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# **CURRENT AFFAIRS**

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## **GS 2 : Polity, Governance, International Relations**

### **1. Probing the origins of the SARS-CoV-2 virus**

#### **Context:**

Calls to **investigate into the origin of the COVID-19 pandemic** have resurfaced.

#### **Details:**

- The novel coronavirus was first reported from Wuhan.
  - The Chinese city hosts a laboratory conducting virus research.
- The Program for Monitoring Emerging Diseases (ProMED) notified pneumonia of unknown cause in the city in December 2019.
  - The city's Huanan wet market was associated with many of the earliest cases.

#### **What is the need for investigation into the origin?**

According to a group of scientists, this is necessary because the two theories on the origins remain invalid. They are:

1. The virus could have been accidentally released from a laboratory.
2. It was the result of a spillover from some animal species to humans.

#### **What have U.S. intelligence agencies been asked to do?**

- Subsequent to the call issued by scientists, U.S. President Joe Biden, ordered an investigation by intelligence agencies into the origins of the virus.
- The Director-General of the World Health Organization (WHO) has also acknowledged that more work needs to be done on the lab leak theory.
  - Earlier, a WHO team that visited Wuhan thought a leak to be the least likely hypothesis.

#### **Why has the demand for a fresh inquiry arisen?**

- Understanding the origin of the virus is important to both increase safety in laboratories undertaking biological research, and to prevent pandemics of animal origin.

### What is the basis for the natural origin hypothesis?

- The natural origin hypothesis is explained in a **Joint WHO-China study report**.
- It identifies a SARS-related coronavirus in a (horseshoe) bat (SARSr-CoV; RaTG13).
  - SARS-CoV-2 virus has 96.2% genomic similarity to this.
- The novel coronavirus is less similar to the genome of viruses that have caused other epidemics such as SARS (severe acute respiratory syndrome) and MERS (Middle East respiratory syndrome).
- The higher infectivity of SARS-CoV-2 is attributed to the unique insertion of four amino acids in its spike protein that makes it more efficient.
- Their arguments are based on genetic differences between the viruses:
