source for its imports and 3rd largest market (after UAE and Saudi Arabia) for its non-oil exports in 2018.

★ Major items of India's exports to Oman include mineral fuels, mineral oils and products of their distillation; boilers, machinery and mechanical appliances; articles of iron or steel; electrical machinery and equipment, textiles and garments, chemicals, tea, coffee, spices etc

- ★ Main items of India's imports from Oman include fertilizers; mineral fuels, mineral oils and products of their distillation; bituminous substances etc.
- ★ Indian financial institutions such as State Bank of India, Public Sector Undertakings such as Air India, Life Insurance Corporation(LIC), have presence in Oman. Indian companies have invested in Oman in sectors like iron and steel, cement, fertilizers, textile etc.
- ★ India-Oman Joint Investment Fund (OIJIF), a JV between State Bank of India and State General Reserve Fund (SGRF) of Oman, a special purpose vehicle to invest in India, has been operational.
- ★ **Access to Duqm Port:** Oman has allowed India, including its navy, access to its Duqm port, about 550 km south of the capital Muscat. The Port of Duqm SEZ is earmarked to be the Indian Ocean's largest deep-sea port.
- ★ An agreement to develop Little India, an integrated tourism complex project in Duqm worth 748 million USD, has been signed between the two countries.
- ★ **Cultural Cooperation:** India and Oman have close cultural relations. The vibrant Indian expatriate community in Oman regularly hosts cultural performances and invites celebrity artists and singers from India.
- ★ **Indian Community in Oman:** The large, diverse and highly regarded expatriate Indian community in Oman is spread over the entire spectrum of

professions. Thousands of Indians are working as doctors, engineers,etc.

- ★ There are many Indian schools offering CBSE syllabus catering to the educational needs of about 45,000 Indian children.

Way Forward

- ★ India does not have enough energy resources to serve its current or future energy requirements. The rapidly growing energy demand has contributed to the need for long term energy partnerships with countries like Oman.
- ★ Oman's Duqm Port is situated in the middle of international shipping lanes connecting East with West Asia.
- ★ India needs to engage with Oman and take initiatives to utilise opportunities arising out of the Duqm Port industrial city.

Reframing India's Foreign Policy priorities

Like any other country, India's foreign policy envisages to widen its sphere of influence, enhance its role across nations, and make its presence felt like an emerging power. The year 2021 presents a bunch of challenges and opportunities in pursuit of fulfilling foreign policy objectives.

For instance, the rise of China and its influence in India's neighbourhood is a cause of worry for India. Moreover, concluding the negotiations for an EU-China Comprehensive Agreement on Investment debunks the myth of Chinese isolation after Covid-19 pandemic and further strengthened China's position.

Moreover, India's foreign policy decisions like growing convergence with the US have led to weakening its links with traditional friends like Russia and Iran.

Therefore, in shifting the balance of power in the region, India needs to tackle foreign policy challenges and leverage opportunities carefully.

Challenges in Front of India

- ★ **A Stronger China:** China is the only major country that had a positive growth rate at the end of 2020, and its economy is poised to grow even faster in 2021.
- ★ Militarily, China has further strengthened itself and now seeks to dominate the Indo-Pacific Ocean with its announcement of its third aircraft carrier's launch in 2021.
- ★ In this context, any breakthrough in Sino-Indian relations is unlikely to occur, and the confrontation between Indian and Chinese armed forces is expected to continue.
- ★ **Growing Russia-China Axis:** Russia is beginning to display more significant interest in its periphery's affairs. Moreover, the sanctions imposed on Russia after Crimea's annexation in 2014 has pushed Russia towards a tighter embrace of China.
 - ★ This seems to signal reduced interest in countries such as India.
 - ★ Also, India's closeness to the U.S. has weakened its links with traditional friends such as Russia and Iran.
- ★ **Changing Middle East Equations:** The US-brokered rapprochement between Israel and

four Arab countries — the UAE, Bahrain, Morocco and Sudan — reflected the changing landscape in the region.

- ★ However, despite the hype surrounding **Abraham Accords**, the situation remains fluid and has not reduced the risk of a confrontation between Iran and Israel.
- ★ Given the region's strategic flux, Iran could well be tempted to use its nuclear capability to enhance its position.
- ★ This does pose problems for India since both have relations with it.
- ★ **Self-Imposed Isolation of India:** Currently, India remains isolated from two important supranational bodies of which it used to be a founding member, viz., the Non-Aligned Movement (NAM) and the South Asian Association for Regional Cooperation (SAARC).
- ★ Moreover, India has opted out of the Regional Comprehensive Economic Partnership (RCEP).
- ★ This self-imposed isolation doesn't synergise with India's aspiration of becoming a global power.
- ★ **Weakening Ties with Neighbors:** A more worrying concern for Indian foreign policy is weakening ties with the neighbours.
- ★ This can be seen from instances like China's Cheque Book Diplomacy vis-a-vis Srilanka, strain in relation with Bangladesh on NRC issue and recent border controversy with Nepal due to the release of the new map.

Way Forward

- ★ **Neighbourhood First:** Through a series of diplomatic efforts, India should make valiant

efforts to improve relations with some of its neighbours such as Bangladesh, Myanmar and Sri Lanka,

- ★ In this context, as the world emerges from the pandemic, India has a lot to gain from what could be "**vaccine diplomacy**" with neighbours in 2021 — supplying vaccines either free or at affordable costs.
- ★ **External Aid in Adequate Measure:** The current standoff with China has reinforced JL Nehru's belief in 1963 that India needs "**external aid in adequate measure**".
- ★ In this context, India will need continuing support from the US, Japan, Australia, besides European leaders such as France, Germany and the UK.
- ★ India should appreciate European entry into Indo-pacific narrative, as already, France and Germany have come up with their Indo-Pacific strategy.
- ★ **India at UNSC High Table:** As India enters the UN Security Council as a **non-permanent member** for the eighth time, India should raise all-important global matters like China's aggressiveness— from Tibet to Taiwan, Iran-Saudi rivalry, refugee crisis between Bangladesh and Myanmar, etc.
- ★ India should refrain from a limited focus on isolating Pakistan, as it would distract from India's aspirations of being a global leader.
- ★ **Engaging With US:** As the future of **Quad** and the **Indo-Pacific strategy** relies on the new US administration, India will need to build on its deepening strategic and defence ties with the US and resolve trade and visa issues.

Conclusion

In the light of the changing actualities of the international situation, India must cautiously play foreign policy, if it wants to emerge as a global rather than an aspirational player.

Russia Pulls Out Of Open Skies Treaty

Recently, Russia pulled out of the Open Skies Treaty (OST) citing earlier withdrawal of the USA from the treaty.

- ★ According to Russia, provisions of the pact that allows unarmed surveillance flights over member countries had been seriously compromised by the withdrawal of the United States.
- ★ This move was made after the **USA pulled out of the Open Skies Treaty** in November 2020, arguing that Russian violations made it untenable for the United States to remain a party.

Key Points

Reasons for USA Withdrawal:

- ★ **Russia's continuous non compliance:** The USA had for over a decade accused Russia of non-compliance with OST protocols, blaming Moscow of obstructing surveillance flights on its territory, while misusing its own missions for gathering key tactical data.
- ★ **OST misused to claim Ukrainian region:** The USA also accused Russia of designating an airfield in the annexed Crimean Peninsula as an Open Skies refueling base as an illegal attempt by Russia to cement its claim to the Ukrainian region.

★ **Risk to critical infrastructures:** Russia misused its flights over the USA and Europe to identify critical infrastructure for potential attack in a time of war.

Reasons for Russia Withdrawal:

★ **USA limiting OST:** Russia defends its non compliance with the OST to allow flights over Kaliningrad (Russian enclave in Eastern Europe that lies between NATO allies Lithuania and Poland) citing the example of the US imposing similar limits on flights over Alaska.

★ **No assurance from NATO members:** After USA withdrawal from OST, Russia did not get the sought assurance from North Atlantic Treaty Organization (NATO) allies who continued to remain on the treaty that they would not transfer data collected by their flights over Russia to Washington (USA).

Significance:

★ **For European NATO members:** Russia's departure could adversely impact Washington's European allies, which rely on OST data to track Russian troop movements in the Baltic region.

★ **Departure from Arms control treaties:** The failure of the Open Skies Treaty follows the demise of another significant arms control accord, the Intermediate-Range Nuclear Forces (INF) Treaty, after both the US and Russia left it in 2019. This treaty aimed at eliminating their stocks of intermediate-range and shorter-range (or "medium-range") land-based missiles which could carry nuclear warheads.

★ Withdrawal of the USA and Russia from OST has further deepened doubts on extension of the New START treaty, which expires in February, 2021.

★ **For India:** Growing mistrust between global powers could make it difficult for India to maintain good mutual relationships with both the countries if the hostility escalates in future.

Reclaiming SAARC from the Ashes of 2020

The year 2020 marked the sixth year since the leaders of the eight nations that make up the South Asian Association for Regional Cooperation (SAARC) were able to meet.

India's problems with Pakistan on terrorism, territorial claims, and its role in blocking SAARC initiatives on connectivity and trade are the main reasons that even after thirty-six years of its formation, SAARC appears to be a defunct body.

However, if India aspires to become a global power, it must keep its neighbourhood peaceful, prosperous and supportive. In this context, reviving SAARC becomes very important.

Need For Reviving SAARC

★ **Regional Disconnect:** Over the past year, India-Pakistan issues have impacted other meetings of SAARC. This makes it easier for member countries and international agencies, to deal with South Asia as a fragmented group rather than a collective one.

★ No other regional power is as disconnected from its immediate neighbourhood as India.

★ This disconnect is a challenge to India's economic and security interests.

★ **Impact of Covid-19:** The impact of Covid-19, is a growing distaste for 'globalisation' and growing preference for nativism, self-dependence and localising supply chains.

★ While it will be impossible for countries to entirely cut themselves off from the global market, regional initiatives will become the golden mean between globalisation and hyper-nationalism.

★ Moreover, reviving SAARC is crucial to countering the common challenges brought about by the pandemic.

★ According to a World Bank report, the South Asian countries are expected to lose nearly about 10.77 million jobs and \$52.32 billion in GDP alone from the impact of the pandemic.

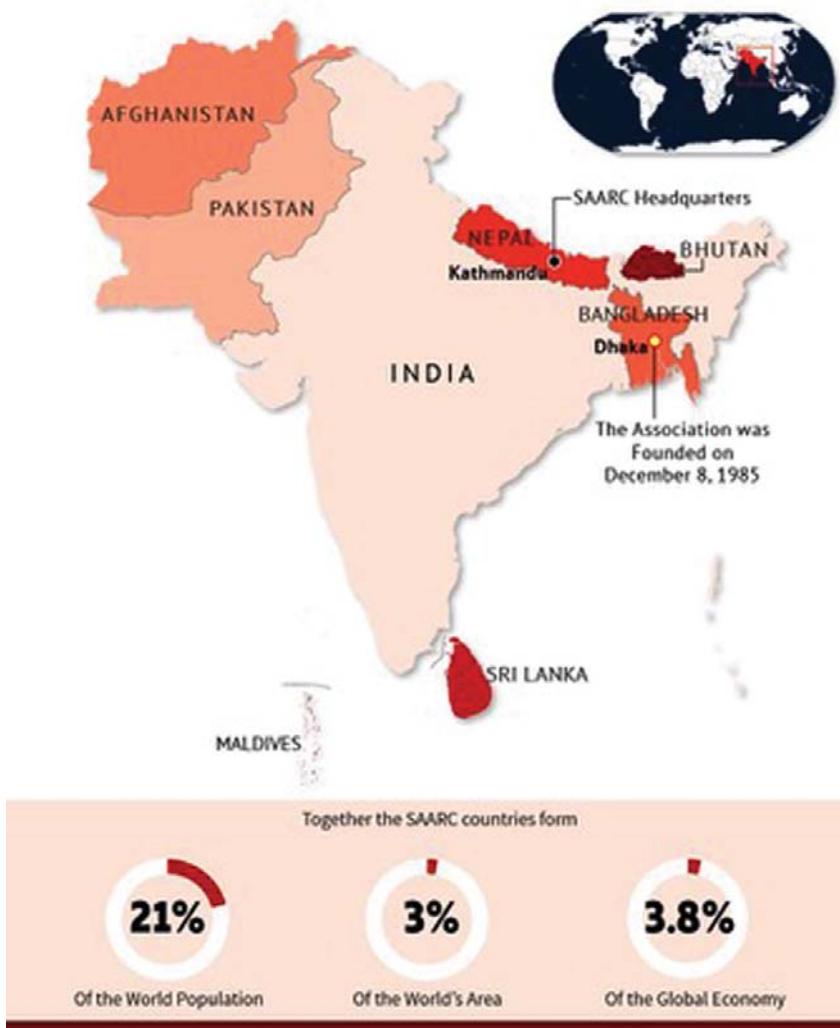
★ **Dealing With China:** It is clear that tensions with Pakistan and Nepal amplify the threat perception from China, while other SAARC members (minus Bhutan), all of whom are **Belt and Road Initiative (BRI)** partners of China will be hard placed to help individually.

★ Also, in the current pandemic, China is sending medicines, personal protective equipment kits, and promising vaccines to most SAARC countries as part of its "**Health Silk Road**" initiative.

★ Therefore, in dealing with China's challenge, both at India's borders and in its neighbourhood, a unified South Asian platform remains India's most potent countermeasure.



SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION (SAARC)



Way Forward

★ Engaging With Pakistan:

China's incursions in Ladakh doesn't stop India to attend meetings with the Chinese leadership at the SCO, the Russia-India-China trilateral, the G-20.

★ Therefore, it is misplaced that India applies the same logic, for not engaging with Pakistan. India must understand that engagement with Pakistan is

very crucial for the revival of SAARC.

★ **Application of Gujral Doctrine:** India's conduct of foreign relations with immediate neighbours should be guided by the **Gujral Doctrine**.

★ In this present context of Covid-19 pandemic, India can apply Gujral doctrine by pursuing Vaccine diplomacy with SAARC countries, whereby

India can supply vaccines either free or at affordable costs and counter future pandemics.

- ★ **All-of South Asia Approach:** South Asian countries need to work as a collective to set common standards and promote a more intra-regional, transnational approach towards health security, food security, and job security.
- ★ In this context, India can follow the European model of regional integration.
- ★ Moreover, India can strengthen its position as an education hub for students from its neighbourhood. This will help to form closer political ties and spread its cultural influence and values to the surrounding region.
- ★ **Regional Development:** Being the biggest economy in South Asia, India can carry out infrastructure projects to improve connectivity, including the laying of new pipelines, building electricity networks, upgrading port, rail, and airport infrastructure, and reinvigorating people-to-people exchanges.

Conclusion

India must find its prism to view its South Asian neighbourhood having a shared future and acting as a force-multiplier for India's ambitions on the global stage.

India-Nepal Joint Commission Meet

Recently, the 6th India-Nepal Joint Commission meeting was held where in Nepal raised the Kalapani boundary dispute

with India. The two sides also discussed cooperation in a range of areas, including power, oil and gas, water resources, capacity building and tourism among others.

- ★ India distanced itself from discussing the matter at the Joint Commission level as there is a dedicated Foreign Secretary-level mechanism to discuss boundary disputes.

Key Points

- ★ Nepal's requirement for vaccines to fight the Covid-19 pandemic was discussed as it has approved Serum Institute of India's (SII) Covishield vaccine.
- ★ Both the delegations reviewed the development partnership and discussed the benefit of the Integrated Check Posts (ICP) at Birgunj and Biratnagar (Nepal). The Posts have helped in seamless movement of people and trade between the two countries.
- ★ Third and Fourth ICP at Nepalganj and Bhairahawa respectively to be started.
- ★ India to build two cultural heritage projects in Nepal on the 'Pashupatinath Riverfront Development' and the 'Bhandarkhal Garden Restoration in Patan Durbar' through grant assistance.
- ★ Nepal's Foreign Minister also delivered a speech in Indian Council of World Affairs (ICWA).
- ★ The Indian Council of World Affairs was established in 1943 as a think tank. It is devoted exclusively for the study of international relations and foreign affairs. The Vice President of India is the ex-officio President of ICWA.

India - Nepal Relations

- ★ **Historical Ties:** Nepal is an important neighbour of India and occupies special significance in its foreign policy because of the geographic, historical, cultural and economic linkages/ties that span centuries.
- ★ India and Nepal share similar ties in terms of Hinduism and Buddhism with Buddha's birthplace Lumbini located in present day Nepal.
- ★ The two countries not only share an open border and unhindered movement of people, but they also have close bonds through marriages and familial ties, popularly known as Roti-Beti ka Rishta.
- ★ The India-Nepal Treaty of Peace and Friendship of 1950 forms the bedrock of the special relations that exist between India and Nepal.
- ★ Importance for India can be studied from two different angles: a) their strategic importance for India's national security; and b) their place in India's role perception in international politics.
- ★ Rivers originating in Nepal feed the perennial river systems of India in terms of ecology and hydropower potential.
- ★ **Trade and Economy:** India is Nepal's largest trade partner and the largest source of foreign investments, besides providing transit for almost the entire third country trade of Nepal.

Connectivity:

- ★ Nepal being a landlocked country, it is surrounded by India from three sides and one side

is open towards Tibet which has very limited vehicular access.

- ★ India-Nepal has undertaken various connectivity programs to enhance people-to-people linkages and promote economic growth and development.
- ★ MOUs have been signed between both the governments for laying electric rail track linking Kathmandu with Raxaul in India.
- ★ India is looking to develop the inland waterways for the movement of cargo, within the framework of trade and transit arrangements, providing additional access to sea for Nepal calling it linking Sagarmatha (Mt. Everest) with Sagar (Indian Ocean).

Defence Cooperation

- ★ Bilateral defence cooperation includes assistance to Nepalese Army in its modernization through provision of equipment and training.
- ★ The Gorkha Regiments of the Indian Army are raised partly by recruitment from hill districts of Nepal.
- ★ India from 2011, every year undertakes joint military exercise with Nepal known as Surya Kiran.

Cultural

- ★ There have been initiatives to promote people-to-people contacts in the area of art & culture, academics and media with different local bodies of Nepal.
- ★ India has signed three sister-city agreements for twinning of Kathmandu-Varanasi, Lumbini-Bodhgaya and Janakpur-Ayodhya.

★ **Humanitarian Assistance:** Nepal lies in a sensitive ecological fragile zone which is prone to earthquakes, floods causing massive damage to both life and money, whereby it remains the biggest recipient of India's humanitarian assistance.

★ **Multilateral Partnership:** India and Nepal share multiple multilateral forums such as BBIN (Bangladesh, Bhutan, India, and Nepal), BIMSTEC (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation), Non Aligned Movement, and SAARC (South Asian Association for Regional Cooperation) etc.

Issues & Challenges

★ **China's Intervention:** As a landlocked nation, Nepal depended for many years on Indian imports, and India played an active role in Nepal's affairs.

★ However, in recent years, Nepal has **drifted away from India's influence**, and China has gradually filled the space with investments, aid and loans.

★ China considers Nepal a key partner in its **Belt and Road Initiative** (BRI), and wants to **invest in Nepal's infrastructure** as part of its grand plans to boost global trade.

★ Rising Nepal and China cooperation can undermine Nepal's distinction of **buffer state** between India and China.

★ China on the other hand wants to avoid the formation of any **Anti-China stance by the Tibetans living in Nepal**.

Border Dispute:

★ The issue erupted in November 2019 when Nepal

had released a new political map that claims **Kalapani, Limpiyadhura and Lipulekh of Uttarakhand as part of Nepal's territory**. The area of **Susta** (West Champaran district, Bihar) can also be noted in the new map.

Way Forward

- ★ India should negotiate diplomatically to resolve the boundary dispute with Nepal under the aegis of **International law on Trans-boundary Water Disputes**. In this case, boundary dispute resolution between **India and Bangladesh should serve as a model**.
- ★ India should engage more proactively with Nepal in terms of **people to people engagement, bureaucratic engagement as well as political interactions**.
- ★ Mere **differences shall not turn into disputes** and both the countries should resolve the issues peacefully.

The diaspora dilemma



Recently, India celebrated the 16th annual Pravasi Bharatiya Divas. It is an occasion to reach out to India's vast diaspora, celebrate their achievements, connect them to their roots, and provide a framework for the diaspora's engagement with India's development story.

The diaspora's ability to spread Indian soft power, lobby for

India's national interests, and contribute economically to India's rise is now well-recognized.

However, in order to leverage this diaspora dividend, India needs to conduct diplomacy keeping in mind the sensitivities involved.

Importance of Indian Diaspora

- ★ **Enhancing India's Soft Power:** Indian diaspora is one of the richest minorities in many developed countries. Their advantage is evident in "diaspora diplomacy", whereby they act as "bridge-builders" between their home and adopted countries.
- ★ For example, **Indo-US Civil Nuclear Deal** is a case in point, as ethnic Indians in the United States successfully lobbied for the signing of the Nuclear Deal.
- ★ Further, the Indian diaspora is not just a part of India's soft power, but a fully transferable political vote bank as well.
- ★ Also, many people of Indian origin hold top political positions in many countries, which enhances India's political clout at multilateral institutions like the United Nations.
- ★ **Economic Contribution:** Remittances sent by the Indian diaspora have positive systemic effects on the balance of payments, which help to bridge a wider trade deficit. Also, India is the highest receiver of remittances in the world.
- ★ The migration of less-skilled labor (especially to West Asia) has helped in bringing down disguised unemployment in India.
- ★ Further, the migrant workers facilitated the flow of tacit information, commercial and

business ideas, and technologies into India.

Issues Related to Indian Diaspora

- ★ **Role of Diaspora in Indian Democracy:** Indian diaspora is a non-homogeneous group and it has different demands from the Indian Government. This also leads to negative campaigning and foreign funding.
- ★ It is due to this, these demands are in conflict with the policies of the Indian government. This can be seen in the recent demonstration in support of farmers' protests.
- ★ In the past, many groups of the Indian diaspora demanded nullification of Article 370 in Kashmir, the Citizenship (Amendment) Act, the National Register of Citizens (NRC).
- ★ **Impact of Covid-19:** Covid-19 has triggered an anti-globalization wave, whereby many migrant workers had to return to India and now facing restrictions regarding emigration.
- ★ This has led to economic hardship for both the Indian diaspora and the Indian economy.
- ★ **Turmoil In West Asia:** Despite the hype surrounding the peace deal with Israel & the four Gulf countries (**Abraham Accords**), the situation in West Asia remains fluid due to prevailing tensions between Saudi-Arabia & Iran.
- ★ The event of any war will lead to a massive return of Indian nationals, curtailing remittances, and making demands on the job market.
- ★ **Regulatory Cholesterol:** There are many inadequacies of the Indian system for the diaspora

to collaborate with India or to invest in the country.

- ★ For example, grievances like red tape, multiple clearances, distrust of government are acting as hindrances in fulfilling opportunities presented by the Indian Diaspora.

Way Forward

- ★ **Transparency in Policy Matters:** Social media tools have made it easy and inexpensive for the Indian Diaspora to stay in touch with family and friends back home, and their link to India has never been stronger.
- ★ It is time that the Indian government leveraged this strong bond for the greater good of the nation, by following utmost transparency in all policy decisions.
- ★ **Need For Evacuation Policy:** There is a need for a strategic diaspora evacuation policy from conflict zones in a world where crises materialize without warnings and give very little reaction time for governments.
- ★ **Improving Ease of Doing Business:** Improvement in **ease of doing business** will go a long way in enabling investments from the Indian diaspora.
- ★ India's foreign policy aims to translate partnerships to benefits for key projects like Swachh Bharat, Clean Ganga, Make In India, Digital India, and Skill India, the diaspora has plenty of scope to contribute.

Conclusion

The institutionalization of "diaspora diplomacy" is a distinct indication of the fact that the

Indian diaspora community has become considerably more important as a subject of interest for foreign policy and associated government activities.

China's New Villages in Arunachal Pradesh

Recently, there have been reports of Chinese construction of three villages in Arunachal Pradesh 5 kilometres from the Bum La pass.

- ★ **Bum La Pass is one of the four officially agreed BPM (Border Personnel Meeting) points** between the Indian Army and the People's Liberation Army of China.
- ★ Earlier in 2020, China had begun work on a strategically significant railway line that will link Sichuan province with Nyingchi in Tibet, which lies close to Arunachal Pradesh border.

Key Points

- ★ **About the New Village built Last Year:**
 - ★ The satellite images, dated November 2020, show that a full-fledged village has been **built on the banks of the River Tsari Chu** in the Upper Subansiri district of Arunachal Pradesh.
 - ★ The village is located a couple of kilometres across the **Line of Actual Control (LAC)**.
 - ★ China had earlier built a **permanent construction of military barracks in this area**.
 - ★ The area has been **under Chinese control since 1959**.
 - ★ It is at least 2 km south (in Indian territory) of the **McMahon Line**, which

China doesn't recognise. After the **1962 war**, India stopped patrolling the area.

- ★ China considers the **McMahon Line illegal and unacceptable** claiming that Tibetan representatives who had signed the 1914 Convention held in Shimla which delineated the McMahon line on the map were not having rights to do so.

★ Other Spots of Disagreement:

- ★ There are close to **two dozen spots along the entire length of the Line of Actual Control (LAC)** in all sectors where India and China do not agree on its alignment.

★ Line of Actual Control: It is divided into **three sectors**:

- ★ The **eastern sector** which spans Arunachal Pradesh and Sikkim (1346 km).
- ★ The **middle sector** in Uttarakhand and Himachal Pradesh (545 km).
- ★ The **western sector** in Ladakh (1597 km).
- ★ The alignment of the LAC in the eastern sector is **along the 1914 McMahon Line**.

★ Case of Arunachal Pradesh:

India's claim line is different from that of the LAC. It is the line seen in the official boundary marked on the maps as released by the Survey of India, including Aksai Chin (occupied by China). The state of Arunachal Pradesh is an 'integral and inalienable' part of India.

- ★ In China's case, LAC corresponds mostly to its claim line, but in the eastern sector, it claims the entire Arunachal Pradesh as South Tibet.

★ China's Intention:

The con-



struction of the village has been seen by analysts as a move to bolster China's claim to the area, and part of a broader recent push by China to build civilian settlements in disputed frontier areas, which it has also done with Bhutan.

Implications on India:

★ **Security Concerns:** A village near the border will largely improve the efficiency and convenience of military personnel and material transportation and logistical supplies in the border area.

★ In situations of direct standoff near Arunachal Pradesh border, as was seen during Doklam or recent Ladakh standoff, China might be at an advantageous position.

★ **Doklam Issue:** Indian troops intervened to block the path of Chinese soldiers engaged in building road-works on the Doklam plateau of Bhutan's territory that Beijing laid claim.

★ Recent Steps Taken by India:

- ★ India will spend 10% funds of the **Border Area Development**

Programme (BADP) only to improve the infrastructure along the China border.

★ The Border Roads Organisation (BRO) constructed the **Daporijo bridge** over Subansiri river in Arunachal Pradesh in a record span of just 27 days.

★ It links roads leading upto the LAC between India and China.

★ Recently the Defence Minister virtually laid the foundation of a **tunnel at Nechiphu in West Kameng district of Arunachal Pradesh**.

★ It will **shorten travel time for troops** till the LAC through Tawang, which China claims to be its territory.

★ The BRO is already **constructing an all-weather tunnel under the Se La pass in Arunachal Pradesh** which connects Tawang to the rest of Arunachal and Guwahati.

★ The state government of Arunachal Pradesh has advocated **selection of 10 census towns along the India-China border** as pilot projects for infrastructure development in order to stop people living along its international borders,

specifically with China, from migrating to faraway urban centres in the State.

- ★ Recently, the Defence Minister inaugurated the Sisseri River Bridge located at lower Dibang Valley in Arunachal Pradesh connecting Dibang Valley and Siang.
- ★ In 2019, the Indian Air Force inaugurated resurfaced runway at India's easternmost Village-Vijaynagar (Changlang district) in Arunachal Pradesh.
- ★ In 2019, the Indian Army conducted exercise 'HimVijay' in Arunachal Pradesh and Assam with its newly created Integrated Battle Groups (IBG).
- ★ Bogibeel bridge, which is India's longest road-rail bridge connecting Dibrugarh in Assam to Pasighat in Arunachal Pradesh was inaugurated in 2018.
- ★ It will facilitate quicker movement of troops and equipment to areas near the India-China border.

Way Forward

- ★ India needs to be vigilant enough for any new development in China near its border to protect its interests efficiently. Further, it needs to build robust Infrastructure in difficult border areas in its territory to ensure movement of personnel and other logistical supplies in an efficient manner.

Digital Copyright Payments

Recently, Google has signed a deal with a group of French publishers to make digital copyright payments for online news content.

- ★ A similar tussle is ongoing between the Australian government and global tech plat-

forms (google and face book) over the sharing of royalties with news publishers.

Key Points

- ★ **About the Google-French Deal:**
- ★ France became the first country to enshrine the European Union copyright rules into national law. This brought into effect 'neighbouring rights' law.
- ★ **Neighbouring Rights:** According to the World Intellectual Property Organization (WIPO), neighboring rights protect the legal interests of certain persons and legal entities that contribute to making works available to the public or that produce subject matter which, while not qualifying as works under the copyright systems of all countries, contains sufficient creativity or technical and organizational skill to justify recognition of a copyright-like property right.
- ★ The newly adopted EU directive ensures that media are paid for original content, typically news, offered online by tech giants such as Google and Facebook.
- ★ Under the new law, Google was forced to negotiate to pay the publishers and news agencies for reusing their material online.
- ★ **European Union Copyright Rules:**
- ★ It wants to create a comprehensive framework where copyrighted material, copyright holders, publishers, providers and users can all benefit from clearer rules, adapted to the digital era. The focus is on three main objectives:
- ★ **Wider opportunities** to use copyrighted material for education, research and preservation of cultural heritage.
- ★ **More cross-border and online access** for citizens to copyright-protected content.
- ★ **Fairer rules** for a better-functioning of copyright marketplace which stimulate creation of high-quality content.
- ★ **Issues in Australia:** Google has threatened to remove its search engine from the country, and Facebook has said it could block Australian users from posting or sharing news links if proposed norms on royalty payments are rolled out.
- ★ **Royalty payment:** A royalty is a **legally-binding payment** made to an individual, for the ongoing use of his or her originally-created assets, including copyrighted works, franchises, and natural resources.
- ★ **The argument made by the global tech companies is that:**
- ★ The Australian media industry is already benefiting from traffic being routed to them by each of the digital platforms.
- ★ The new rules proposed by the Australian authorities would expose them to unmanageable levels of financial and operational risk.
- ★ Hefty fines proposed by authorities are being seen as an added disincentive.
- ★ The **fundamental difference** in the approach taken by the French and Australian authorities on the issue is that France specifically linked payments to copyright, without putting a forcing device into the agreements like in Australia.

- ★ **Significance for India:** Digital technologies have transformed the way creative content is produced, distributed and accessed.
- ★ The new EU Directive and ongoing Copyright royalty tussle in Australia brings to light the need for updating the copyright rules across the world including India to sync policies and laws to enable Digital copyright payments for its content creators too.
- ★ According to a FICCI-EY report, in India's media and entertainment sector for 2020, there are **300 million users of online news sites**, portals and aggregators in the country.
- ★ With **282 million unique visitors**, India is the **world's second largest** online news consuming nation after China.
- ★ **Draft Copyright (Amendment Rules), 2019** is a positive step in securing interests of Indian content creators and users
- ★ **Existing Copyright Laws in India:** The copyright regime in India is governed by the Copyright Act, 1957 and the Copyright Rules, 2013.
- ★ The Copyright Rules, 2013 were last amended in 2016 through the Copyright Amendment Rules, 2016.

Draft Copyright (Amendment Rules), 2019

- ★ **Agency involved:** It was released by the Department for Promotion of Industry and Internal Trade (DPIIT).
- ★ **Objective:** The amendments are being brought in to **bring the Copyright Act on par with other relevant legislations** and to ensure it is in sync with the technological advancements in the current digital era.

Proposals in Draft Rules:

- ★ **Setting up an Appellate Board:**
- ★ Setting up an **Appellate Board** to replace the Copyright Board.
- ★ The Chairman and other members of the Board will be appointed as per the provisions of the **Trade Marks Act, 1999**.
- ★ **Fixing Tariff Schemes:** It also proposes to amend the manner in which copyright societies fix their tariff schemes.
- ★ **Copyright Society:** It is a legal body which protects or safeguards the interest of owners of the work by giving assurance to the creative authors of the commercial management of their works.
- ★ These societies issue licences and collect royalties in accordance with a tariff scheme.
- ★ DPIIT has proposed in the amendments that when fixing its tariff the copyright society may consider, "cross-sectional tariff comparisons, economic research, the nature and scope of the use of the work, the commercial value of the rights in use and the benefits to licensees".
- ★ The amendments propose to make it mandatory for copyright societies to publish "the annual transparency" report for each financial year on its Website.

Way Forward

- ★ **Balancing interests of all stakeholders:** This development provides India an opportunity to balance its priorities for creation and distribution of creative content online, under a durable legal framework.

- ★ **Keeping in pace with changes:** India should recognise that copyright laws need to be dynamic to sync with the changes in the use of the internet, and to keep pace with evolving digitalisation and globalisation of the content market.

New START Treaty



Recently, Russia approved the extension of the New START treaty. It is the last remaining nuclear Russia-USA arms control treaty which is about to expire in February 2021.

Key Points

- ★ **About the Approval:**
- ★ Both houses of Russian Parliament (Kremlin) approved the extension of the New START treaty for five years. It was done after a recent telephonic conversation between the newly elected USA President and the Russian President.
- ★ At the World Economic Forum's virtual meeting, the President of Russia hailed the decision to extend the treaty as "a step in the right direction," but also warned about the rising global rivalries and threats of new conflicts.
- ★ The pact's extension doesn't require congressional approval in the USA, but Russian lawmakers must ratify the move and its President has to sign the relevant Bill into law.

- ★ **The New START Treaty:**
 - ★ **Objective:**
 - ★ It is a treaty between the United States of America and the Russian Federation on measures for the further reduction and limitation of strategic offensive arms.
 - ★ The term 'strategic offensive arms' applies to nuclear warheads deployed by Strategic Nuclear Delivery Vehicles ('SNDVs').
 - ★ **SNDVs are Inter-Continental Ballistic Missiles ('ICBMs')** with a range exceeding 5,500 kilometres, strategic bombers, warships (including strategic submarines) and cruise missiles, including air and sea-launched cruise missiles.
 - ★ **Enforcement:** It came into force on 5th February, 2011.
 - ★ **Replaced START I Treaty (1991):** New START has replaced the 1991 START I treaty, which expired in December 2009, and superseded the 2002 Strategic Offensive Reductions Treaty (SORT), which terminated when New START entered into force.
 - ★ **The START Framework of 1991** (at the end of the Cold War) limited both sides to 1,600 strategic delivery vehicles and 6,000 warheads.
 - ★ **The May 2002 Strategic Offensive Reductions Treaty (SORT)**, also known as the Moscow Treaty, committed the United States and Russia to reduce their deployed strategic nuclear forces to 1,700-2,200 warheads apiece.
 - ★ **Limiting Strategic Nuclear Arsenals:** It continues the bipartisan process of verifiably reducing the USA and
- Russian strategic nuclear arsenals** by limiting both sides to 700 strategic launchers and 1,550 operational warheads.
- ★ **Renewal:** It was to lapse in February 2021, but after receiving renewal approval from USA and Russia, will be extended for a five-year period.
- ### Way Forward
- ★ This step by Russia is a welcome move after suspension of the **Intermediate-Range Nuclear Force Treaty (INF Treaty)** in 2019 and withdrawal of USA and Russia from **Open Skies Treaty** recently.
 - ★ An extension of the New START Treaty would mark a rare bright spot in the fraught USA-Russian relationship. This opportunity could be used by both the countries for conducting comprehensive bilateral negotiations on future control over nuclear missile weapons.
- ### Chinese Incursions in Taiwan
- The USA has reaffirmed its support for Taiwan following China's warplanes entering Taiwan's air defence identification zone.
- ★ These overflights were part of a **long-standing pattern of incursions by China** aimed at pressuring the present democratically elected government of Taiwan to accept China's **demand to recognise Taiwan as a part of Chinese territory**.
- ### Key Points
- ★ **Conflict between China and Taiwan (Background):**
 - ★ China and Taiwan separated amid civil war in 1949 and China considers
- Taiwan part of its territory** to be taken control of by force if necessary.
- ★ But **Taiwan's leaders** say that **Taiwan is a sovereign state**.
 - ★ After decades of hostile intentions and angry rhetoric, **relations between China and Taiwan started improving in the 1980s**. China put forward a formula, known as "**one country, two systems**", under which Taiwan would be given significant autonomy if it accepted Chinese reunification.
 - ★ In **Taiwan, the offer was rejected**, but the government did relax rules on visits to and investment in China.
 - ★ There were also **limited talks** between the two sides' unofficial representatives, though **Beijing's insistence that Taiwan's Republic of China (ROC) government is illegitimate** prevented government-to-government contact.
 - ★ **China's implementation of a national security law in Hong Kong** in 2020 was seen by many as a yet another sign that Beijing was becoming significantly more assertive in the region.
 - ★ **USA vis-a-vis- China over Taiwan:**
 - ★ The **Chinese government passed an Anti-Secession Law in 2005** that provides conditions under which China **might employ non-peaceful means** to prevent the permanent separation of Taiwan from mainland China.
 - ★ The **USA as part of the Taiwan Relations Act (TRA) 1979**, is required to assist Taiwan if coerced or attacked by China.



★ Thus, the recent Chinese incursions and USA's opposition to it are manifestations of this contradicting stand of the USA and China on Taiwan.

★ USA's Stand:

★ The USA criticised the pattern of ongoing attempts by China to intimidate its neighbours, including Taiwan.

★ It has urged China to cease its military, diplomatic, and economic pressure against Taiwan and instead engage in meaningful dialogue with Taiwan's democratically elected representatives.

★ China's Concerns:

★ USA's Strategic and Defense Support to Taiwan:

★ Taiwan has sought to improve its defenses with the purchase of USA weapons, including

upgraded F-16 fighter jets, armed drones, rocket systems and Harpoon missiles.

★ The Taiwanese government has also boosted USA's support for Taiwan's indigenous arms industry, including launching a program to build new submarines to counter China's ever-growing naval capabilities.

★ Presence of the USA forces in Neighboring Waters:

★ A USA aircraft carrier group led by the warship Theodore Roosevelt has entered the South China Sea to ensure freedom of the seas, and build partnerships that foster maritime security.

★ One China Policy Challenged:

★ This means that countries seeking diplomatic relations with the People's Republic of China (PRC, Mainland China) must

break official relations with the Republic of China (ROC, Taiwan) and vice versa.

★ The existent diplomatic relationship of the Taiwan and its membership in intergovernmental organizations challenges this policy:

★ The ROC, Taiwan has diplomatic relations with 15 countries and substantive ties with many others such as Australia, Canada, EU nations, Japan and New Zealand.

★ Besides, Taiwan has full membership in 38 intergovernmental organizations and their subsidiary bodies, including the World Trade Organization, Asia-Pacific Economic Cooperation, Asian Development Bank and Central American Bank for Economic Integration.

★ India's Stand on the Issue:

★ Since 1949, India has accepted the "One China" policy that accepts Taiwan and Tibet as part of China.

★ However, India uses the policy to make a diplomatic point, i.e., if India believes in "One China" policy, China should also believe in a "One India" policy.

★ Even though India has stopped mentioning its adherence to One China policy in joint statements and official documents since 2010, its engagement with Taiwan is still restricted due to the framework of ties with China.

★ India and Taiwan do not have formal diplomatic relations but since 1995, both sides have maintained representative offices in each other's capitals that function as de facto embassies.

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AIR 103



Keerthana H S
AIR 167



Shailaja Das
AIR 190

ECONOMY



How Biofuels can Double Farm Incomes

As India moves towards more sustainable energy consumption, the country faces the unique challenge of fusing together different needs viz. cutting dependence on imports, greening the grid while ensuring affordability, replacing old forms of energy production while boosting employment, and the increasing of the human & economic capital of the people.

In this context, biofuels (ethanol, compressed biogas and biodiesel) have become a tool for achieving these delicate balance of outcomes. Apart from biofuels helping in reduction of import dependency on crude oil and a cleaner environment, it will help in generating additional income for farmers and create rural jobs.

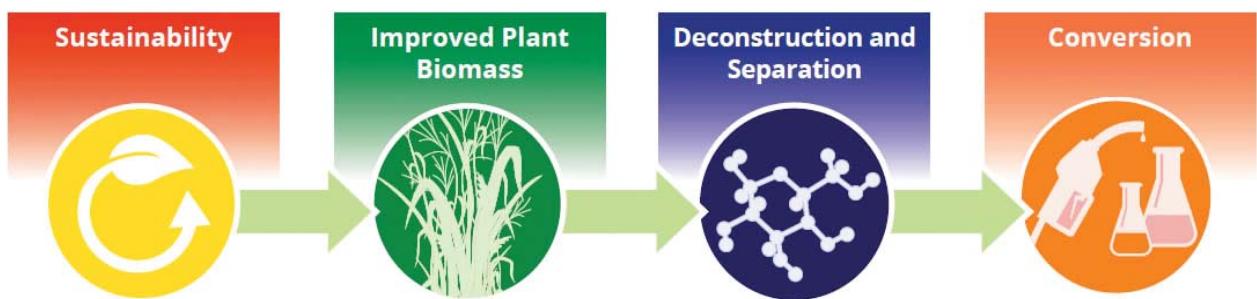
Economic Security & Biofuels

★ **Helping Sugar Industry:** The primary raw material for ethanol production in India is

sugarcane and its by-products, accounting for more than 90% of fuel ethanol supplies under the **ethanol-blended petrol (EBP)** programme.

- ★ This programme injects liquidity into the stressed sugar sector and provides an alternative revenue stream to farmers.
- ★ **Diversification of Agricultural Markets:** The recent decision to utilise surplus rice available with the Food Corporation of India and maize as an addition-

From Biomass to Advanced Biofuels and Bioproducts



Sustainability

Produce biomass for biofuels and bioproducts with minimal to positive impacts on the environment.

Biomass Development

Develop crops with cell walls optimized for deconstruction and conversion to biofuels and bioproducts.

Biomass Breakdown

Improve enzymes and microbes that break down biomass into sugars and lignin.

Biofuel and Bioproduct Synthesis

Engineer metabolic pathways in microbes to produce biofuels and bioproducts.

al source of feedstock for ethanol production, would mean that farmers will now have an alternative market for their produce.

- ★ **Income From Barren Lands:** With regards biodiesel, the National Policy on Biofuels in 2018 targets 5% blending of biodiesel in a diesel by 2030.
- ★ The policy encourages setting up of supply chain mechanisms for biodiesel production from non-edible oilseeds, used cooking oil and short gestation crops.
- ★ These crops can be easily cultivated in various states on land that is barren or not fit for edible crops, thus boosting farm incomes.

Environmental Security & Biofuels

- ★ **Reducing Air Pollution:** The Sustainable Alternative Towards Affordable Transpor-tation (SATAT) scheme launched in October 2018 aims to establish an ecosystem for production of compressed biogas (CBG) from various waste biomass sources in the country.
- ★ Many of the proposed plants under SATAT scheme will use crop residue such as paddy straw and biomass as feedstock for the production of CBG, especially in Haryana, Punjab and Uttar Pradesh.
- ★ The SATAT scheme will not only stanch greenhouse gas emissions but will reduce the burning of agricultural residue, which results in significant air pollution in cities like Delhi.
- ★ One of the byproducts of CBG plants is bio manure, which can be used in farming.

★ Also, this will generate employment in rural and waste management sectors, and boost income for farmers from their unutilised organic waste.

Energy Security & Biofuels

- ★ **Reduction in oil Imports:** India currently imports about 84% of its oil and 56% of gas needs, substituting some of the fuel with biofuels will help cut import dependence.
- ★ Currently, the aim is to achieve 10% ethanol blending in petrol by 2022 and 20% blending by 2030 — something that will cut down carbon emissions in vehicles.
- ★ **Renewable Source of Energy:** In contrast to fossil fuels, which are exhaustible resources, biofuels are produced from renewable feedstocks. Thus, their production and use could, in theory, be sustained indefinitely.

Associated Challenges

- ★ **Issues of Food Security & Higher Food Prices:** Biofuel feedstocks include many crops that would otherwise be used for human consumption directly, or indirectly as animal feed.
- ★ Diverting these crops to biofuels may lead to more land area devoted to agriculture, increased use of polluting inputs, and higher food prices.
- ★ **Technological Limitation:** There are other problems associated with biofuel usage such as automotive engine compatibility in long term operation and also food security issues that stem from biofuel production from food-grade oil-seeds.
- ★ **Diversion of Forest Into Agricultural Lands:** Biofuel feedstocks are grown on land cleared from tropical forests, these changes in land-use patterns may increase GHG emissions by releasing terrestrial carbon stocks to the atmosphere.

Way Forward

- ★ **Collaborative Effort:** The transformative potential of biofuels can be realised only through the participation of students, teachers, scientists, entrepreneurs and the people.
- ★ **Swift Clearance to Bio-Refineries:** In order to reap benefits form SATAT scheme, there must be swift clearances given to the bio-refineries.
- ★ In this context, the launch of the 'Proactive and Responsive Facilitation, by Interactive and Virtuous Environmental Single-window Hub' (PARIVESH), a web portal for speedy environment clearance of projects, is a step in the right direction.
- ★ **Technological Intervention:** Dedicated biodiesel engine is the ultimate solution for commercializing biodiesel.
- ★ In this context, India can learn from Brazil, as it successfully boosted its bioethanol marketing by introducing **flexible-fuel vehicles (FFV)**, which have a dedicated engine for both ethanol and gasoline.
- ★ Apart from this, there is a need to invest in research and development of the **second and third generation of Biofuel**.

Conclusion

The components of a biofuel supply chain create a circular rural economy that results in substantial environmental, socio-economic and health benefits for communities.

Payment Infrastructure Development Fund Scheme

Recently, the Reserve Bank of India (RBI) has announced the operationalisation of the Payment Infrastructure Development Fund (PIDF) scheme.

Key Points

Objective:

- ★ Develop payment acceptance infrastructure in tier-3 to tier-6 cities (centres), with a special focus on the north-eastern states of the country.

Time Period:

- ★ The fund will be operational for three years effective from 1st January, 2021 and may be extended for two more years.

Management:

- ★ An Advisory Council (AC) under the chairmanship of RBI deputy governor BP Kanungo has been constituted for managing the PIDF.

Fund Allocated:

The PIDF presently has a corpus of Rs. 345 crore, with Rs. 250 crore contributed by the RBI and Rs. 95 crore by the major authorised card networks in the country.

The authorised card networks shall contribute in all Rs. 100 crore.

Besides the initial corpus, PIDF shall also receive annual contributions from card networks and card issuing banks.

For example, Card networks will have to chip in 0.01 paisa per rupee of transaction.

The role of a card network is to facilitate transactions between merchants and card issuers. E.g. Mastercard, Visa.

Implementation:

The focus shall be to target those merchants who are yet to be terminalised (merchants who do not have any payment acceptance device).

Merchants engaged in services such as transport and hospitality, government payments, fuel pumps, public distribution system (PDS) shops, healthcare and kirana shops may be

included, especially in the targeted geographies.

The fund will be used to subsidize banks and non-banks for deploying payment infrastructure, which will be contingent upon specific targets being achieved.

The Advisory Council will devise a transparent mechanism for allocation of targets to acquiring banks and non-banks in different segments and locations.

The implementation of targets shall be monitored by the RBI with assistance from card networks, the Indian Banks' Association (IBA) and the Payments Council of India (PCI).

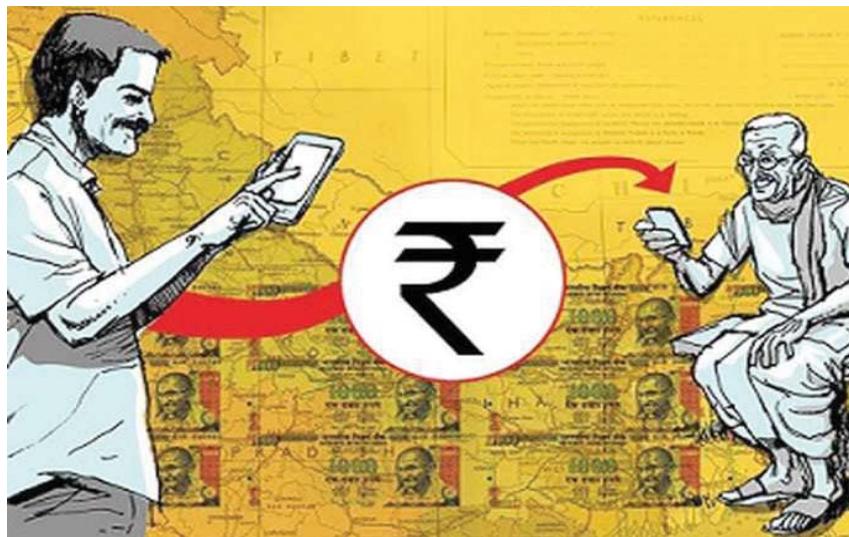
Acquiring banks (also acquirers or merchant banks) are financial institutions processing debit and credit card transactions on behalf of a merchant or business.

Tentatively, tier-3 and tier-4 centres will be allocated 30% of the acceptance devices, tier-5 and tier-6 centres will get 60% and the north eastern states will be given 10%.

Multiple payment acceptance devices and infrastructure supporting underlying card payments, such as physical Point of Sale, mobile Point of Sale, General Packet Radio Service (GPRS), Public Switched Telephone Network (PSTN) and QR code-based payments will be funded under the scheme.

Breakup of Subsidy:

- ★ A subsidy of 30% to 50% of cost of physical PoS and 50% to 75% subsidy for Digital PoS shall be offered.



★ The subsidy shall be granted on a half-yearly basis, after ensuring that performance parameters are achieved, including conditions for ‘active’ status of the acceptance device and ‘minimum usage’ criteria, as defined.

★ **Fixing Accountability:** Acquirers of the subsidy shall submit quarterly reports on the achievement of targets to the RBI.

★ **Other Related Steps:** The setting of PIDF is in line with the measures proposed by the vision document on payment and settlement systems in India 2019-2021.

★ Reserve Bank of India (RBI) has constructed a composite Digital Payments Index (DPI) to capture the extent of digitisation of payments across the country.

KIIFB Borrowings Issue

Recently, the Comptroller and Auditor General (CAG) of India has opined that the off-budget borrowings made by the Kerala Infrastructure Investment Fund Board (KIIFB) for critical infra projects have bypassed the limits set on government borrowings under Article 293 (1) of the Constitution and such borrowings do not have legislative approval.

★ **Off-budget borrowings** are a means by which the government keeps its fiscal deficit in check by making quasi-government entities borrow on its behalf, to partly fund its expenditure plan for the year.

Key Points

★ Issues:

★ **Bypassed Constitutional Limit:** CAG reported that KIIFB has



The CAG has stooped to a low level to protect RSS interests. It's a deliberate move by the agencies against the Left government in the state. It's a plan hatched to sabotage Left government's continuity in office – M A Baby, CPM PB member

Isaac's statements a lie; should resign: BJP



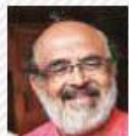
T'Puram: Thomas Isaac should resign from his post in the wake of his statements on the CAG report on KIIFB turning out to be a lie, BJP president K Surendran has demanded. Surendran said Isaac had leaked to the media the CAG report which is to be tabled in the Assembly. He violated his oath of office and secrecy in his attempt to hide his corrupt deeds, he said.

Chennithala demands Isaac's resignation



T'Puram: Opposition Leader Ramesh Chennithala demanded Thomas Isaac's resignation alleging that he misled the assembly and the people about the CAG audit report on KIIFB. Demanding Isaac's resignation, V D Satheesan, MLA, in Kochi, said "Issac has committed a severe lapse by publishing CAG's final report before presenting it at the legislative assembly."

CAG violated precedents: Isaac



Alappuzha: While conceding that the Comptroller and Auditor General's report published earlier was final, Finance Minister T M Thomas Isaac said here on Tuesday that the CAG violated precedents. "When the CAG is preparing an audit report, they should discuss the matter with the state government seeking clarifications and opinions prior to the submission of the final report. But this time no discussion was held, which is against precedents. So I mistook it as a draft report," Isaac said during a press conference.

bypassed the limits set on government borrowings under Article 293 of the Constitution as these borrowings did not have legislative approval.

★ **Encroachment on Powers of Centre:** The CAG said that **Entry 37 of the List 1 of the Seventh schedule of the Constitution** gives powers of raising foreign loans only to the Centre. Thus, KIIFB borrowings are in violation of the Constitution and encroachment on the powers of the Centre.

★ **Lack of Transparency:** KIIFB borrowings have not been dis-

closed in the Budget documents or in the accounts.

★ It raises doubts on transparency, and of inter-generational equity of the borrowings, the State has to furnish to Centre all the financial statements showing the estimates of receipts and payments of all sources of borrowings, including Open Market borrowings.

★ **Burdened State Finances:** KIIFB raised funds by issuance of bonds which were to be repaid from the petroleum cess and motor vehicle tax.

★ CAG reported that since the KIIFB has no source of income,

the borrowings by the KIIFB for which the State stood as guarantor, may ultimately turn out to be a **direct liability of the State government**.

★ **Risk of Mounting External Liabilities:**

The RBI was criticised for granting approval to the state to float masala bonds. The CAG raised concerns that if this mode was followed by other States, the external liabilities of the country would rise substantially without the Centre's knowledge of such liabilities.

Kerala Government's Concerns:

★ **Detrimental to State development:**

According to the government of Kerala, funds from KIIFB are being used to build public infrastructures such as schools, roads, hospitals etc. and such a move by CAG could hurt the interests of the State.

★ **Unilateralism:** Kerala government raised concerns over not giving the State an opportunity to offer its comments, observations or explanation before publishing of the report by the CAG.

★ **Already RBI Approved:**

The Kerala government also highlighted the fact that the KIIFB Bonds were raised with the approval of RBI- which is a central body under Government of India, then how such borrowings can be unconstitutional.

Role of RBI:

- ★ The RBI is authorised to act as an agent of the Central and State Governments for the issue and management of the latter's bonds and debentures.
- ★ The Internal Debt Management Department of the RBI has the power to float State Govern-

ment loans, facilitating investment of surplus cash balances of State Governments in dated securities under various funds.

- ★ It is also authorised to make Ways and Means Advances (WMAs) to the Centre and States, and to fix the limits thereof.
- ★ Undermines Federalism: For decentralisation of financial autonomy, it is necessary to provide a mechanism for regulation of state subnational debt.
- ★ It could promote macroeconomic fiscal stability of the states. Hence, exercise of power conferred to the centre by the article 293 should be strictly confined to the purposes and circumstances.

Way Forward

- ★ **Review of sub-national Fiscal Policy:** Since the state debt burdens have been rising because of recent fiscal shocks such as **demonetisation**, introduction of **GST** and **Covid 19 crisis**, sub-national fiscal policy of India needs to be reviewed to enable states for subnational borrowings. It shall provide them more opportunities to avail fiscal autonomy.

- ★ **Validating State Fiscal Responsibility Laws:** Even the Kerala High Court in *Matthew vs Union of India* ruled that that Article 293 is an enabling provision authorising State borrowing and it empowers the states to pass their own Fiscal Responsibility Laws (FRLs).

- ★ **Cooperative Federalism:** There is a need to address the legislative concerns of KIIB raised by CAG, and the Centre and Kerala government should take out remedial measures in public interest.

Tourism sector in India

The outbreak of the Covid-19 pandemic last year has brought almost all areas of the business to a standstill. Arguably, the worst affected has been the tourism and hospitality industry, which had to bear the brunt of lockdowns and social distancing.

According to the UN World Tourism Organization (UNWTO), this is by far the worst crisis international tourism has faced since records began in 1950.

Now as the vaccines are available, life will return back to normalcy. Given this, India should seek to actively support the tourism sector, as the sector contributes an estimated 10% to the Indian economy and is our biggest ambassador to the world.

Further, India has inherent competitive advantages as it offers a diverse portfolio of niche tourism products - cruises, adventure, medical, wellness, sports, eco-tourism, film, rural and religious tourism. This competitive advantage will help India become a tourism hub in the world.

Constraints in Tourism Sector

- ★ **Infrastructure and Connectivity:** Deficiencies in infrastructure and inadequate connectivity hamper tourist visits to some heritage sites.

- ★ Also, India has various tourist destinations but few circuits or segments such as the Golden Triangle (Delhi-Agra-Jaipur).

- ★ **Promotion and Marketing:** Although it has been increasing, online marketing/branding remains limited and campaigns are not coordinated.

★ Tourist information centers are poorly managed, making it difficult for domestic and foreign tourists to access information with ease.

★ **Lack of Skills:** The number of adequately trained individuals for the tourism and hospitality sector is a key challenge to giving visitors a world-class experience.

★ A limited number of multilingual trained guides, and the limited local awareness and understanding of the benefits and responsibilities associated with tourist growth act as constraints on the sector's growth.

★ **Underutilization of Tourism Potential:** Out of 140 countries, India ranked 8th on cultural resources and business travel, 13th on price competitiveness, and 14th on natural resources in World Economic Forum's Travel & Tourism Competitiveness Report 2019.

★ Despite these superb rankings, India's overall tourism competitiveness ranking at 34 reveals that India has not monetized or marketed the precious assets embedded in its heritage to their full potential, as other countries do.

Way Forward

★ **One India One Tourism' Approach:** Tourism encompasses multiple ministries and takes place in and within states.

★ It thus requires a National Tourism Council, an empowered legislative body that will enable fast-tracking of Centre-state level tourism matters and will create a 'One India One Tourism' approach.



Tourism Industry In India



★ **Tourism Should be Declared as Infrastructure:** Tourism infrastructure projects, viz., hotels, resorts, equipment, parks, etc., having a project cost more than Rs. 1 crore should be notified as 'infrastructure' to enable promoters to avail loans on a priority basis.

★ **Skill Development:** There is a need to connect local communities to tourism by encouraging them to set up small enterprises to supply the tourism industry.

★ Employment opportunities can be expanded by ensuring that investors and operators in the organized sector are encouraged to hire staff locally

★ **Conservation of Heritage Sites:** Conservation and development of all heritage sites should be undertaken and completed through either government funding or through NGOs/Corporate Social Responsibility (CSR) activities.

★ The Ministry of

Tourism's Swadesh Darshan and National Mission on Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive (PRASHAD) schemes are already undertaking the development or maintenance of heritage sites.

★ **Promoting Ease of Tourism:** To truly ensure a seamless tourist transportation experience we need to standardize all interstate road taxes and make them payable at a single point which will facilitate the ease of doing business.

★ **Incredible India 2.0:** Given the diversity of tourism in India, there is a need to actively promote and market niche tourism like Buddhist circuit, Swadesh Darshan, Adventure tourism in Andaman and Nicobar Islands.

★ In this context, the Government of India can launch the Incredible India 2.0 campaign, which will promote tourism in 100 Smart & Swachh Tourist Destination Sites.

Conclusion

Given opportunities in the Tourism sector, it can act as an engine to revive growth and showcases brand India to the world.

Enhancing Women's Employment is Key to Economic Recovery

India continues to struggle to provide its women with equal opportunity. In 2019, before the Covid-19 pandemic, female labor force participation in India was 23.5%, according to ILO estimates.

The pandemic has made this situation worse. It has hit women disproportionately — because they work in sectors that have been the hardest hit; work more than men do in the informal economy; or because they are the primary caregivers at home.

As the recovery of the Indian economy requires a concerted effort of both government and citizenry, women can become a critical part of the economic recovery. Thus, there is a need to ameliorate long-standing issues that hamper female labor force participation in India.

Constraints In Female Labor Force Participation

- ★ **Stereotyping In Society:** India's societal norms are such that women are expected to take the responsibility of family care and child-care. This stereotype is a critical barrier to women's labor force participation.
- ★ Due to this, women are in constant conflict over-allotment of time for work and life is a war of attrition for them.
- ★ **Digital Divide:** In India in 2019,

internet users were 67% male and 33% female, and this gap is even bigger in rural areas.

- ★ This divide can become a barrier for women to access critical education, health, and financial services, or to achieve success in activities or sectors that are becoming more digitized.
- ★ **Technological Disruption:** Women hold most of the administrative and data-processing roles that artificial intelligence and other technologies threaten to usurp.
- ★ As routine jobs become automated, the pressure on women will intensify and they will experience higher unemployment rates.
- ★ **Lack of Gender-Related Data:** Globally, major gaps in gendered data and the lack of trend data make it hard to monitor progress.
- ★ In India, too, significant gaps in data on the girl child prevent a systematic longitudinal assessment of the lives of girls.
- ★ **Impact of Covid-19:** Owing to Covid-19, global female employment is 19% more at risk than male employment (ILO estimates).
- ★ For India, several estimates show that, compared to men, women were 9.5% less likely to be employed in August 2020 compared to August 2019.
- ★ **In the World Economic Forum's Global Gender Gap Index** (which measures gaps that exist in the economic participation of women), India slipped to 112th place this year, simply because over 70 lakh Indian women have dropped out of work.

Way Forward

As a report by McKinsey Global Institute suggests that if women participated in the Indian economy at the level men do, annual GDP could be increased by 60% above its projected GDP by 2025. Given this, governments at all levels, civil society, and citizenry should take adequate measures to ensure gender equality.

- ★ **Full-Time Child Care:** The Integrated Child Development Scheme provides some support, but it is not a full-time child care solution.
- ★ However, the "Sangini Centres" of Self Employed Women's Association (SEWA) provide full-day child care for 0-5-year-olds, including nutrition, health, and child care.
- ★ Thus, similar centers should be significantly expanded.
- ★ **Bridging Digital Divide:** To address this, partnerships between the public and private sectors will be most effective.
- ★ Actions will need to address affordability of phones and computers, female digital literacy and its social context, and inadequate technical content dedicated to women and girls.
- ★ **Flexible Working:** The pandemic-induced remote working scenario has taught the corporate world that seamless work-life integration is possible not only for women but for male professionals as well.
- ★ Even as India Industries adds more diversity and inclusion initiatives such as increased maternity leave, mandatory paternity leave, the right to and choice of work for women depends greatly on organizations continuing the practice of flexible working.

- ★ **Fiscal Incentives:** Women have a higher elasticity of labor supply than men (their labor supply is more responsive to their take-home wages) — lower income taxes for women can incentivize their participation.
- ★ **Encouraging Women Entrepreneurship:** Creating job opportunities is the need of the hour. However, encouraging more women to become entrepreneurs will provide a long-term solution.
- ★ By creating jobs, fuelling innovation, and furthering investment in health and education, entrepreneurship among women could transform India's economy and society.
- ★ **Prioritizing Gender Statistics:** A UN Women Initiative called "Making Every Woman and Girl Count" was launched in 2016 to help prioritize gender data, ensure regular production of quality and comparable gender statistics, and ensure that data are accessible and used to inform policy.
- ★ There is a need to incorporate such an initiative in India as well.

Conclusion

World Bank, noted that "no country can develop and achieve its full potential if half of its population is locked in non-remunerative, less productive and non-economic activities."

Therefore, in a country where young women's education is now at par with men's, ignoring that half of the population isn't participating equally in the economy means we are missing out on innovation, entrepreneurship, and productivity gains.

The Inequality Virus Report: Oxfam International

Recently, the Inequality Virus Report, released by Oxfam International, has found that the Covid pandemic deeply increased the existing inequalities in India and around the world.

- ★ The report states that **Covid has the potential to increase economic inequality** in almost every country at once - the first time this has happened since records began over a century ago.

Key Points

- ★ **Impact of the Pandemic on Rich vis-a-vis Poor:** India introduced one of the earliest and most stringent lockdowns in the face of the pandemic and its enforcement brought the economy to a standstill, triggering unemployment, hunger, distress migration and untold hardship in its wake.
- ★ The rich were able to escape the pandemic's worst impact; and while the white-collar workers isolated themselves and worked from home, a majority of the not-so-fortunate Indians lost their livelihood.
- ★ The wealth of Indian billionaires increased by 35% during the lockdown and by 90% since 2009 to USD 422.9 billion, ranking India sixth in the world after the USA, China, Germany, Russia and France.
- ★ **Impact on Informal Sector:** India's large informal workforce was the worst hit as it made up 75% of the 122 million jobs lost.
- ★ Informal workers had relatively fewer opportunities to work from home and suffered more job loss compared to the formal sector.
- ★ The 40-50 million **seasonal migrant workers**, typically engaged working in construction sites, factories etc. were **particularly distressed**.
- ★ **Impact on Education:** Over the past year as education shifted online, India saw the digital divide worsening inequalities.
- ★ On the one hand, private providers experienced exponential growth yet, on the other, just 3% of the poorest 20% of Indian households had access to a computer and just 9% had access to the internet.
- ★ It noted that the long disruption of schooling risked doubling the rate of out of school, especially among the poor.
- ★ **Health Inequalities:** Oxfam found that since India does not report case data desegregated by socio-economic or social categories, it is difficult to gauge the distribution of the disease amongst various communities.
- ★ India currently has the **world's second-largest cumulative number of Covid-19 positive cases** and globally, the poor, marginalised and vulnerable communities have higher rates of Covid-19 prevalence.
- ★ The **spread of disease was swift among poor communities**, often living in cramped areas with poor sanitation and using shared common facilities such as toilets and water points.
- ★ **Sanitation Facility:** Only 6% of the poorest 20% households

had access to non-shared sources of improved sanitation, compared to 93% of the top 20% households in India.

- ★ In terms of caste, just 37.2% of Scheduled Castes (SCs) households and 25.9% of Scheduled Tribes (STs) households had access to non-shared sanitation facilities, compared to 65.7% for the general population.

Gender Disparities:

- ★ **Employment:** The unemployment rate among women rose from already high 15% before Covid to 18%.
- ★ This increase in unemployment of women can result in a loss to India's Gross Domestic Product (GDP) of about 8% or USD 218 billion.
- ★ Of the women who retained their jobs, as many 83% were subjected to a cut in income according to a survey by the Institute of Social Studies Trust.

Health:

- ★ Beyond income and job losses, poorer women also suffered healthwise because of the disruption in regular health services and Anganwadi centres.
- ★ It is predicted that the closure of family planning services will result in 2.95 million unintended pregnancies, 1.80 million abortions (including 1.04 million unsafe abortions) and 2,165 maternal deaths.
- ★ **Domestic Violence:** The pandemic also fuelled domestic violence against women. As of November 2020, cases of domestic violence rose by almost 60% over the past 12 months.

Suggestions:

- ★ There is an urgent need for policymakers to tax the wealthy individuals and rich corporates and use that money to invest in free quality public services and social protection to support everyone, from cradle to grave.
- ★ Reducing inequalities is very important but it should be a medium-term target. Between growth and distribution, India must get the sequencing right.
- ★ India needs to grow first before it can distribute. Otherwise, it can get stuck in a low-income equilibrium.

About Oxfam International

- ★ Oxfam International is a group of independent non-governmental organisations formed in 1995.
- ★ The name "Oxfam" comes from the Oxford Committee for Famine Relief, founded in Britain in 1942.
- ★ The group campaigned for food supplies to starving women and children in enemy-occupied Greece during the Second World War.
- ★ It aims to maximize efficiency and achieve greater impact to reduce global poverty and injustice.
- ★ The Oxfam International Secretariat is based in Nairobi, Kenya.

Green Bonds

As per a recent study by the Reserve Bank of India (RBI), the cost of issuing green bonds has generally remained higher than other bonds in India, largely due to asymmetric information.

Key Points

- ★ **Green Bonds (Description):**
- ★ **About:**
- ★ A green bond is a debt instrument with which capital is being raised to fund 'green' projects, which typically include those relating to renewable energy, clean transportation, sustainable water management etc.
- ★ A bond is a fixed income instrument that represents a loan made by an investor to a borrower (typically corporate or governmental).
- ★ Bonds traditionally paid a fixed interest rate (coupon) to investors.
- ★ **Growth:** In 2007, green bonds were launched by few development banks such as the European Investment Bank and the World Bank. Subsequently, in 2013, corporates too started participating, which led to its overall growth.
- ★ **Regulation:** The Securities and Exchange Board of India (SEBI) has put in place disclosure norms for issuance and listing of green bonds.

Benefits:

- ★ **Enhances Reputation:** Green bonds enhance an issuer's reputation, as it helps in showcasing their commitment towards sustainable development.
- ★ **Fulfillment of Commitments:** Ability to meet commitments, for signatories to climate agreements and other green commitments.
- ★ India's Intended Nationally Determined Contribution (INDC) document puts forth the stated targets for India's

contribution towards climate improvement and following a low carbon path to progress.

Raised at Lower Costs:

- ★ Green bonds typically **carry a lower interest rate** than the loans offered by the commercial banks.
- ★ With an increasing focus of foreign investors towards green investments, it could help in reducing the cost of raising capital.
- ★ **Sunrise Sectors:** These green bonds have been crucial in increasing financing to sunrise sectors like renewable energy, thus contributing to India's sustainable growth.

Details of RBI's Recent Study:

- ★ **Current Share:** Green bonds constituted only **0.7%** of all the bonds issued in India **since 2018**.
- ★ However, bank lending to the non-conventional energy (renewable energy) constituted about **7.9%** of outstanding bank credit to the power sector, as of March 2020.
- ★ Most of the green bonds in India **are issued by the public sector units or corporates** with better financial health.

★ Challenges:

- ★ **High Coupon Rate:** The average coupon rate for green bonds issued since 2015 with maturities between 5 to 10 years have generally **remained higher than the corporate government bonds** with similar tenure.

High Borrowing Cost:

- ★ It has been the **most important challenge due to the asymmetric information**. High coupon

rate is one of the reasons for high borrowing cost.

- ★ **Asymmetric information**, also known as "information failure," occurs when one party to an economic transaction possesses greater material knowledge than the other party.
- ★ **Suggestion: Developing a better information management system** in India may help in reducing maturity mismatches, borrowing costs and lead to efficient resource allocation in this segment.

Other Challenges:

- ★ **Misuse of Funds:** There have been serious debates about whether the projects targeted by green bond issuers are green enough because the proceeds of green bonds are being used to fund projects that harm the environment.
- ★ **Lack of Credit Ratings:** Lack of credit rating or rating guidelines for green projects and bonds.
- ★ **Shorter Tenor Period:** Green bonds in India have a shorter tenor period of about 10 years whereas a typical loan would be for a minimum 13 years. Further Green Projects require more time to bring returns.

Way Forward

- ★ One of the foremost requirements is to **harmonise international and domestic guidelines and standards for green bonds** to develop a robust green bond market. Homogeneity is also required in terms of what constitutes green investments, as varied taxonomies would be antithetical to a cross-border green bond market.

★ **Appropriate capacity building efforts for issuers** in emerging markets to spread knowledge on the benefits and related processes and procedures pertaining to green bonds, would help in addressing the institutional barriers to entry into this market.

- ★ In the context of green bonds, **strategic public sector investment could help in attracting private investment** as well as inspire investor confidence in the green bond market overall.

World Economic Outlook

Recently, the latest World Economic Outlook of the International Monetary Fund (IMF) has estimated that India's Gross Domestic Product (GDP) will grow by 11.5% in the Financial Year (FY) 2021-22.

Key Points

- ★ **India Specific Projections:**
- ★ **FY 2020-21:** For the current fiscal, the IMF had forecast a record **10.3% contraction**.
- ★ **FY 2021-22:** For the next fiscal, starting from April 1st, GDP growth projection is at **11.5%**, 2.7% higher than the projection made in October, 2020.
- ★ Last October, the IMF had projected an 8.8% real GDP growth for India in FY 2021-22, highest globally.
- ★ **FY 2022-23:** In FY 2022-23, the economy will likely grow **6.8%**.
- ★ **Governments Projection for 2020-21:**
- ★ The latest revision for the current fiscal is higher than the **government's first advance estimate of 7.7%** and

also the RBI's estimate of 7.5%.

★ **Reason for Increase in the Estimates by IMF:**

★ India has taken very decisive action, very decisive steps to deal with the **pandemic** and to deal with the economic consequences of it.

★ **Government Measures to Deal With the Pandemic:**

★ **Reserve Bank of India's Covid19 Economic Relief Package**

★ **Pradhan Mantri Garib Kalyan Yojana:** The government announced Rs 1.70 lakh crore relief package under the newly framed **Pradhan Mantri Garib Kalyan Yojana** for the poor to help them fight the battle against covid-19.

★ **Atmanirbhar Bharat Abhiyan (or Self-reliant India Mission):** The Self-Reliant India Mission aims towards cutting down import dependence by focussing on substitution while improving safety compliance and quality goods to gain global market share.

★ Government announced **liquidity measures for businesses, especially Micro, Small and Medium enterprises (MSMEs)** under the Atmanirbhar Bharat Abhiyan.

★ **Global Projections:**

★ **Global Economy:**

★ The global economy is projected to grow **5.5% in 2021 and 4.2% in 2022**.

★ The IMF also saw a narrower 3.5% contraction in world output in 2020 as opposed to a 4.4% decline seen earlier.

★ It attributed the 0.3% point upward revision for 2021 to "expectations of a vaccine-

powered strengthening of activity later in the year and additional **policy support** in a few large economies.

★ **Global Trade Volumes:**

★ They are forecasted to grow about **8% in 2021**.

★ The IMF expects **oil prices to rise** in 2021 by just over 20% from the low base for 2020 but they will still remain well below their average for 2019.

★ **Non-oil commodity prices are also expected to increase** with those of metals, in particular, projected to accelerate strongly in 2021.

★ **Other Economies with High percentage of Growth:**

★ **China** would grow 8.1% in 2021, followed by **Spain** (5.9%) and **France** (5.5%).

★ China, which was the only major country to register a growth rate of 2.3 % in 2020, will expand 5.6% in 2022.

★ **Increased Inequality:**

★ The report highlighted the **pandemic-induced acceleration in inequality** by reiterating that close to **90 million people are likely to fall below the extreme poverty threshold during 2020-21** as workers with less education, women, youth, those in contact-intensive sectors, and those informally employed suffer disproportionate livelihood and income losses.

★ The **pandemic is expected to reverse the progress** made in poverty reduction across the past two decades.

★ It can be noted that recently, the **Inequality Virus Report**, released by **Oxfam International**, has also found

that the **Covid pandemic deeply increased the existing inequalities in India and around the world**.

UNCTAD - Investment Trends Monitor Report

According to the recent Investment Trends Monitor Report issued by the United Nations Conference on Trade and Development (UNCTAD), global Foreign Direct Investment (FDI) collapsed in 2020 by 42% to an estimated USD 859 billion from USD 1.5 trillion in 2019.

★ Such a low level was **last seen in the 1990s** and is more than 30% below the investment decline that followed the **2008-2009 global financial crisis**.

Key Points

★ **Global Trend:**

★ **India and China:** India witnessed a 13% year-on-year rise, the highest among key nations, in FDI inflows in 2020, China's rose by 4%.

★ In absolute terms, China remained way ahead, with an inflow of as much as \$163 billion, while India's stood at \$57 billion.

★ **Advanced Economies:** The UK and Italy saw an over 100% crash each in FDI inflows, followed by Russia (96% drop), Germany (61%), Brazil (50%), the US (49%), Australia (46%) and France (39%).

Developing Economies:

★ Developing economies drew as much as **72% of global FDI** in 2020 - their highest share on record.

★ **Asian nations** did particularly

well, attracting USD 476 billion in FDI in 2020.

★ **Future Projection:** The uncertainty about the Covid-19 evolution will continue to hamper global FDI inflows in 2021, threatening sustainable recovery prospects.

★ **Reason for the Rise in FDI in India:** Inflows into digital sector. The sector has particularly high return capabilities in India as favourable demographics, substantial mobile and internet penetration, massive consumption along with technology uptake provides great market opportunity for a foreign investor.

★ **India's Measures to Increase FDI:** In 2020, schemes like production-linked incentive (PLI) scheme for electronics manufacturing, have been notified to attract foreign investments.

★ In 2019, the Central Government amended FDI Policy 2017, to permit 100% FDI under automatic route in coal mining activities.

★ FDI in manufacturing was already under the 100% automatic route, however in 2019, the government clarified that investments in Indian entities engaged in contract manufacturing is also permitted under the 100% automatic route provided it is undertaken through a legitimate contract.

★ **Contract Manufacturing:** Production of goods by one firm, under the label or brand of another firm.

★ **Foreign Investment Facilitation Portal (FIFP):** It is the online single point interface of the Government of India with investors to facilitate FDI. It is

administered by the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry.

Foreign Direct Investment

- ★ FDI is an investment made by a firm or individual in one country into business interests located in another country.
- ★ The key feature of foreign direct investment is that it establishes either effective control of, or at least substantial influence over, the decision-making of a foreign business.
- ★ This makes it different from portfolio investments in which an investor merely purchases equities of foreign-based companies.

Importance:

- ★ FDI is important because it gives countries access to external capital, technology, market access and tax contributions.
- ★ **Types:** FDI are commonly categorized as being horizontal, vertical or conglomerate.
- ★ **Horizontal:** A horizontal direct investment refers to the investor establishing the same type of business operation in a foreign country as it operates in its home country.
- ★ **Vertical:** A vertical investment is one in which different but related business activities from the investor's main business are established or acquired in a foreign country, such as when a manufacturing company acquires an interest in a foreign company that supplies parts or raw materials required for the manufacturing company to make its products.

★ **Conglomerate:** A conglomerate type of foreign direct investment is one where a company or individual makes a foreign investment in a business that is unrelated to its existing business in its home country.

★ Since this type of investment involves entering an industry the investor has no previous experience in, it often takes the form of a joint venture with a foreign company already operating in the industry.

★ **Components:** FDI has three components, viz., **equity capital, reinvested earnings and intra-company loans.**

★ **Equity Capital:** It is the foreign direct investor's **purchase of shares of an enterprise** in a country other than its own.

★ **Reinvested Earnings:** Comprise the direct investors' share (in proportion to direct equity participation) of earnings not distributed as dividends by affiliates, or earnings not remitted to the direct investor.

★ Such retained profits by affiliates are reinvested.

★ **Intra-company loans or intra-company debt transactions:** Refer to short- or long-term borrowing and lending of funds between direct investors (or enterprises) and affiliate enterprises.

★ **Routes:** Routes through which India gets FDI:

★ **Automatic Route:** In this, the foreign entity **does not require the prior approval of the government.**

★ **Government route:** In this, the foreign entity has to **take the approval of the government.**

Shadow Entrepreneurship

Recently, a business school professor allegedly misused his faculty position to provide fake certificates to students. This is one of the many cases whereby people across the globe get cheated, owing to the unregulated nature of online activities.

The abovesaid case highlights the ill-effects of the global rise of shadow entrepreneurship. Shadow entrepreneurs manage a business that sells legitimate goods and services but they do not register their businesses. Shadow entrepreneurship is a key factor affecting economic development, both in a positive and negative sense.

Moreover, India has one of the highest numbers of shadow entrepreneurs in the world and with a rising gig economy, understanding shadow entrepreneurship becomes incredibly important.

Positives of Shadow Entrepreneurship

- ★ **Providing Employment:** Presently, India's manufacturing sector is unable to provide adequate formal employment opportunities to the youth. Moreover, there is a mismatch between education and job skills in the market.
- ★ In this context, the phenomenon of shadow entrepreneurship is seen as a potential driver of job growth and economic development.

★ **Bridging Market Gap:** Shadow entrepreneurs can help release the associated distortions and frictions in the market.

★ They can offer complementary services that traditional service

providers may be constrained to offer or consumers might not be able to access.

- ★ **Augmenting Social Services:** Shadow entrepreneurialism may extend welfare support of government schemes, as they can address the accessibility, availability, or affordability issues.

Associated Concerns With Shadow Entrepreneurship

- ★ **Extension of Informal Labour:** As Shadow Entrepreneurship is largely unregulated, it provides little job security and few benefits to its workers like social security, insurance, etc.
- ★ Therefore, it is an extension of India's informal labor, which has been prevalent for a long time and has remained unregulated.

- ★ **Hampering Economic Growth:** Shadow Entrepreneurship results in loss of tax revenue, the unfair competition to registered businesses, and also poor productivity - factors that hinder economic development.
- ★ Further, as the Shadow Entrepreneurship businesses are not registered, it takes them beyond the reach of the law and makes shadow economy entrepreneurs vulnerable to corrupt government officials.

- ★ **National Security Implications:** Shadow Entrepreneurship may also have cross-border and national security implications. For instance, the recently reported suspicious loans being provided by Chinese instant loan providers online.

★ **Increase in Scams:** It will also mean that unscrupulous individuals who are not entrepreneurs per se but are complementary service providers will potentially take more advantage of these post-pandemic market constraints, extracting money from consumers by means such as document forgery.

Way Forward

- ★ **Formalization:** Informal sector entrepreneurship, poverty, and inequality are conditioned by a country's economic and political institutions. Therefore, Government policies could play a big role in helping shadow economy entrepreneurs transition to the formal economy.
- ★ Moreover, with proper economic and political frameworks in place, individuals are more likely to become 'formal' entrepreneurs and register their businesses.
- ★ **Harmonization:** There is a need for associated harmonization of activities between competition authorities of governments (in India's case the Ministry of Corporate Affairs in regulating shadow entrepreneurship and government departments in healthcare, education, or finance).
- ★ **Legislation:** Given the magnitude of shadow entrepreneurship in India, it is not possible to formalize it in a short span of time. Therefore, the need of the hour is enabling legislation that regulates and provides social security benefits also.
- ★ In this context, the recent **Code on Social Security Bill, 2020**, is a step in the right direction. For the first time, it acknowledges

platform workers and **gig workers** as new occupational categories.

Conclusion

Shadow entrepreneurship may temporarily tackle issues like the unemployment crisis or market gap but given monitoring needs of public goods distribution for the developing world, without regulation, the situation could spiral out of control.

Cyber Insurance Policy

A committee set up by the Insurance Regulatory and Development Authority of India (IRDAI) has recommended the introduction of a cyber insurance policy.

- ★ Cyber insurance policy is a risk transfer mechanism for cyber risk.
- ★ Cyber risk is commonly defined as exposure to harm or loss resulting from breaches of or attacks on information systems.
- ★ This policy will protect the policyholders from **cybercrimes**.

Key Points

★ Background:

- ★ In October 2020, the IRDAI had set up a committee for cyber liability insurance under **P Umesh**.
- ★ Amid the **Covid-19 pandemic**, there has been rising incidences of **cyberattacks** and a growing number of high-profile data violations.

★ Data highlighted:

- ★ According to the committee report, the **number of internet users in India** is currently estimated at **700 million**.

★ India was ranked as the **second-largest online market** worldwide in 2019, coming second only to China.

★ The **number of internet users is estimated to increase in both urban as well as rural regions**. This number is increasing rapidly so also is the **number of users of online banking**.

★ Features of an Individual cyber insurance policy (cover):

★ Theft of Funds, Identity Theft Cover, Social Media cover, Cyber Stalking, Malware Cover, Phishing cover, Data Breach and Privacy Breach Cover, etc

★ **Recommendations:** Cyber insurance policies currently available address requirements of individuals reasonably well. However, there are some areas in the product features and processes which need improvement.

★ FIR on higher claims:

★ Insurers should not insist on police FIR (First Information Report) for claims upto Rs. 5,000.

★ FIR is a critical requirement to assess claims.

★ Clarity:

★ Clarity in exclusion language relating to compliance with reasonable practices and precautions and need for coverage for bricking costs.

★ **Bricking** refers to a loss of use or functionality of hardware as a result of a cyber event.

★ On Standardisation of Cyber Insurance Policy:

★ Cyber risks are dynamic and evolving. Standardisation is a good idea but may not be able

to address all the emerging risks and is likely to limit innovation.

Cyber Security

★ About

★ In computers and computer networks, an attack is any attempt to expose, alter, disable, destroy, steal or gain unauthorized access to or make unauthorized use of an asset.

★ A cyberattack is any type of offensive maneuver that targets computer information systems, infrastructures, computer networks, or personal computer devices.

★ Need:

★ According to **Nasscom's Data Security Council of India (DSCI) report 2019**, India witnessed the **second-highest** number of cyber attacks in the world between 2016 and 2018.

★ Ways of Cyberattack:

★ Phishing or Spoofing attacks:

★ Spoofing is an identity theft where a person is trying to use the identity of a legitimate user. Phishing is where a person steals the sensitive information of users like bank account details.

★ Malware or Spyware:

★ Spyware is classified as a type of malware (malicious software) designed to gain access to or damage one's computer, often without one's knowledge. Spyware gathers one's personal information and relays it to advertisers, data firms, or external users.

★ SIM Swap:

★ Original SIM gets cloned and

becomes invalid, and the duplicate SIM can be misused to access the user's online bank account to transfer funds.

★ **Credential Stuffing (compromising devices and stealing data):**

★ Credential stuffing is a type of cyberattack where stolen account credentials typically consisting of lists of usernames and/or email addresses and the corresponding passwords are used to gain unauthorized access to user accounts through large-scale automated login requests directed against a web application.

★ **Man-in-the-middle attacks** during online payments or transactions, etc.

★ **Government Initiatives to tackle cyber attacks:**

★ **Cyber Surakshit Bharat Initiative:**

★ It was launched in 2018 with an aim to spread awareness about cybercrime and building capacity for safety measures for Chief Information Security Officers (CISOs) and frontline IT staff across all government departments.

★ **National Cybersecurity Coordination Centre (NCCC):**

★ Its mandate is to scan internet traffic and communication metadata (which are little snippets of information hidden inside each communication) coming into the country to detect real-time cyber threats.

★ **Cyber Swachhta Kendra:**

★ In 2017, this platform was introduced for internet users to clean their computers and devices by wiping out viruses and malware.

★ **Information Security Education and Awareness Project (ISEA):**

★ A project to raise awareness and to provide research, education and training in the field of Information Security.

★ **National Computer Emergency Response Team (CERT-In)** functions as the nodal agency for coordination of all cyber security efforts, emergency responses, and crisis management.

★ Protection and resilience of critical information infrastructure with the **National Critical Information Infrastructure Protection Centre (NCIIPC)** operating as the nodal agency.

★ NCIIPC was created under the Information Technology Act, 2000 to secure India's critical information infrastructure.

★ **Information Technology Act, 2000:**

★ The Act regulates use of computers, computer systems, computer networks and also data and information in electronic format.

★ **International Mechanisms:** The International Telecommunication Union (ITU) : It is a specialized agency within the United Nations which plays a leading role in the standardization and development of telecommunications and cyber security issues.

★ **Budapest Convention on Cybercrime:** It is an **international treaty** that seeks to address Internet and computer crime by harmonizing national laws, improving investigative techniques, and increasing cooperation among nations. It came into force on 1st July

2004. **India is not a signatory** to this convention.

★ **Internet Governance Forum (IGF):** It brings together all stakeholders i.e. government, private sector and civil society on the Internet governance debate.

Digital Services Tax

Recently, the United States



Trade Representative (USTR) published a report concluding that the 2% digital services tax (DST) introduced by the Indian government (by the 2020 Finance Act) discriminates against US businesses and contravenes settled principles of international tax law.

The DST is aimed at ensuring that non-resident, digital service providers pay their fair share of tax on revenues generated in the Indian digital market. India's 2% DST is levied on revenues generated from digital services offered in India, including digital platform services, digital content sales, and data-related services.

As the digital economy is increasingly becoming a separate sector of the economy itself, developed countries like the US (where the majority of digital service providers come from) must understand that it would be now difficult to ring-fence the digital economy from the rest of the economy for tax purposes.

Concerns Raised by USTR & Counterclaim

- ★ The USTR conducted an investigation under section 301 of the US Trade Act, 1974, which authorizes it to appropriately respond to a foreign country's action that is discriminatory and negatively affects US commerce.
- ★ The USTR report found the DST to be discriminatory on **two counts**.
- ★ First, it states that the DST discriminates against US digital businesses because it specifically **excludes from its ambit domestic (Indian) digital businesses**.
- ★ Second, according to the report, the DST does not extend to identical services provided by non-digital service providers.
- ★ However, India clarified that the DST itself in no way discriminates based on the size of operations or nationality.
- ★ It may predominantly appear that DST is applicable to US companies because the market for digital services is dominated by US-based firms.
- ★ Further, any company that has a permanent residence in India is excluded since it is already subject to tax in India.

Rationale of DST

- ★ **Prolonged International Tax Law Negotiation:** The agenda to reform international tax law so that digital companies are taxed where economic activities are carried out was formally framed within the OECD's base erosion and profit shifting program.
- ★ However, seven years since its inception, it is still a work in progress.

- ★ Due to this, countries are worried that they might cede their right to tax incomes. Therefore, many countries have either proposed or implemented a digital services tax.
- ★ **Asymmetrical Digital Power:** The taxation of the digitalized economy turned out to be a relatively contentious issue because there is a huge asymmetry in digital service providers and consumers.
- ★ Further, a redistribution of taxing rights can have significant revenue implications for countries like India and the US. This makes a consensus-based solution harder to achieve.
- ★ Thus, countries claim that the exponential increase of the digital economy and the digitalization of the traditional economy require the adoption of new tax rules.

Associated Concerns With DST

- ★ **Eventually Burdening Digital Consumers:** Experts suggest that DST can be passed on to consumers. While the Indian customer may not pay this as a tax, this could mean higher prices, contrary to the claim that it taxes the company.
- ★ **Retaliatory Tariffs:** The USTR investigations could pose a threat of retaliatory tariffs, as similar tariffs were imposed by the US on France.
- ★ Further, it could turn into a **digital trade war-like scenario** and could harm India's Information and communication technology industry.
- ★ **Double Taxation:** This was severely criticized by many

countries as a unilateral measure that would result in double taxation.

Way Forward

- ★ **New Model of Digital Taxation:** The core problem that the international tax reform seeks to address is that digital corporations, unlike their brick-and-mortar counterparts, can operate in a market without a physical presence.
- ★ Therefore, taxing in a particular jurisdiction may not augur well with the growth of the digital economy.
- ★ To overcome this challenge, countries suggested that a new basis to tax, say, the number of users in a country, could address the challenge to some extent.
- ★ The EU and India were among the advocates of this approach.
- ★ **Expediting Multilateral Negotiations:** While the digital economy and its implications continue to evolve, the multilateral solution at the level of the OECD must be expedited.
- ★ Moreover, it would also require political consensus on multiple issues, including sensitive matters such as setting up of an alternative dispute resolution process comparable to arbitration.

Conclusion

As countries calibrate their response to competing demands for sovereignty to tax, DST is an interim alternative outside tax treaties. It possesses the advantage of taxing incomes that currently escape tax and creates space to negotiate a final, overarching solution to this conundrum.



GEOGRAPHY AND ENVIRONMENT

The Tragedy of Conservation

India has managed to conserve such a diversity of wildlife despite its large population and development challenges. The reverence that local communities have for Nature has been vital for the government's sustained success and other agencies' conservation efforts.

However, the government's conservation activities have created fear amongst the indigenous people for losing their existence in lands that they had inhabited for decades.

In this context, proper implementation of the Forest Rights Act, 2006 is required, as the Act envisages protecting the indigenous people's interests and balancing the right to the environment with their right to life and livelihood.

Role of the Indigenous People In Conservation

★ **Conserving Natural Flora:** The magico-religious belief of plants' tribal communities as a god and goddess habitat leads to their conservation in their natural habitat.

fauna might have disappeared from the natural ecosystem.

Plight of the Indigenous People

- ★ **Disruption After Designation of the Status of World Heritage Site:** The approach adopted to isolate the indigenous people from their natural habitats to protect biodiversity is the root cause of conflict between them and conservationists.
- ★ With the announcement of natural habitat as a World Heritage Site, UNESCO takes charge of the region's conservation.
- ★ This leads to an infusion of many outside people and technological equipment, which in turn disrupt the lives of the Indigenous people.
- ★ **Lax implementation of the Forest Rights Act:** Many states in India have a dismal record in implementing the Forest Rights Act (FRA).
 - ★ This can be reflected with the fact that states like Karnataka had recognised only 5.7% of the total claims made.
 - ★ Further, the FRA's constitutionality has been challenged in the

Supreme Court several times by various conservation organisations.

- ★ One of the petitioners' key arguments has been that it is beyond the legislative competence of Parliament to enact the FRA as 'land' is a state subject.

Development vs Conservation:

- ★ Often, the combined stretch of land claimed by Indigenous people has been taken away for building dams, mining, laying railway lines and roads, power plants, etc.
- ★ Moreover, forcibly removing tribal peoples from their land will only result in environmental damage and violate human rights.

★ Illegal Encroachment of Land:

The government records also reveal that 43 lakh hectares of forest land encroached legally and illegally until 1980 when the Forest Conservation Act came into force.

The Forest Rights Act (FRA)

- ★ A dramatic shift in the Indian conservation paradigm came in 2006 through the Forest Rights Act that went beyond sanctioning local usage, to conferring local communities' rights over forest land and produce.
- ★ The Ministry of Tribal Affairs was mandated to operationalise the Act, while conservation remained under the Ministry of Environment, Forest and Climate Change.
- ★ The Forest Rights Act (FRA) is legislation which aims to address the historical injustice that our forest-dwelling communities have had to face for nearly 150 years by providing them with the security of

tenure over land for cultivation and habitation through individual rights.

- ★ It also provides access to various resources through more than a dozen types of community forest rights.
- ★ The FRA also empowers forest-dwelling communities to protect, regenerate, conserve and manage any community forest resource which they have been traditionally protecting and preserving for sustainable use.
- ★ It has the provision for creating critical wildlife habitats within protected areas which currently is the most robust conservation provision among existing laws of the country.
- ★ The FRA does not sanction any fresh clearance of forest, as individual rights over land will only be granted if the forest dweller owned that parcel of land on December 13, 2005.

Way Forward

- ★ **Recognition of the Rights of the Indigenous People:** For preserving the rich biodiversity of the region, the recognition of the rights of the forest dwellers who depend on the forests is as important as the declaration of natural habitat as a World Heritage Site.
- ★ **Effective Implementation of the FRA:** The government must make an effort to build trust between its agencies in the area and the people who depend on these forests by treating them as equal citizens like everyone else in the country.
- ★ The FRA's loopholes have already been identified; all it needs is to work on amending it.

- ★ **Traditional Knowledge of the Tribal People for Conservation:** The Biodiversity Act, 2002 mentions about the equitable sharing of the benefits arising out of the use and knowledge of biological resources with the local communities.

- ★ Therefore, all the stakeholders should realise that indigenous people's traditional knowledge is a way forward for more effective conservation of biodiversity.

- ★ **Tribals, The Forest Scientists:** Tribal peoples are generally regarded as the best conservationists, as they connect with nature more spiritually.

- ★ The cheapest and quickest way to conserve areas of high biodiversity is to respect tribal peoples' rights.

Conclusion

As the indigenous people are integral to conservation as they relate with it in a more integrated and spiritual way, a sense of respect needs to be developed for the indigenous people; their presence helps in the conservation of biodiversity.

National Metrology Conclave 2021

Recently, the Prime Minister has inaugurated the National Metrology Conclave 2021 and also laid the foundation stone of National Environmental Standards Laboratory through a video conference.

- ★ The Conclave was organised by Council of Scientific and Industrial Research-National Physical Laboratory (CSIR-NPL), New Delhi, on its 75th year of inception.

- ★ National Atomic Time Scale and Bharatiya Nirdeshak Dravya Pranali were dedicated to the nation on the occasion.
- ★ Metrology is defined by the International Bureau of Weights and Measures (BIPM) as "the science of measurement, embracing both experimental and theoretical determinations at any level of uncertainty in any field of science and technology".

Key Points

- ★ **National Atomic Time Scale:** The National Atomic Time Scale generates Indian Standard Time with an accuracy of 2.8 nanoseconds.
- ★ The longitude of 82°30' E has been selected as the 'standard meridian' of India against which the Indian Standard Time is set.
- ★ Now Indian Standard Time is matching the International Standard Time with the accuracy range of less than 3 nanoseconds.
- ★ CSIR-NPL is the National Measurement Institute of India and authorized (by an act of Parliament) to realize and maintain the Indian Standard Time (IST).
- ★ IST is realized at CSIR-NPL through the National Primary Time Scale consisting of a bank of ultra-stable atomic clocks.
- ★ CSIR-NPL is on a mission to synchronize all the clocks in the nation to IST for securing digital infrastructure and reducing cyber crime.
- ★ CSIR-NPL is strengthening the national timing infrastructure of India, where a very rough estimate shows an economic impact of more than 10% of GDP.

Benefits:

- ★ This will be a big help for organizations like Indian Space

Research Organisation who are working with cutting edge technology. Banking, railways, defense, health, telecom, weather forecast, disaster management , Industry4.0 and many similar sectors will be benefited greatly from this achievement.

- ★ **Bhartiya Nirdeshak Dravya Pranali (BND):** These are Indian reference materials developed by CSIR-NPL. It is committed to ensure the quality of products in every manufacturing and consumer sector by providing SI traceable measurements and enhancing quality life of citizens through metrology.
- ★ SI system is used to describe units of measurement in the International System (from French 'Système International').
- ★ Reference materials (RM) play a pivotal role in maintaining the quality infrastructure of any economy through testing and calibration with precise measurements traceable to SI units. NPLI has recently released two very important certified RMs as Bharatiya Nirdeshak Dravyas (BNDs) for purity of gold and for Bituminous coal.
- ★ Recently, the Govt of India (GoI) has supported NPLI to strengthen its BND program by developing BNDs in the area of AYUSH, Materials, Nanotechnology, Medicine, Food & Agriculture and Biologics.
- ★ The availability of SI traceable BNDs are poised to boost the "Make in India" program and harmonize the quality infrastructure of the country.

Asian Waterbird Census

The two-day Asian Waterbird Census-2020 has commenced in Andhra Pradesh under the aegis of experts from the Bombay Natural History Society (BNHS).

Key Points

- ★ **About:**
- ★ Every January, thousands of volunteers across Asia and Australasia visit wetlands in their country and count waterbirds. This citizen science programme is the Asian Waterbird Census (AWC).
- ★ The AWC is an integral part of the global waterbird monitoring programme, the International Waterbird Census (IWC), coordinated by Wetlands International.
- ★ The IWC is a monitoring programme operating in 143 countries to collect information on the numbers of waterbirds at wetland sites.
- ★ Wetlands International is a global not-for-profit organisation dedicated to the conservation and restoration of wetlands.
- ★ It runs in parallel with other regional programmes of the International Waterbird Census in Africa, Europe, West Asia, the Neotropics and the Caribbean.

Scope:

- ★ It was initiated in 1987 in the Indian subcontinent and has grown rapidly to cover major regions of Asia, from Afghanistan eastwards to Japan, Southeast Asia and Australasia.
- ★ The census covers the entire East Asian - Australasian

JOIN US FOR **THE ASIAN WATERBIRD CENSUS 2021**

Be the part of a **Global Programme** to assess the status as well as **Conservation of our wetlands**

Join us by

- Simply visiting a **wetland near by** and **count the birds** there
- Upload your data in **ebird** and fill out **wetland assessment form 2021**
- share ur checklist to ebird username **awcindia & awckasaragod**

Choose your dates between **2 - 18 January 2021** and
join this **citizen science event**



Observe Covid Protocols while birding. Counts from any dates in January and February are welcomed.
for more information visit <https://birdcount.in/event/awc2021/>



eBird



Flyway and a large part of the Central Asian Flyway.

- ★ The East Asia - Australasia Flyway extends from Arctic Russia and North America to the southern limits of Australia and New Zealand. It encompasses large parts of East Asia, all of Southeast Asia and includes eastern India and the Andaman and Nicobar Islands.
- ★ The Central Asian Flyway (CAF) covers a large continental area of Eurasia between the Arctic and Indian Oceans and the associated island chains.

Benefits:

- ★ The count not only gives an **idea of the birds at the wetland** but also the **health of the wetland** - a good number of waterbirds indicates that it has adequate feeding, resting, roosting and foraging spots.

- ★ The information collected helps to promote the designation and management of internationally important sites such as nationally protected areas, Ramsar Sites, East Asian - Australasian Flyway Network Sites, Important Bird and Biodiversity Areas (IBAs).
- ★ It also helps in implementation of the Convention on Migratory Species (CMS) and the Convention on Biological Diversity's (CBD).

AWC in India:

- ★ The AWC is jointly coordinated by the Bombay Natural History Society (BNHS) and Wetlands International.
- ★ BNHS is a pan-India wildlife research organization, which has been promoting the cause of nature conservation since 1883.
- ★ A reference list of internationally important AWC sites and

wetland IBAs in India has been prepared.

- ★ India has 42 Ramsar sites, the latest one included is Tso Kar Wetland Complex of Ladakh.
- ★ BirdLife's Important Bird and Biodiversity Area (IBA) Programme identifies, monitors and protects a global network of priority sites for the conservation of birds and other wildlife. India has more than 450 sites.
- ★ The 13th Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS COP13) concluded in Gandhinagar, Gujarat in February 2020.
- ★ Ten new species were added to CMS Appendices at COP13. Seven species were added to Appendix I (provides the strictest protection) including

the Asian Elephant, Jaguar, Great Indian Bustard, Bengal Florican, etc.

- ★ India submitted its Sixth National Report (NR6) to the Convention on Biological Diversity (CBD) in December 2018.

Bleaching of World's Coral Reefs

Every one of the world's coral reefs could bleach by the end of the century, unless there are drastic reductions in greenhousegas emissions, the United Nations Environment Programme (UNEP) has warned. Background

- ★ Coral reefs are incredibly important and sustain a wide variety of marine life. They also protect coastlines from erosions from waves and storms, sink carbon and nitrogen and help recycle nutrients.
- ★ Their loss would have devastating consequences not only for marine life, but also for over a billion people globally who benefit directly or indirectly from them.
- ★ Increasingly frequent severe coral bleaching is among the greatest threats to coral reefs posed by climate change. Global climate models (GCMs) project great spatial variation in the timing of annual severe bleaching (ASB) conditions; a point at which reefs are certain to change and recovery will be limited.
- ★ Among the goals of the Paris Agreement adopted at the UNFCCC Conference of Parties (COP) in 2015 is to hold temperature "well below" 2°C while also pursuing efforts to stay

below 1.5°C. This legally binding agreement entered into force 4 November 2016.

- ★ Coral reef futures vary greatly among and within countries. Coral reef climate losers and winners occur in all of the ocean basins; however, some countries have more climate winners than others. Five of the 20 countries with the greatest total reef area have more than 20% climate winners (i.e. projected ASB after 2053), including: Egypt (37%), Australia (29%), Cuba (22%), Bahamas (21%), and India (20%).
- ★ Five of the 20 countries with the greatest reef area have less than 5% of pixels that are relative climate losers (i.e., projected ASB before 2033), including: Saudi Arabia (33%), Egypt (33%), Papua New Guinea (8%), Madagascar (7%), and Bahamas (5%).

Corals are Animals

- ★ Corals are animals that create their own skeleton to help support them. These animals live in shallow warm waters around the world using sunlight to synthesize their sugarbased food. Reefs are not just "beautiful ecosystems" renowned for their biological diversity, they are also crucial to life on Earth.
- ★ Almost 25 per cent of all marine life lives on a reef at some point and so without them many species of fish that we eat wouldn't exist. Corals provide a natural protection for our coastlines, for example against tsunamis. They also support people's livelihoods in the form of fishing and tourism and contribute 350 billion annually to the global econo-
- my. So, there are many reasons we should save them.

Coral bleaching

- ★ When water temperatures rise, corals expel the vibrant microscopic algae living in their tissues. This phenomenon is called coral bleaching. Though bleached corals are still alive and can recover their algae, if conditions improve. However, the loss puts them under increased stressed, and if the bleaching persists, the corals die.
- ★ The last global bleaching event started in 2014 and extended well into 2017. It spread across the Pacific, Indian and Atlantic oceans, and was the longest, most pervasive and destructive coral bleaching incident ever recorded.
- ★ In its report Projections of Future Coral Bleaching Conditions, UNEP outlines the links between coral bleaching and climate change. It postulates two possible scenarios: a "worst-case scenario" of the world economy heavily driven by fossil fuels; and a "middle-of-the-road" wherein countries exceed their current pledges to limit carbon emissions by 50 per cent.
- ★ Under the fossil-fuel-heavy scenario, the report estimates that every one of the world's reefs will bleach by the end of the century, with annual severe bleaching occurring on average by 2034, nine years ahead of predictions published three years ago.
- ★ This would mark the point of no return for reefs, compromising their ability to supply a range of ecosystem services,

including food, coastal protection, medicines and recreation opportunities, the report warns. Should countries achieve the "middle-of-the-road" scenario, severe bleaching could be delayed by eleven years, to 2045, adds UNEP

Corals in India

- ★ The Coral reefs in India are mainly restricted to the Andaman and Nicobar Islands, Gulf of Mannar, Gulf of Kutch, Palk Strait and the Lakshadweep islands.
- ★ All of these reefs are Fringing reefs, except Lakshadweep which are Atolls. There are Patchy corals present along the inter-tidal areas of the central west coast like the intertidal regions of Ratnagiri, Gaveshani Bank etc.
- ★ The Hermatypic corals are also present along the sea shore from Kollam in Kerala to Enayam Puthenthurai in Tamilnadu.
- ★ The Major Institutions in India involved in the management, monitoring and research on Coral reefs are the Ministry of Earth Sciences, the Zoological Survey of India, Central Marine Fisheries Research Institute, Madurai Kamaraj University, Annamalai University, National Centre for Earth Science Studies, National Institute of Ocean Technology, National Institute of Oceanography, India etc.
- ★ The Space Applications Centre in Ahmedabad is involved in the data collection of areas under Coral reefs using remote sensing.

Conserving Corals

- ★ Over the past few years, there's been a steady increase and interest in a number of coral conservation activities that fall into the broad category of restoration. These include coral gardening, breeding corals in tanks and transplanting them onto reefs and growing corals on artificial reef structures in the water.
- ★ While coral reef sustainability depends largely on reducing carbon emissions, identifying reefs that are likely to respond - or importantly, not respond - to local management is critical to targeting development and management strategies to build the well-being of the millions of people dependent on coral reefs across the globe.
- ★ Another approach is to restoration is to select or genetically engineer corals that have particular traits— such as the ability to thrive in hot water— breed these corals in lab aquaria and out-plant them onto reefs.

Way Forward

- ★ Controlling anthropogenic factors and limiting climate crisis is one of the topmost priorities of the century. The pandemic has exposed the human vulnerabilities to the nature and need to have peace with it.
- ★ Danger to the corals is needed to be addressed in urgent manner. It is one of the signs that harbinger the threats of climate crisis. Adherence to protocol limits and adoption of greener technologies are needed to implement the changes at human levels.

Lancet Report on Air Pollution and Pregnancy Losses

According to recent study poor air quality is associated with a considerable proportion of pregnancy loss in India, Pakistan, and Bangladesh.

- ★ It is the first study to estimate the effect of air pollution on pregnancy loss across the region.

Key Points

- ★ **The Study:** They created a model to examine how exposure to PM 2.5 increased women's risk of pregnancy loss, calculating risk for each $10 \mu\text{g}/\text{m}^3$ increased in PM 2.5 after adjusting for maternal age, temperature and humidity, seasonal variation, and long-term trends in pregnancy loss.
- ★ Each increase in $10 \mu\text{g}/\text{m}^3$ was estimated to increase a mother's risk of pregnancy loss by 3%.
- ★ The increase in risk was greater for mothers from rural areas or those who became pregnant at an older age, compared to younger mothers from urban areas.
- ★ **Area Specific Report:** Of the pregnancy loss cases, 77% were from India, 12% from Pakistan, and 11% from Bangladesh.

Limitations:

- ★ The study was unable to distinguish between natural pregnancy loss and abortions, which may have led to an underestimation of the effect of air pollution on natural pregnancy loss.
- ★ There was under-reporting of pregnancy losses because

of stigma or ignoring very early pregnancy losses.

Air Pollution

- ★ Air pollution refers to any physical, chemical, or biological change in the air. It is the contamination of air by harmful gases, dust, and smoke which affects plants, animals, and humans drastically.
- ★ **Air Pollutants:** Pollutants are the substances which cause pollution. Types:
 - ★ **Primary:** The pollutants that directly cause air pollution or the pollutants that are formed and emitted directly from particular sources. Examples are particulate matter, carbon monoxide, nitrogen oxide, and sulfur oxide.
 - ★ **Secondary:** The pollutants formed by the intermingling and reaction of primary pollutants are known as secondary pollutants. Examples are ozone and secondary organic aerosol (haze).
- ★ **Causes of Air Pollution:** Major sources of air pollution are:
 - ★ **Indoor burning of fossil fuels, woods and other biomass** to cook, heat and light homes.
 - ★ **Industry**, including power generation such as coal-fired plants and diesel generators.
 - ★ **Transport**, especially **vehicles** with diesel engines.
 - ★ **Agriculture**, including livestock, which produces methane and ammonia, rice paddies, which produce methane, and the burning of agricultural waste.
 - ★ **Open waste burning** and organic waste in landfills.
 - ★ **Impact of Air Pollution on Human Health:** As per the State of Global Air 2020 (SoGA 2020) released by the Health Effects Institute (HEI):
 - ★ High PM contributed to the deaths of more than 1,16,000 Indian infants who did not survive their first month.
 - ★ More than half of these deaths were associated with outdoor PM2.5 and others were linked to the use of solid fuels such as charcoal, wood, and animal dung for cooking.
 - ★ According to the 2017 Global Burden of Disease report published by the Lancet Planetary Health journal:
 - ★ India, which accounts for 18% of the global population, recorded 26% of the global premature deaths and disease burden due to air pollution.
 - ★ One in every eight deaths in India (2017) could be attributed to air pollution, which now contributes to more disease burden than smoking.
 - ★ Household air pollution causes about 3.8 million premature deaths each year.
 - ★ Air quality has become a serious health issue because the pollutants enter deep inside the lungs and the lungs capacity to purify blood gets reduced which affects the person's growth, mental ability and the working capacity especially for children, pregnant women and elderly people.
 - ★ In children, it is associated with low birth weight, asthma, childhood cancers, obesity, poor lung development and autism, among others.
 - ★ **Indian Initiatives to Control Air Pollution:** The Commission for Air Quality Management in National Capital Region (NCR) and Adjoining Areas: It coordinates efforts of state governments to curb air pollution, and will lay down the parameters of air quality for the region.
 - ★ **Bharat Stage (BS) VI norms:** These are emission control standards put in place by the government to keep a check on air pollution.
 - ★ **Dashboard for Monitoring Air Quality:** It is a National Air Quality Monitoring Programme (NAMP) based dashboard, built on data from the Central Pollution Control Board's National Ambient Air Quality Monitoring (NAAQM) Network which was started in 1984-85 and covers 344 cities/towns in 29 states and 6 UTs.
 - ★ **National Clean Air Programme:** Launched in 2019, it is a comprehensive pan-India air pollution abatement scheme for 102 cities.
 - ★ **National Air Quality Index (AQI):** It focuses on health effects one might experience within a few hours or days after breathing polluted air.
 - ★ **National Ambient Air Quality Standards:** They are the standards for ambient air quality with reference to various identified pollutants notified by the Central Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981.
 - ★ **Breathe:** It is a 15 point action plan to fight air pollution by NITI Aayog.
 - ★ **Pradhan Mantri Ujjwala Yojana (PMUY):** It aims at providing clean-cooking fuel to the poor households and bringing in qualitative changes in the living standards.

International Initiatives:

- ★ **Climate and Clean Air Coalition:** Launched in 2019
- ★ It is a **voluntary partnership** of governments, intergovernmental organizations, businesses, scientific institutions and civil society organizations **committed to protecting the climate and improving air quality through actions to reduce short-lived climate pollutants.**
- ★ India is a member of the coalition.
- ★ **United Nations Clean Air Initiative:** It calls on national and subnational governments to commit to achieving air quality that is safe for citizens, and to align climate change and air pollution policies by 2030.
- ★ **World Health Organization (WHO)'s 4 Pillar Strategy:** WHO adopted a resolution (2015) to address the adverse health effects of air pollution.

PM (Particulate Matter) 2.5

- ★ PM 2.5 is an atmospheric particulate matter of diameter of fewer than 2.5 micrometres, which is around 3% the diameter of a human hair.
- ★ It causes respiratory problems and also reduces visibility. It is an endocrine disruptor that can affect insulin secretion and insulin sensitivity, thus contributing to diabetes.
- ★ It can only be detected with the help of an electron microscope because of them being very small.
- ★ Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes.

Way Forward

- ★ There is a need to urgently confront air pollution and strengthen health systems. The short-term respite from air pollution that most big cities in the world experienced was because of **lockdown measures and not a permanent fix.**
- ★ Also there is a need to **increase public awareness on air pollution. Educate and inform people about what they can do to reduce air pollution.** Put out public health messages on the metro, buses, billboards, and radio to help change public behaviour.

Longitudinal Ageing Study of India



Recently, the Ministry of Health & Family Welfare has released the Longitudinal Ageing Study of India (LASI) Wave-1 Report on the virtual platform.

Key Points

- ★ **About LASI:**
- ★ It is a full scale national survey of scientific investigation of the health, economic, and social determinants and consequences of population ageing in India. It was commissioned in 2016.
- ★ It is India's first and the world's largest ever survey that provides a longitudinal database for designing policies and programmes for the older popula-

tion in the broad domains of social, health, and economic well-being.

- ★ **Agencies Involved:** The National Programme for Health Care of Elderly, Ministry of Health & Family Welfare has undertaken the Longitudinal Ageing Study of India, through International Institute for Population Sciences, (IIPS), Mumbai in collaboration with Harvard School of Public Health, University of Southern California, USA, United Nations Population Fund (UNFPA) and National Institute on Ageing.

Coverage:

- ★ The first national wave of the LASI (Wave 1) covered a baseline sample of 72,250 individuals aged 45 and above and their spouses, including elderly persons aged 60 and above and oldest-old persons aged 75 and above from all States and Union Territories (UTs) of India (excluding Sikkim).

Methodology:

- ★ It collects detailed data on health and biomarkers together with information on family and social network, income, assets, and consumption.
- ★ In medicine, a biomarker is a measurable indicator of the severity or presence of some disease state. More generally a biomarker is anything that can be used as an indicator of a particular disease state or some other physiological state of an organism.

Findings:

- ★ In the 2011 census, the 60+ population accounted for 8.6% of India's population, accounting for 103 million elderly people.

- ★ Growing at around 3% annually, the number of elderly people will rise to 319 million in 2050.
- ★ 75% of the elderly people suffer from one or the other chronic disease. 40% of the elderly people have one or the other disability and 20% have issues related to mental health.
- ★ The self-reported prevalence of diagnosed cardiovascular diseases (CVDs) is 28% among older adults aged 45 and above.
- ★ The prevalence of multi-morbidity conditions among the elderly age 60 and above is much higher in the states/UTs of Kerala (52%), Chandigarh (41%), Lakshadweep (40%), Goa (39%) and Andaman & Nicobar Islands (38%). The prevalence of single morbidity and multi-morbidity conditions increases with age.

Significance:

- ★ The evidence from LASI will be used to further strengthen and broaden the scope of the National Programme for Health Care of the Elderly and also help in establishing a range of preventive and health care programmes for the older population and most vulnerable among them.
- ★ The study holds significance in light of the ongoing Covid-19 pandemic with the elderly and persons with comorbidities being at the highest risk of contracting the disease.
- ★ Comorbidity simply means more than one illness or disease occurring in one person at the same time and multimorbidity means more than two illnesses or diseases occurring in the same person at the same time.

MukundPura

Meteorite

A recent study has shed light on the mineralogy of the meteorite named Mukundpura CM2 which fell in Mukundpura village near Jaipur in 2017.

- ★ A meteorite is a **solid piece of debris** from an object, such as a **comet, asteroid, or meteoroid**, that **originates in outer space** and survives its passage through the atmosphere to reach the **surface of a planet or moon**.

Key Points

About:

- ★ The meteorite named Mukundpura CM2 was classified to be a carbonaceous chondrite. The composition of carbonaceous chondrites are also similar to the Sun.
- ★ Chondrites are silicate -droplet -bearing meteorites, and this Mukundpura chondrite is the 5th carbonaceous meteorite known to fall in India.
- ★ Classification Of Meteorite:
- ★ Meteorites are classified into three groups: Stony (silicaterich), Iron (Fe-Ni alloy), and Stony Iron (mixed silicate iron alloy).

- ★ Mukundpura CM2 is a type of stony meteorite, considered the most primitive meteorite and a remnant of the first solid bodies to accrete in the solar system.

Components of Meteorite:

- ★ Detailed spectroscopic studies revealed that the **meteorite had very high (about 90%) phyllosilicate minerals** comprising both **magnesium and iron**.

- ★ **Forsterite and FeO olivine, calcium aluminium rich inclusion (CAI) minerals.**

- ★ Few **magnetites, sulphides, aluminium complexes and calcites** were also found.

Importance of studying Asteroid:

- ★ Understanding of Solar system's history.
- ★ How the solar system evolved into the Sun and planets of today.
- ★ The effects of impact of meteorites.
- ★ They are often rich in volatiles and other minerals and can be exploited for future planetary exploration.

Adaptation Gap Report 2020: UNEP

Recently, the United Nations Environment Programme (UNEP) Adaptation Gap Report 2020 estimated the annual cost of adaptation to the effects of climate change for developing countries to at least quadruple by 2050.

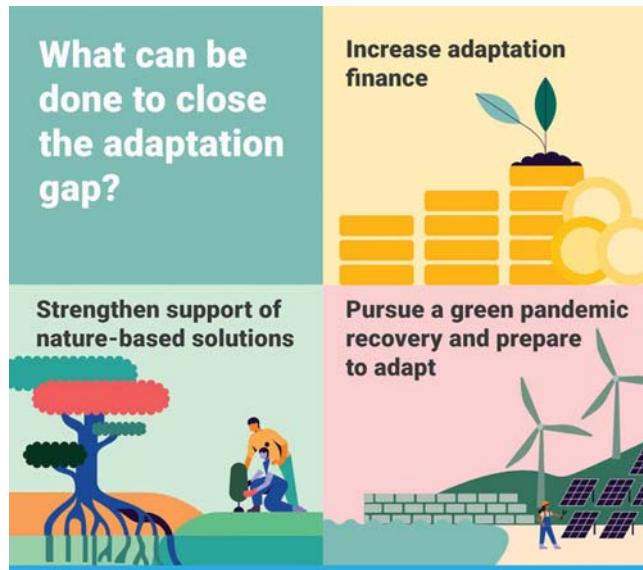
- ★ The current cost for these countries is in the range of USD 70 billion (Rs 5.1 lakh crore) and may rise to USD 140-300 billion in 2030 and USD 280-500 billion in 2050.

Key Points

Adaptation Cost:

- ★ It includes costs of planning, preparing for, facilitating and implementing adaptation measures.
- ★ The ever-increasing adaptation cost has also outpaced the growth in adaptation finance and that is the reason for a maintained Adaptation Finance gap.

- ★ **Adaptation**
Finance: It refers to the flow of funds to developing countries to help them tide over the damages caused by weather events from climate change.



★ Adaptation Finance

gap: It is the difference between Adaptation Cost and Adaptation Finance.

- ★ Adaptation costs, in actual terms, is higher in developed countries but the burden of adaptation is greater for developing countries in relation to their gross domestic product.
- ★ The developing countries, especially in Africa and Asia, which are least equipped to tackle climate change will also be the most impacted by it.

Global Challenges :

- ★ **Rising Temperature:** The world is heading for at least a 3°C temperature rise this century, according to current Paris Agreement pledges. Even if we limit global warming to well below 2°C, or even 1.5°C, the poor countries will suffer.
- ★ **The Pandemic:** The Covid-19 pandemic has impacted adaptation efforts but its effect is not yet quantified.
- ★ **Other Challenges:** Last year was not just marked by the pandemic but also by devastating natural calamities like floods, droughts, storms, f

orest fires and locust plagues impacting around 50 million lives globally.

- ★ **Global Adaptation for Climate Change:** Three-quarters of all the countries have adopted at least one climate change adaptation planning instrument and most developing countries are working on national adaptation plans.

Some of the Indian Initiatives to Fight Climate Change:

- ★ India has shifted from Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI) emission norms from 1st April 2020 which was earlier to be adopted by 2024.
- ★ **National Clean Air Programme (NCAP):** It was launched in **January 2019**.
- ★ It is a five-year action plan with a tentative target of 20-30% reduction in concentrations of PM10 and PM2.5 by 2024, with 2017 as the base year.
- ★ It has distributed more than 360 million LED bulbs under the UJALA scheme, which has led to energy saving of about 47 billion units of electricity per year and reduction

of 38 million tonnes of CO₂ per year.

- ★ **The Jawaharlal Nehru National Solar Mission:** It was **launched in 2009** with the primary aim of achieving grid parity by 2022 and with coal-based thermal power by 2030.
- ★ Aims to **increase the share of solar energy in India's energy mix**.
- ★ **National Action Plan on Climate Change (NAPCC):** It was launched in 2008.
- ★ It aims at creating awareness among the representatives of the public, different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it.

Mining in India equals selling the family gold

India's National Mineral Policy 2019 states that "natural resources, including minerals, are a shared inheritance where the state is the trustee on behalf of the people to ensure that future generations receive the benefit of inheritance."

However, mining is the act of removing and consuming a limited resource. Moreover, the Government of India and state governments treat the mineral sale proceeds as revenue or income. This leaves neither the minerals nor their value for future generations to inherit.

Further, as the mined materials support roughly 45% of the world's economic activities, this large-scale mining also has a social and environmental impact.

In this context, there is a need

to adhere to the principle of Intergenerational Equity, which makes it imperative to ensure future generations inherit at least as much as that of the current generation.

Issues Associated with Unsustainable Mining

- ★ **Going Beyond Carrying Capacity:** In many cases, mining operations have been carried out without concern for the 'carrying capacity' of the environment and other infrastructural limitations.
 - ★ This has put avoidable pressure on the environment and caused inconveniences to the people living in the mining areas.
 - ★ **Loss of Public Revenue:** Driven by lobbying, political donations, and corruption, minerals are often sold at prices significantly lower than what they are worth.
 - ★ Illegal mining, in many cases, has a similar effect while additionally causing loss of public revenues.
 - ★ According to the International Monetary Fund, due to unsustainable mining, many governments of resource-rich nations face declining public sector net worth.
 - ★ **Large Number of Small Mines:** In India, many small mines (including quarries for extracting minor minerals) operate in most states.
 - ★ These present difficult challenges for sustainable development as their financial, technical, and managerial limitations restrict their ability to take adequate corrective measures.
 - ★ **Growing Inequality & Loss of Natural Wealth:** Naturally, the extractors are keen to extract as quickly as possible and move on. This deepens inequalities, as a few extractors acquire wealth without proper redistribution to the people.
 - ★ It also results in the loss of natural wealth. For example, it is estimated from the annual reports of Vedanta that over eight years (2004-2012), the State of Goa lost more than 95% of the value of its minerals.
- ### **Way Forward**
- ★ **Life-Cycle Approach:** There is a need to apply sustainability principles to all stages of the mine life cycle - exploration, mine planning, construction, mineral extraction, mine closure, and post-closure reclamation and rehabilitation. These principles include elements such as:
 - ★ Intra And Inter-generational Equity,
 - ★ The Precautionary Principle,
 - ★ Scientific Mining,
 - ★ Management of Environmental and Socioeconomic Impacts.
 - ★ **Creation of Future Generation Fund:** Like Norway, the entire mineral sale proceeds must be saved in a Future Generations Fund.
 - ★ Also, in 2014 the Supreme Court set up a global judicial precedent by ordering the creation of a Goa Iron Ore Permanent Fund. This model is worth emulating in all the major mining areas.
 - ★ **Adherence to Zero-Loss Principle:** If we extract and sell our mineral wealth, the explicit objective must be to achieve zero loss in value.
- ★ The state as trustee must capture the full economic rent (sale price minus the cost of extraction, cost including reasonable profit for extractor).
 - ★ **Consortia of Small Mining Enterprises:** In order to alleviate the limitations of small mines in carrying out sustainable development activities, consortia of small mining enterprises in a region should be promoted.
 - ★ Also, technical advisory services should be made available to them in the relevant areas.
 - ★ **Environmental Footprint Framework:** A common sustainable mining framework should be focused on reducing the environmental impacts of mining.
 - ★ Strategies for assessing mining operations' sustainability include measuring, monitoring, and improving various environmental performance metrics. These are used to determine whether a mining operation is sustainable.
 - ★ The key metrics for environmental sustainability in mining relate to efficiencies in resource consumption, minimizing land disturbance, pollution reduction, as well as closure and reclamation of exhausted mine lands.
 - ★ **Multi-Stakeholder Approach:** Preparation of a socio-economic assessment report for a mining project should be made a part of the permitting process for the grant and administration of mineral concession to a mining enterprise.
 - ★ Mining enterprises should preferably execute local socio-economic development works

rather than government and semi-government agencies to avoid the problems of inadequate capacity, political manipulation, and corruption.

Conclusion

Since minerals are a shared inheritance held in trust for the people and future generations, it is essential that as a nation, we change our paradigm to understand minerals as a "shared inheritance," not a source of "windfall revenue."

India's Draft Arctic Policy

Recently, India drafted a new Arctic policy that aims at expanding scientific research, sustainable tourism and exploration of mineral oil and gas in the Arctic region.

Key Points

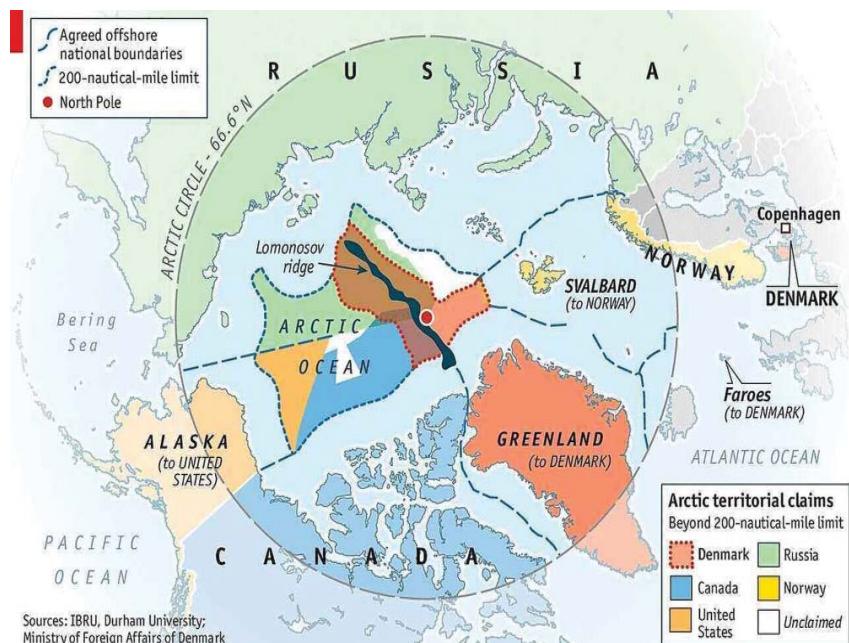
★ About the Policy:

★ Nodal Body: India has designated Goa-based **National Centre for Polar and Ocean Research** to lead scientific research and act as a nodal body to coordinate among various scientific bodies to promote domestic scientific research capacities in the Arctic.

Objectives:

★ Promoting Scientific Study of Arctic: Orient the curriculum on earth sciences, biological sciences, geosciences, climate change and space related programmes with Arctic imperatives in Indian Universities.

★ Planning Explorations: Formulating effective plans for Arctic related programmes for mineral/oil and gas exploration in petroleum research institutes



★ Promoting Arctic Tourism:

Encouraging tourism and hospitality sectors by building specialised capacities and awareness by engaging with Arctic enterprises.

★ About Arctic:

★ The Arctic is a polar region located at the northernmost part of Earth.
★ The Arctic consists of the Arctic Ocean, adjacent seas, and parts of Alaska (United States), Canada, Finland, Greenland (Denmark), Iceland, Norway, Russia, and Sweden.

★ Land within the Arctic region has seasonally varying snow and ice cover.

★ Ecological Impact of Warming on Arctic:

★ Rising Sea Levels: The loss of ice and the warming waters affects sea levels, salinity levels, and current and precipitation patterns.

★ Deterioration of Tundra: The Tundra is returning to swamp, the permafrost is thawing, sud-

den storms are ravaging coastlines and **wildfires** are devastating interior Canada and Russia.

★ Tundra: Found in regions north of the Arctic Circle and south of the Antarctic Circle. These are **treeless regions**.

★ Threat to Biodiversity: The phenomenally rich biodiversity of the Arctic region is under serious threat.

★ The absence of year-long ice and higher temperatures are making the survival of Arctic marine life, plants and birds difficult while encouraging species from lower latitudes to move north.

★ Extinction of Indigenous Cultures: The Arctic is also home to about 40 different indigenous groups, whose culture, economy and way of life is in danger of being swept away.

★ Increasing human encroachment with its attendant stresses will only aggravate this impact and upset a fragile balance.

Commercial Importance of Arctic:

★ **Abundant Resources:** The opening of the Arctic presents huge commercial and economic opportunities, particularly in shipping, energy, fisheries and mineral resources.

★ Commercial Navigation:

★ **The Northern Sea Route (NSR):** It is a shipping lane connecting the North Atlantic to the North Pacific through a short polar arc which could revolutionise the prospects of trade in Russia and Scandinavian countries.

★ It is approx 40% shorter than via the Suez Canal or 60% shorter via the Cape of Good Hope.

★ It would cause substantial reductions in transportation time, fuel consumption, limit environmental emission and eliminate piracy risk.

★ **Oil and Natural Gas Deposits:** Estimated to be 22% of the world's unexplored resources, mostly in the Arctic ocean, will be open to access along with mineral deposits including 25% of the global reserves of rare earths, buried in Greenland.

Issues Involved: Navigation conditions are dangerous and restricted to the summer.

★ Lack of deep-water ports, a need for ice-breakers, shortage of workers trained for polar conditions, and high insurance costs add to the difficulties.

★ Mining and deep-sea drilling carry massive costs and environmental risks.

★ Unlike Antarctica, the Arctic is not a global common and there

is no overarching treaty that governs it.

Conflict over Arctic:

★ Russia, Canada, Norway and Denmark have put in **overlapping claims for extended continental shelves**, and the right to sea-bed resources.

★ Russia is the dominant power, with the longest Arctic coastline, half the Arctic population, and a full-fledged strategic policy.

★ Claiming that the NSR falls within its territorial waters, Russia anticipates huge dividends from commercial traffic including through the use of its ports, pilots and ice-breakers.

★ Russia has also activated its northern military bases, refurbished its nuclear armed submarine fleet and demonstrated its capabilities, including through an exercise with China in the eastern Arctic.

★ China, playing for economic advantage, has moved in fast, projecting the **Polar Silk Road** as an extension of the **Belt and Road Initiatives**, and has invested heavily in ports, energy, undersea infrastructure and mining projects.

India's Interests in Arctic:

★ **Environmental Interest:** India's extensive coastline makes it vulnerable to the impact of Arctic warming on ocean currents, weather patterns, fisheries and most importantly, the monsoon.

★ Arctic research will help India's scientific community to study melting rates of the Himalayan glaciers, which are endowed

with the largest freshwater reserves in the world outside the geographic poles.

Scientific Interest:

★ **Research Stations:** India launched its first scientific expedition to the Arctic in 2007 and set up a research station '**Himadri**' in the international Arctic research base at Ny-Ålesund in Spitsbergen, Svalbard, Norway.

★ India has two other observatories in **Kongsfjorden** and **Gruvebadet** in Norway.

★ **Studying Himalayan Glaciers:** Scientific research in Arctic developments, in which India has a good record, will contribute to its understanding of climatic changes in the third Pole, the Himalayas.

Strategic Interest:

★ **Countering Chinese Influence:** The strategic implications of an active China in the Arctic and its growing economic and strategic relationship with Russia are self-evident and need close monitoring.

★ **Arctic Council Membership:** Since 2013, India has had observer status in the **Arctic Council**, which is the predominant inter-governmental forum for cooperation on the environmental and development aspects of the Arctic.

Way Forward

★ It is high time that India's presence in the Arctic expands from the dimension of scientific exploration to strategic, economic, environmental and political aspects. Thus, drafting of New Arctic policy suits the need of the hour.



SCIENCE AND TECHNOLOGY

Electric Vehicle Development in India

Recently, India's government has allowed the Electric Vehicle (EV) significant Tesla to launch its India operations, which are expected to start early next year. This move could revolutionise India's automobile sector.

With Tesla entering into the Indian market, in due course of time, it will lead to more money flowing into research into EVs and India could emerge as the prominent manufacturer of electric vehicles like cars, bikes, and tractors.

The arguments favouring a shift towards electric vehicles are straightforward, arising mainly as a response to pollution and energy security challenges.

However, the shift in favour of EVs has its roadblocks, and therefore, the government's support will be needed to incentivise a change to electric vehicles.

Advantages of EVs

An analysis by TERI suggests that shifting towards EVs would reduce pollution, lower oil

imports, and cut carbon emissions and road congestion.

- ★ **Curbing Pollution:** India has 21 of the world's 30 cities with the worst air pollution as per data from IQAir AirVisual's 2019 World Air Quality Report. Much of the pollution load can be traced to vehicular emissions.
 - ★ In this context, electric vehicles' adoption will reduce overall emissions and meet the Paris agreement targets.
 - ★ **Energy Security:** Such a shift would also help lower the country's dependence on oil imports.
 - ★ Moreover, the fuel cost has increased across households as the number of people with vehicles is rising.
 - ★ As there is further up and down in petrol and diesel costs due to fluctuations in the international market price, the electric vehicles come across as a suitable way to save money.
- Challenges Related to EVs**
- ★ **Lack of Charging Infra-structure:** Electric Vehicles are fixed for a specific range; they can't go beyond that. Thus, the biggest problem is the lack of an adequate number of recharge points.
 - ★ Moreover, the charging activity itself consumes a lot of time. So it poses a big question mark over the quick adoption by the buyers keeping in mind the convenience of fuel stations which can be found easily.
 - ★ **High Cost Associated With EVs:** The cost of EVs is still pretty high compared to conventional fuel vehicles. The primary reason behind it is the use of Li-ion batteries.
 - ★ Further, most reserves are located in a few countries. For example, 65% of lithium reserves are in Bolivia and Chile, while 60% of cobalt reserves are in Congo.
 - ★ The short supply of these essentials metals has made EVs expensive.
 - ★ Moreover, the world's problem does not have enough lithium or cobalt reserves to replace current automobiles with EVs.

- ★ **Dependence on China:** India imports 90% of electric scooter components from China. Currently, an Indian car uses 10-15% imported parts. EVs will increase import dependence to 70% or more.
 - ★ Moreover, setting up domestic battery manufacturing units would have its problems, as it would be difficult to match the prices of subsidised imported batteries.
 - ★ **Disruption to the Automobile Sector:** For switching to EVs, India first needs to prepare for the coming upheaval in the automobile industry.
 - ★ EV has 20 moving parts, while regular petrol or diesel vehicles have more than 2,000.
 - ★ For this reason, when fully adopted, EVs will kill most auto component firms.
- Way Forward**
- ★ **Enabling Charging Infrastructure:** Government's intervention in creating the charging infrastructure is required to facilitate its large-scale adoption.
 - ★ Affordable and convenient charging will, after all, increase the segment's attractiveness for consumers.
 - ★ **Switching Batteries System:** There is a need to design interchangeable batteries and switching stations.
 - ★ Charging is one of the major concerns for batteries as it takes quite some time to get fully charged. Designing a system where empty batteries of electric cars will replace a fully charged battery in a few minutes, will solve the time and charging point constraint.
- ★ **R & D in Breakthrough Battery Technology:** Investment in Research & development for quick-charging batteries is required.
 - ★ In this context, the use of fuel cells is another big idea. Fuel cell EVs powered by hydrogen emit only water vapour and warm air.
 - ★ **Securing Supply of Essential Metals:** India can sign various deals and ensure a supply of essential metals with purchases of mines in Congo, Bolivia, Chile and Australia so that it doesn't fall short of raw material in the EVs segment.
 - ★ **Need for Reskilling:** India would also need to reskill many motor mechanics in **Industry 4.0 technologies**. They need to learn how to repair EVs which have sophisticated electronics.

Conclusion

Future of electric cars looks bright as it certainly can reduce our dependence on oil and fossil fuel, which can significantly bring down global pollution and help control climate change.

The biggest challenge with electric cars is their energy (or electricity) storage capacity. This was one of the main reasons gasoline (or petrol) cars got prominence in the early 1900s.

Therefore, EVs are the future of mobility, but the end will happen only when an inexpensive next-gen battery is in the market.

Quantum Technology

The detailed project report for a National Mission on Quantum Technology and Applications (NMQTA) has been drawn out and finalised.

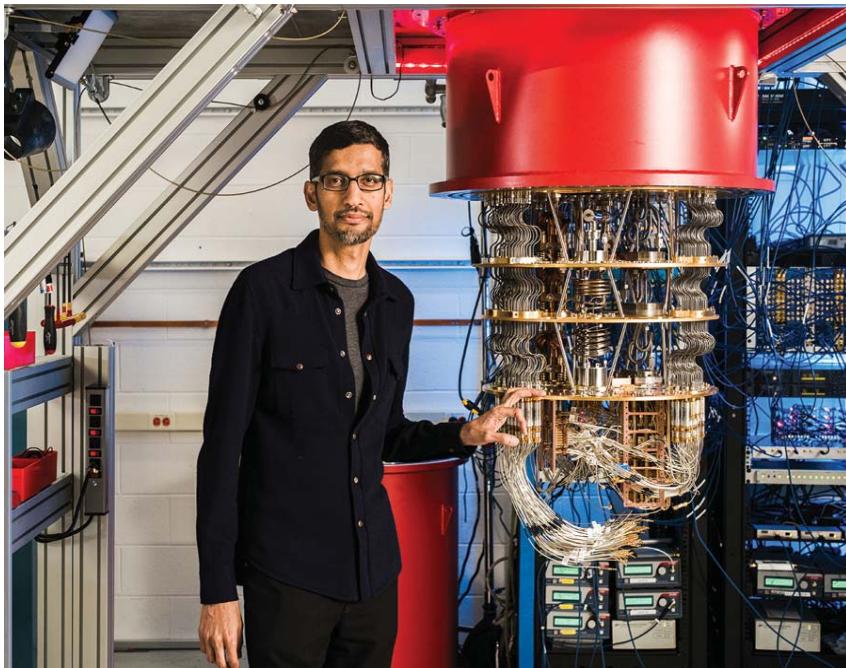
- ★ Union Budget 2020-21 proposed to spend Rs 8,000 crore on the newly launched NMQTA.
- ★ In 2018, the Department of Science & Technology unveiled a programme called Quantum-Enabled Science & Technology (QuEST) and committed to investing Rs. 80 crore over the next three years to accelerate research.
- ★ The mission seeks to develop quantum computing linked technologies amidst the second quantum revolution and make India the world's third-biggest nation in the sector after the US and China.

Key Points

- ★ **About Quantum Technology/ Computing:** Quantum Technology is based on the principles of Quantum mechanics that was developed in the early 20th century to describe nature at the scale of atoms and elementary particles.
- ★ The first phase of this revolutionary technology has provided the foundations of our understanding of the physical world, including the interaction of light and matter, and led to ubiquitous inventions such as lasers and semiconductor transistors.
- ★ A second revolution is currently underway with the goal of putting properties of quantum mechanics in the realms of computing.

Difference Between Conventional and Quantum Computing:

- ★ Conventional computers process information in 'bits' or 1s and 0s, following classical



Applications of Quantum Technology:

- ★ **Secure Communication:** China recently demonstrated secure quantum communication links between terrestrial stations and satellites.
- ★ This area is significant to satellites, military and cyber security among others as it promises unimaginably fast computing and safe, unhackable satellite communication to its users.

Research:

- ★ It can help in solving some of the fundamental questions in physics related to gravity, black hole etc.
- ★ Similarly, the quantum initiative could give a big boost to the **Genome India project**, a collaborative effort of 20 institutions to enable new efficiencies in life sciences, agriculture and medicine.

Disaster Management:

- ★ **Tsunamis, drought, earthquakes and floods** may become more predictable with quantum applications.
- ★ The collection of data regarding **climate change** can be streamlined in a better way through quantum technology.

Pharmaceutical:

- ★ Quantum computing could reduce the time frame of the discovery of new molecules and related processes to a few days from the present 10-year slog that scientists put in.

Augmenting Industrial revolution 4.0:

- ★ Quantum computing is an integral part of **Industrial revolution 4.0**.

physics under which our computers can process a '1' or a '0' at a time.

- ★ Quantum computers compute in 'qubits' (or quantum bits). They exploit the properties of quantum mechanics, the science that governs how matter behaves on the atomic scale.
- ★ In this scheme of things, processors can be a 1 and a 0 simultaneously, a state called quantum superposition.
- ★ Because of quantum superposition, a quantum computer — if it works to plan — can mimic several classical computers working in parallel.

Properties of Quantum Computing: The basic properties of quantum computing are superposition, entanglement, and interference.

- ★ **Superposition:** It is the ability of a quantum system to be in multiple states simultaneously.
- ★ The example of superposition is the flip of a coin, which consistently lands as heads or

tails—a very binary concept. However, when that coin is in mid-air, it is both heads and tails and until it lands, heads and tails simultaneously. Before measurement, the electron exists in quantum superposition.

Entanglement: It means the two members of a pair (Qubits) exist in a single quantum state. Changing the state of one of the qubits will instantaneously change the state of the other one in a predictable way. This happens even if they are separated by very long distances.

Einstein called spooky '**action at a distance**'.

Interference:

Quantum interference states that elementary particles(Qubits) can not only be in more than one place at any given time (through superposition), but that an individual particle, such as a photon (light particles) can cross its own trajectory and interfere with the direction of its path.

- ★ Success in it will help in Strategic initiatives aimed at leveraging other Industrial revolution 4.0 technologies like the Internet-of-Things, machine learning, robotics, and artificial intelligence across sectors will further help in laying the foundation of the Knowledge economy.
- ★ Challenges Associated with Quantum Computing:
 - ★ The dark side of quantum computing is the disruptive effect that it can have on cryptographic encryption, which secures communications and computers.
 - ★ It might pose a challenge for the government also because if this technology goes into wrong hands, all the government's official and confidential data will be at a risk of being hacked and misused.

Way Forward

- ★ Long after the birth of social media and artificial intelligence, there are now demands to regulate them. It would be prudent to develop a regulatory framework for quantum computing before it becomes widely available.
- ★ It will be better to regulate it or define the limits of its legitimate use, nationally and internationally before the problem gets out of hand like nuclear technology.

COVISHIELD and COVAXIN Approved for Restricted Use

Recently, the Drugs Controller General of India's (DCGI) approved COVISHIELD and COVAXIN vaccines for restricted use against Covid-19 in the country.

- ★ COVISHIELD, COVAXIN and BNT162b2 applied to the Central Drug Standard Control Organisation (CDSCO), seeking emergency use approval.

Key Points

- ★ **Type of Approval:** Both vaccines have received a restricted use approval in an emergency situation.
- ★ This means the vaccines have been approved for use despite the companies not having completed clinical trials.
- ★ This approval is, however, subject to regular submission of safety, efficacy and immunogenicity data from their ongoing trials.
- ★ The immunogenicity of a vaccine is its ability to prompt an immune response.
- ★ The efficacy, in this case, is a measure of its ability to bring down the number of symptomatic Covid-19 cases.
- ★ **Reason for the Emergency Approval:** Given the pandemic, the government wanted a vaccine ready to use at the earliest.
- ★ Another growing concern is the mutation of the SARS-CoV-2 virus in countries like the UK which are now starting to spread to other parts of the world, including India.
- ★ **COVISHIELD:** It is the name given to an Oxford-AstraZeneca Covid-19 vaccine candidate which is technically referred to as AZD1222 or ChAdOx 1 nCoV19.

Produced By:

- ★ It is a version of the vaccine developed by the University of Oxford in collaboration with Swedish-British drugmaker AstraZeneca.

- ★ **Serum Institute of India (SII)** is the manufacturing partner in India.

Constituents and Action:

- ★ It is based on a weakened version of a common cold virus or the adenovirus that is found in chimpanzees.
- ★ This viral vector contains the genetic material of the SARS-CoV-2 spike protein (protrusions) present on the outer surface of the virus that help it bind with the human cell.
- ★ The body's immune system is supposed to recognise this protein as a threat, and work on building antibodies against it.

Significance:

- ★ It had triggered an immune response in humans against the novel coronavirus in early trials and is considered to be one of the global frontrunners for the Covid-19 vaccine.
- ★ **COVAXIN:** It is India's only indigenous Covid-19 vaccine.
- ★ **Produced By:**
 - ★ Developed by Bharat Biotech, Hyderabad in collaboration with the Indian Council of Medical Research's National Institute of Virology, Pune
- ★ **Constituents and Action:**
 - ★ It is an inactivated vaccine which is developed by inactivating (killing) the live microorganisms that cause the disease.
 - ★ This destroys the ability of the pathogen to replicate, but keeps it intact so that the immune system can still recognise it and produce an immune response.
 - ★ It is expected to target more than just the spike protein.

- ★ It also aims to develop an immune response to the nucleocapsid protein (the shell of the virus that encloses its genetic material).

Significance:

- ★ COVAXIN is more likely to work against newer variants of the virus, **including the UK variant**, as it contains **immunogens (epitopes)** from other genes in addition to those from Spike protein.
- ★ **Immunogen** is a stimulus that produces a humoral or cell-mediated immune response, whereas antigens are any substance that binds specifically to an antibody.
- ★ All immunogens are antigens, but all antigens may not be immunogens.
- ★ Approval of COVAXIN ensures India has an additional vaccine shield especially against potential **mutant strains** in a dynamic pandemic situation.

Building a vibrant science ecosystem

Covid-19 pandemic has shown the world that it has to take research in science and technology more seriously than before. In India, the pandemic presented an opportunity for R&D institutions, academia, and industry to work with a shared purpose, synergy, collaboration and cooperation.

With the growing realisation, that science can address many of society's pressing problems, the Government of India has released a draft National Science, Technology and Innovation Policy (STIP 2020).

The STIP will be guided by the vision of positioning India among



the top three scientific superpowers in the decade to come. Apart from it, the policy outlines strategies for strengthening India's STI ecosystem to achieve the larger goal of Atmanirbhar Bharat.

Novel Ideas of the Policy & their Significance

- ★ **Open Science Framework & Inclusiveness:** Open Science fosters more equitable participation in science through increased access to research output, greater transparency and accountability in research.
- ★ Apart from this, it would ensure better resource utilisation through minimal restrictions and a constant exchange of knowledge between the producers and users of knowledge.
- ★ This framework will be largely community-driven and supported with necessary institutional mechanisms and operational modalities.
- ★ **One Nation, One Subscription & Democratization:** The STIP envisions free access to all journals, Indian and foreign, for every Indian against a centrally-negotiated payment mechanism.
- ★ In the present mechanisms, consumers of knowledge such as line departments, innovators, industry, the society at large, etc., do not have access to these research journals.
- ★ Hence, the policy seeks to democratise science by providing access to scholarly knowledge to not just researchers but also to every individual in the country.
- ★ **Science & Gender Parity:** India has valued women's participation in science and education from ancient times.
- ★ Some of the earliest women scientists, including Leelavati, Gargi, and Khana, made significant contributions to mathematics, natural science, and astronomy.
- ★ Over the last six years, women's participation in S&T has doubled in India; however, women's overall participation in R&D continues to be only about 16%.
- ★ Therefore, the policy has envisaged gender parity by addressing career breaks for women by considering academic age rather than biological/physical age.
- ★ Apart from this, it proposes an inclusive culture that'll be facilitated through the equal opportunity candidates from rural-

remote areas, marginalised communities, differently-abled, Divyangjans, irrespective of their socio-economic backgrounds.

★ **Traditional Knowledge & Carving Own Niche:** The policy envisages establishing an institutional architecture to integrate Traditional Knowledge Systems (TKS) and grassroots innovation into the overall education, research and innovation system.

★ This focus on indigenous know-how may help India shine globally, standing on its merit and unique technologies based on timeless ancient wisdom curated/enhanced by modern science and technology.

★ **Collaboration & Ease of Doing Research:** The proposed Science Technology Innovation Observatory will have an important governance role in the collaboration networks.

★ The policy proposes creating a National STI Observatory that will act as a central repository for all kinds of data related to and generated from the STI ecosystem.

★ Further, an STI Development Bank will be set up to facilitate a corpus fund for investing in direct long term investments in select strategic areas.

Way Forward

★ **Operationalise Clusters:** When the draft policy takes the shape of the actual procedure, it must acknowledge the cluster-based approach and incorporate it.

★ Clusters consist of multiple organisations including suppliers, producers, customers, labour markets, HEIs, financial

intermediaries, professional and industry associations, regulatory institutions and government departments.

★ They nurture strong science and technology research capabilities in a specific domain and help translate these capabilities into applications.

★ An example of an electronics hardware cluster is in Silicon Valley.

★ **Increasing Funding For Research:** At 0.6% of GDP, India's gross domestic expenditure on R&D (GERD) is relatively low compared to other major economies with a GERD-to-GDP ratio of 1.5% to 3%.

★ One way to increase R&D spend in the country is to make it attractive for companies to invest.

★ In this regard, reformed bureaucracy, tax benefits and market access for the infant companies should also be considered.

★ **Enabling Research in Disruptive technology:** Technologies that are collectively called Industrial revolution 4.0 are undoubtedly the future of science and technology landscape.

★ India must take advantage of these disruptive and impactful technologies.

★ More research on these associated technologies may positively impact many industries such as defence, education, health etc.

★ **Science Diplomacy:** India should indulge in international S&T engagement and STIP diplomacy.

★ This will help in achieving collective and inclusive global

development through international engagement by maximising the scope of indigenisation and sustainability for national advancement and promotion of global commons.

Conclusion

India's STI growth trajectory over recent years has been impressive. Our entry into the club of the top 50 countries in the global innovation Index with a rank of 48 (a massive improvement from 81st place in 2015) speaks volumes for our potential.

To continue this feat, the draft Science, Technology and Innovation Policy contains progressive proposals that could be game-changers for the scientific research community and the way ordinary Indians interact with Science.

Rapid Blood Test to Predict Covid-19 Disease Severity

Scientists at Washington University School of Medicine in St Louis (WUSTL) have published a paper showing that a relatively simple and rapid blood test can predict which Covid-19 patients are at highest risk of severe complications or death.

Key Points

★ **About the Blood Test:** It measures levels of mitochondrial DNA, a unique type of DNA molecule that normally resides inside the energy factories of cells.

★ Mitochondrial DNA spilling out of cells and into the bloodstream is a sign that a particular type of violent cell death is taking place in the body.



- ★ **Study Conducted:** The team evaluated 97 patients with Covid-19, measuring their mitochondrial DNA levels on the first day of their hospital stay.
- ★ They found that mitochondrial DNA levels were much higher in patients who eventually were admitted to the ICU, incubated or died.
- ★ This association was independent of a patient's age, sex and underlying health conditions.
- ★ **Significance:** The test could serve as a way to predict disease severity as well as a tool to better design clinical trials, identifying patients who might, for example, benefit from specific investigational treatments.
- ★ The test could serve as a way to monitor the effectiveness of new therapies. Presumably, effective treatments would lower mitochondrial DNA levels.
- ★ Further, the test predicted outcomes as well as or better than existing markers of inflammation currently measured in Covid patients.
- ★ Most other markers of inflammation measured in patients with Covid-19, including those still under investigation, are general markers of systemic inflammation, rather than inflammation specific to cell death.

- ★ Inflammation is the body's innate response to injury or infection (including trauma, surgery, burns, and cancer).
- ★ Certain proteins are released into the bloodstream during inflammation; if their concentrations increase or decrease by at least 25%, they can be used as systemic inflammatory markers.

Handling the Avian Flu crisis

Just three months after India declared itself free of the avian influenza outbreak (Bird Flu), the year 2021 started with an unprecedented bird flu epidemic. The recent occurrence of bird flu has caused the death of thousands of wild and poultry birds in 10 states.

Avian influenza, commonly known as bird flu, is a highly contagious viral disease affecting a variety of birds. The most common strain of the virus that causes severe respiratory disease in birds is H5N1. However, other strains, such as H7N1, H8N1, or H5N8, also cause bird flu.

The frequent occurrences of bird flu cause a high degree of mortality in birds and subsequent economic loss to the fast-growing poultry industry. Moreover, there are risks associated with the mutation of the virus and infection to the human.

Given the disruption caused by Covid-19, it is important that any

viral outbreak must be handled with adequate preventive and curative steps.

Reason For Frequent Occurrence of Bird Flu

- ★ **Source:** Wild birds are considered the natural reservoirs of the bird flu viruses, and it is typical of an outbreak to coincide with the season of arrival of migratory birds.
- ★ **Migration of Virus:** Migratory birds from faraway countries in the northern hemisphere such as Mongolia and Kazakhstan are said to have brought the virus to India.
- ★ The bird flu spreads through their droppings, contaminating the water bodies they visit.
- ★ **Destination:** According to the **World Health Organization (WHO)**, more than half of the world's bird flu incidents take place in the **Central Asian Flyway (CAF)**, which covers almost the entire Indian subcontinent.
- ★ **Man-Made Reason:** Further, WHO believes that continuous growth in poultry farming under poor sanitary conditions was sustaining the virus, with multiple susceptible species living in the same area.

Threats Emanating From Bird Flu

- ★ **Threat to Humans:** The viral strain, H5N1 has a history of spreading over to humans from birds, but the instances of bird flu among humans have been uncommon.
- ★ However, according to WHO, human cases of bird flu occur "occasionally," but the mortality rate is about 60% when it happens.

- ★ It further states that there is a possibility of the H5N1 mutating and posing a pandemic threat among humans.
- ★ **Economic Impact:** The response to a bird flu outbreak is a containment strategy, which is primarily centered around removing the diseased birds through culling. Such mass destruction causes a severe impact on farmers.
- ★ According to the Ministry of Agriculture and Farmers Welfare, India's poultry sector is worth ₹ 80,000 crores. The organized sector represents 80%, and the rest is distributed among unorganized sectors, including backyard poultry-keeping which is crucial for income and nutritional security.
- ★ Also, India exports processed poultry products such as egg powder, yolk powder, chicken products, and also pharmaceutical ingredients from the poultry sector worth hundreds of crores every year.

Way Forward

- ★ **Preventive Measures:** It is very difficult to eradicate influenza viruses because they persist in a vast reservoir of aquatic birds. However, the spread of bird flu can be contained if there is early sharing of information between the 29 CAF countries.
- ★ In this context, the United Nations and WHO should work with countries in the CAF region for disease surveillance of the migratory birds.
- ★ In India, the Central government requires veterinary staff to conduct inspections periodically under the Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009, to catch any signs of disease among birds and other animals early.
- ★ **Curative Measures:** In India, the Centre has the right thing by asking the state governments to follow the **National Action Plan for Prevention, Control, and Containment of Avian Influenza 2021**.
- ★ The plan emphasizes the practice of building a biosafety bubble around poultry farms to mitigate the chances of wild birds coming in close contact with reared birds.
- ★ Also, where birds' culling is undertaken to combat bird flu, the National Action Plan prescribes compensation to farmers at fixed rates.
- ★ However, the farmers complain that compensations do not cover the profit they could have earned from regular business. Given the economic slowdown amid the Covid-19 pandemic, the governments must do needless help from the farmers.
- ★ **Need For Research:** Experts say preventing bird flu is very difficult as little research has been done on the virus-carrying capability of migratory birds in CAF.
- ★ Therefore, it is also important to undertake genome sequencing of virus samples to track the virus's evolution.
- ★ **Measure to be Taken by Farmers:** The measures, which have general relevance to farmers everywhere, include cleansing and disinfecting, reduction of people's movement in the



farm bird areas to reduce contamination, reducing contact between captive and wild birds.

Conclusion

Covid-19 pandemic showed the world how a microorganism could bring the whole world to a standstill. Therefore, it is imperative to treat the viral outbreak with utmost urgency and adopt sustainable ways of living.

India Innovation Index 2020

Recently, India Innovation Index Report 2020 was released by NITI Aayog in which Karnataka retained its top position in the major States category.

About India Innovation Index

- ★ **Institutions Involved:** ★ NITI (National Institution for Transforming India) Ayog with the Institute for Competitiveness.
- ★ **Modelled on GII:**
- ★ The index has been developed on the lines of the Global Innovation Index (GII), to ameliorate the innovation ecosystem of Indian states and Union Territories (UTs) and to design policies to drive innovation across regions.

Approach:

- ★ The index goes beyond traditional approaches by considering the best parameters in

Best performers

Four of the five highest scoring major States in the India Innovation Index are from the south



Rank	Major States	Score
1	Karnataka	42.5
2	Maharashtra	38.03
3	Tamil Nadu	37.91
4	Telangana	33.23
5	Kerala	30.58
6	Haryana	25.81
7	Andhra Pradesh	24.19
8	Gujarat	23.63
9	Uttar Pradesh	22.85
10	Punjab	22.54

measuring innovation such as patents per million of population, publication in scientific journals, percentage of GDP spending on research.

- ★ It also adds parameters that are specific to the Indian economy (eg. Demographic dividend), to give it a more holistic coverage.

Indicators Used:

- ★ The indicators that the survey uses includes the level and quality of education and parameters such as:
- ★ Number of PhD students and knowledgeintensive employment.
- ★ Enrolment in engineering and technology and number of highly skilled professionals.
- ★ Investment in R&D and number of patents and trademark applications filed.
- ★ **Internet subscribers.**
- ★ **FDI inflows**, business environment and safety and legal environment.

Key Points

- ★ **Categories:** The Innovation Index is divided into three categories—major states, Union

Territories, and hill and North East states.

Major States:

- ★ **Top States:** Karnataka topped with a score of 42.5 for the second year running.
- ★ The state's success has been attributed to a high number of venture capital deals, registered GIs and ICT exports, and high FDI inflow.
- ★ Four southern states - Karnataka, Tamil Nadu, Telangana and Kerala —occupy the top positions on the index, apart from Maharashtra which ranked second.
- ★ **Bottom States:** Jharkhand, Chhattisgarh and Bihar scored the lowest on the index, which put them at the bottom in the "major States" category.
- ★ Bihar raked last with 14.5 points.
- ★ **Hill and North-East States:** Himachal Pradesh topped the rankings of hill and North-East states, followed by Uttarakhand, Manipur and Sikkim.
- ★ **Union territories/Small States:** Delhi has scored the highest on the index in the country with a

score of 46.6, while Lakshadweep has the lowest score at 11.7.

- ★ Delhi recorded the highest number of trademark and patent applications, along with the establishment of new start-ups and companies in the last financial year.

Challenges:

- ★ **Attracting Private Investment in Research:** The Indian government is a major spender in R&D, while the investment of the private sector is very low when compared to Israel where private companies account for 70% of private investment in R&D.
- ★ **Bridging North-South Divide:** In the findings of the report the southern states have fared much better than the North Indian states.
- ★ There is a need to establish to interlink innovative capacities of the states (with differential per capita GDP) to decrease regional disparity in innovation.
- ★ Best practices observed within the States should often be documented and disseminated to encourage peer-to-peer learning.
- ★ **Need for micro-analysis of State-level policies:** For a country as large as India, the state of innovation needs to be understood at the regional level for effective policy formulation.
- ★ Based on the index each state needs to formulate its own policy, based on its unique resources and strengths and which caters to its specific needs.
- ★ **Suggestions:**
- ★ **Investing More in Research:** India needs to increase

its spending on R&D which is around 0.6-0.7% of its GDP, way below the expenditure level of countries like Israel (4.3%), South Korea (4.2%), the US (2.8%) and China (2.1%).

- ★ Increased spending on research and development with greater collaboration between the industry and educational institutions may help to enhance innovation capability.
- ★ It could broaden and improve the capability of top rung educational institutions in the country to produce greater innovation outputs.
- ★ **Establish a Collaborative Platform:** To link all the stakeholders of innovation - innovators, researchers, and investors from the industry, a common platform should be developed.
- ★ It will help to strengthen the industry-academia linkages and will ease the process of technology transfer by providing a platform for innovators to showcase their inventions.

UV-Bright Stars Spotted in Globular Structure NGC 2808

Recently, astronomers have spotted rare hot Ultra Violet (UV)-bright stars in the massive intriguing globular cluster in the Milky Way Galaxy called NGC 2808.

- ★ India's first multi-wavelength space satellite AstroSat helped astronomers in this.

Key Points

- ★ **Data:** Scientists combined data of Ultraviolet Imaging Telescope (on board AstroSat) with observations made using other space missions such as
- the Hubble Space Telescope and the Gaia telescope along with ground-based optical observations.

★ **Hubble Space Telescope:** The HST or Hubble (NASA) is a space telescope that was launched into Low Earth orbit in 1990 and remains in operation. It is one of the largest and most versatile space telescopes till date.

★ Gaia is a space observatory of the European Space Agency, launched in 2013 and expected to operate until 2022. The spacecraft is designed for astrometry: measuring the positions, distances and motions of stars with unprecedented precision.

Findings:

★ About 34 **UV-bright stars** were found to be members of the globular cluster (NGC 2808). One of the UV-bright stars was found to be about **3000 times brighter** than the Sun with a surface temperature of about **1,00,000 K**.

★ **Hot UV-bright stars** have been distinguished from the **relatively cooler red giant and main-sequence stars**.

★ Most of the stars were found to have evolved from a solar stage called the **horizontal branch stars** with hardly any outer envelope. Thus, they were bound to skip the last major phase of life called the **asymptotic giant phase (it is one of the last major phases in the life of stars)** and directly become dead remnants or white dwarfs.

★ The **horizontal branch** (HB) is a stage of stellar evolution that immediately follows the **red**

giant branch in stars.

★ **Significance: Properties of Stars:** The findings will help in determining properties of these stars such as their surface temperatures, luminosities and radii.

★ **Evolution of Stars:** These present excellent laboratories where astronomers can understand how stars evolve through various phases between their birth and death.

★ **Death of star:** It is not clear how these stars end their lives as not many of them are detected in these fast-evolving phases, making their study crucial.

★ **UV radiations:** UV-bright stars are speculated to be the reason for the ultraviolet radiation coming from old stellar systems.

★ **About NGC 2808:** NGC 2808 is a globular cluster in the constellation Carina. The cluster belongs to the Milky Way, and is one of our home galaxy's most massive clusters, millions of stars. It is estimated to be 12.5-billion years old.

★ It is said to have at least **five generations of stars**.

Stellar Evolution

★ **Nebula:** A nebula is a cloud of gas (mostly hydrogen and helium) and dust in space.

★ Nebulae are the birthplaces of stars.

★ **Main Sequence Stars:** Main sequence stars are stars that are fusing hydrogen atoms to form helium atoms in their cores.

★ Most of the stars in the universe i.e. about 90% of them are main sequence stars. The **sun** is a main sequence star.

- ★ Towards the end of its life, a star like the Sun **swells up into a red giant**, before losing its **outer layers** as a **planetary nebula** and finally shrinking to become a **white dwarf**.

- ★ **Red Dwarf:** The faintest (less than 1/1000th the brightness of the Sun) main sequence stars are called the red dwarfs.

- ★ **Proxima Centauri**, the nearest star to the Sun, is a red dwarf.

- ★ **Red Giant:** Red giants have diameters between 10 and 100 times that of the Sun.

- ★ They are very bright, although their surface temperature is lower than that of the Sun.

- ★ A red giant is formed during the **later stages of the evolution as it runs out of hydrogen fuel at its centre**.

- ★ A very large red giant is often called **Red Supergiant**.

- ★ **Planetary Nebula:** Planetary nebula is an outer layer of gas and dust that are lost **when the star changes from a red giant to a white dwarf**.

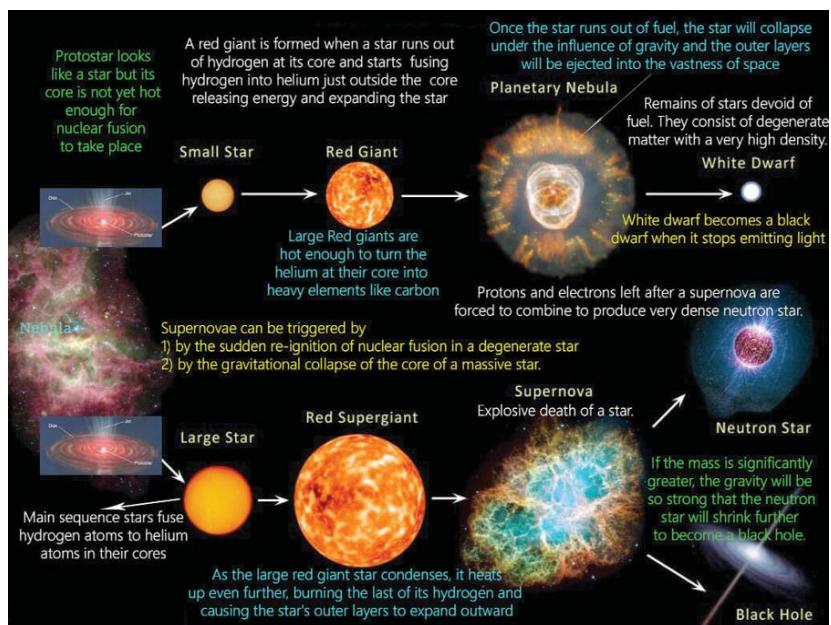
- ★ **White Dwarf:** A white dwarf is a **very small, hot star, the last stage in the life cycle of a star**.

- ★ White dwarfs are the remains of normal stars, whose nuclear energy supplies **have been used up**.

- ★ White dwarf consists of degenerate matter with a **very high density** due to gravitational effects.

- ★ **Nova:** Novae occur on the surface of a **white dwarf** in a binary system.

- ★ If the two stars of the system are sufficiently near to one another, material (hydrogen) can be pulled from the companion star's surface onto the white dwarf.



- ★ When enough material builds up on the surface of the white dwarf, it triggers a nuclear fusion on a white dwarf which causes a sudden brightening of the star.

- ★ **Supernova:** A supernova is the explosive death of a star and often results in the star obtaining the brightness of 100 million suns for a short time.

- ★ The extremely luminous burst of radiation expels much or all of a star's material at a great velocity, driving a shock wave into the surrounding interstellar medium.

- ★ These shock waves trigger condensation which is a nebula paving the way for the birth of a new star.

- ★ A neutron star is the collapsed core of a massive supergiant star.

AstroSat

- ★ It is a multi-wavelength astronomy mission on an IRS-class (Indian Remote Sensing-Class) satellite in a 650-km, near-equatorial orbit.

- ★ **Launch:** It was launched by the Indian launch vehicle PSLV from Satish Dhawan Space Centre, Sriharikota in 2015 by ISRO.

- ★ It is the first dedicated Indian astronomy mission aimed at studying celestial sources in X-ray, optical and UV spectral bands simultaneously with its five unique X-ray and ultraviolet telescopes working in tandem.

- ★ One of the unique features of AstroSat mission is that it enables the simultaneous multi-wavelength observations of various astronomical objects with a single satellite.

- ★ The Ground Command and Control Centre for ASTROSAT is located at ISRO Telemetry, Tracking and Command Network (ISTRAC), Bangalore, India.

- ★ This has put India in an exclusive club of countries which have multi wavelength space observatories.

- ★ The minimum life of the AstroSat mission was expected to be 5 years.

MISCELLANEOUS

Digital India Awards 2020

Recently, the President of India has conferred Digital India Awards 2020.

Key Points

About the Awards:

- ★ Digital India Awards have been institutionalized under the ambit of **National Portal of India** to honor exemplary initiatives/practices in Digital-Governance.
- ★ National Portal of India: It is a Flagship Project to facilitate single window access to Government Information and Services in cyberspace.
- ★ **Digital-Governance:** It is a framework for establishing accountability, roles, and decision-making authority for an organization's digital presence.
- ★ These are conducted by the **National Informatics Centre (NIC)** under the Ministry of Electronics & Information Technology (MeitY).
- ★ The Awards have been held for 5 seasons earlier, in 2009, 2012, 2014, 2016 & 2018. The Awards were initially known as **Web Ratna Awards until 2014** and were renamed Digital India Awards from the 2016 season.
- ★ **Awards 2020:**
- ★ 22 digital governance initiatives/products by Government entities under seven categories received Digital India Awards 2020 for designing and implementing innovative citizen-centric digital solutions and improving the ease of living for all citizens.
- ★ 'Innovation in Pandemic award' was introduced this year.
- ★ The award also acknowledges States and Union Territories that display exemplary initiative in establishing a comprehensive digital presence in sectors like health, labour, finance, social justice and environment, leading to the accomplishment of Sustainable Development Goals (SDG).



the 3,293 court complexes.

Arogya Setu:

- ★ It is a mobile application developed by the Government of India to connect essential health services with the people of India in a fight against Covid-19.
- ★ The App is aimed at augmenting the initiatives of the Government of India, particularly the Department of Health, in proactively reaching out to and informing the users of the app regarding risks, best practices and relevant advisories pertaining to the containment of Covid-19.

eOffice:

- ★ It is a Mission Mode Project under the National E-Governance Plan, developed and implemented by NIC.
- ★ It is a digital workplace solution. The vision of eOffice is to achieve a simplified, responsive, effective and transparent working of all government offices.

eSanjeevani:

- ★ It is a digital platform of the Ministry of Health & Family Welfare.
- ★ It has enabled two types of telemedicine services viz. Doctor-to-Doctor (eSanjeevani) and Patient-to-Doctor (eSanjeevani OPD) Tele-consultations.



Bihar Sahayata Mobile App:

- ★ It was an innovative initiative to transfer money directly to the bank accounts of 21 lakh stranded migrant workers outside the state.
- ★ Madhya Pradesh Labour Department's Pravasi Shramik and Rojgar Setu Portals:
- ★ These gateways have been recognised for facilitating identification, registration, skilling plus employment of migrants and other workers during the novel coronavirus pandemic.
- ★ States:
- ★ Haryana, Tamil Nadu, Uttar Pradesh and West Bengal won the Award under 'Excellence in Digital Governance - State / UT' category.

Padma Awards 2021

Recently, the Padma Awards for the year 2021 were announced on the occasion of 72nd Republic Day.

Key Points

Awardees (2021):

- ★ A total of 119 Padma awards will be conferred, including 7 padma vibhushan, 10 padma bhushan and 102 padma shri.
- ★ Few Padma Vibhushan Awardees (out of 7)

Background:

- ★ The Padma Awards are announced annually on the Republic Day (26th January).
- ★ Instituted in 1954, it is one of the highest civilian honours of India.

Objective:

- ★ The Award seeks to recognize achievements in all fields of activities or disciplines where an element of public service is involved.

Categories:

- ★ The Awards are given in three categories:

★ **Padma Vibhushan** (for exceptional and distinguished service),

★ **Padma Bhushan** (distinguished service of higher-order) and

★ **Padma Shri** (distinguished service).

★ **Padma Vibhushan is highest in the hierarchy of Padma Awards** followed by Padma Bhushan and Padma Shri.

Disciplines:

- ★ The Awards are given in various disciplines/ fields of activities, viz.- art, social work, public affairs, science and engineering, trade and industry, medicine, literature and education, sports, civil service etc.

Selection Process:

★ **Padma Awards Committee:** The Awards are conferred on the recommendations made by the Padma Awards Committee, which is constituted by the Prime Minister every year.

★ **Awarded by President:** The awards are presented by the President of India usually in the month of March/April every year.



Students Corner

DIVERSITY MAY BE THE HARDEST THING FOR A SOCIETY TO LIVE WITH, AND PERHAPS THE MOST DANGEROUS THING FOR A SOCIETY TO BE WITHOUT

The march of history has brought humankind from caves to cities, transforming practically everything about how we live. One thread that binds all of history together, however, is our need for society. One might, like Hobbes, consider it a simple necessity of life, protecting us from the cruelty of anarchy. One might also take it as proof of our innately social nature.

Whatever the reason may be, history establishes the fact that humans thrive best in societies. Today, as we stand on the cusp of great transformations in the world as we know it, it is important to reflect on the nature of these societies. Most societies today are characterised by some level of diversity, no matter how small one makes the circle of society. Quite simply, diversity is the quality of people being different from one another. It is only when these differences cause friction and tensions among the people in a society that diversity begins to be seen as a challenge. Diversity is the steady undercurrent that marks several conflicts in the world today, and is fast emerging as a

conundrum we must solve immediately for the sake of our communities, societies, and countries.

Why we need to talk about diversity

Diversity, before being anything else, is simply a fact of life. It is as much a reality of our lives as the ground we walk on. As humans we pride ourselves for being the climax of the evolutionary process, born at the top of the hierarchy of life on earth. We are impossibly complex beings - so complex that we do not yet fully understand how our brains work. It is this complexity that ensures that every member of the species is a unique being like no other, not just in genetic makeup, but with a distinct personality and character. Thus it is our evolutionary superiority that gives us diversity, and the sensible thing to do with it is to use it, cherish it, and celebrate it.

It is quite shocking, then, to observe that this diversity is the cause of so much strife and conflict today. The problems that societies deal with today are caused by differences in communities based on factors like religion and lan-



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guage, which is why when we talk about diversity we are used to talking about such differences. However, the truest understanding of diversity goes far deeper, stopping only at the level of the individual. To fully comprehend diversity is to accept the individuality and uniqueness of every human person - and thus the issue of diversity is linked with the value of human dignity. A society that does not recognise and accept diversity fails to afford all its members a life of dignity, and is thus bound to break down.

Why people find diversity so hard to deal with

It is innately human to look for similarities amongst one another. In a room full of strangers, it gives one a sense of relief to find someone who hails from our hometown, or speaks the same language, or shares our interests. Finding common ground with people helps us build confidence and trust in our relationships, and what is society if not a vast web of such relationships! Hence it is not difficult to understand how societies form and stick together.

An equally human quality is a fear of the unknown. Children afraid of darkness and adults afraid of their uncertain future are both afraid of having to face the unknown. When we do not understand something, our primitive reaction is to fear it, especially if it is forced upon us (one needs to remember only certain school subjects to illustrate this). Fear, when it grows unchecked, often transforms into hatred.

In my opinion these two qualities are one part of why diversity has become a challenge for societies around the world today. We tend to form communities based on the things that bind us, and the occurrence of new and strange differences scares us, and we react with mistrust and resentment.

Why society finds diversity so hard to deal with

The other part of why diversity is a challenge has to do with the nature of societies. All societies are based on a certain mutual understanding between members, in which a process of give-and-take occurs. Members of the society take the benefits of living in a society, and in return pledge a certain

level of conformity. In most cases this conformity is benign and the comforts are many. This is easy to do when the members are mostly alike in the language they speak, the gods they worship, the colour of their skin, the food they eat, and the clothes they wear.

But what happens when these things change? Modern life has equipped us for long journeys in search of better lives, and we often undertake them, only to find ourselves in societies wholly different from our own. Differences in religion and language, food habits and clothing customs, often lead to friction in societies. People who have never had the opportunity to see a way of life different from their own react to these changes with fear and mistrust.

Left unsoothed, and sometimes aggravated by vested interests, these fears have the result of turning differences into divides, leading to widespread inequalities in society. For all our progress, city-dwellers live in far more unequal societies than our cave-dwelling ancestors ever did. It is important to note that the fault-lines along which societies are unequal are also the lines of diversity. In my opinion that is the fundamental challenge of diversity.

Diversity and Inequality

Discrimination on the basis of religion and language has long plagued humankind. However, a distinction must be made between different levels of differences. People belonging to the same language often tend to exist in large communities, which correspond to modern states and even countries. Many countries today are also built on the basis of religion (whether this is a sustainable national identity or not is a different question).

Even within the same countries, people belonging to a religion form communities based on it. If nothing else, the family is at least a space where religious discrimination does not enter. The same goes for caste. While religious, linguistic, and caste discrimination exists in the social, professional and sometimes even legal spheres, there is at least one level of security outside the individual beyond which it cannot perpetrate.

Other kinds of diversity, however, operate on a different level. Discrimination on the basis of gender, disability, and sexual orientation do not grant the individual that layer of protection, as society at any level is not formed on these factors (whatever communities exist exclusively for women, people with disabilities, and the LGBTQ population are formed with

great effort as a response to discrimination in the natural communities they inhabit). Thus at this level, diversity leads to exclusion at an additional level - that of the family, which often has long-lasting impacts.

Why societies need diversity

At the most fundamental level, life without diversity would be mundane and boring. At the level of the nation, diversity is one of the pillars of a strong democracy, a force essential to its health and longevity. What would the point of a democracy even be if everybody was the same? Much like the strongest, most comprehensive opinions are forged in the heat of raging debates, we need diversity in our society, and the arising diverse opinions, to make sure that the decisions we make reflect a well-balanced understanding of our issues.

A society in which everyone is the same in all respects would be severely limited in its growth, leading to stagnation. There can be no intellectual growth unless we hear ideas that challenge our own. Diversity also makes societies richer in their culture, following the principle of "the more the merrier". This is why we need to ensure that societies not only accept diversity as a fact of life, but also see its worth and embrace it with open minds.

How we should live with diversity

The challenges of diversity are not caused due to the existence of diversity itself, but by the inability of society to deal with it properly. This is a problem that can be fixed

by a mature and empathetic approach. The fix lies not in changing the very nature of our societies that are formed on common ground. Rather, it lies in an expanded understanding of what that common ground is. We must learn to relate to one another not just on the basis of whom we worship and what we eat, but also on the basis of what our aspirations in life are and what fears stand in our way. We will be pleased to find that these are usually the same for most people, irrespective of other, superficial differences. Indeed, this approach will not just help us better handle diversity, but will expand our understanding of the human condition, and what it means to be human itself.

An important effort in this regard is to make sure that representations of society paint an honest picture of it. Books, movies, and art are the mirrors that society uses to take a look at itself, and these often portray only a majority of society, and not the whole. In the absence of adequate representation in popular culture, minorities are often forgotten, leading to a vicious cycle.

Like Maya Angelou said in her deeply perceptive poem about the human race, "we are more alike, my friends, than we are unalike". It is time for us to broaden the horizons of how our societies are formed, so that we are better prepared for the challenges and adventures of the future.



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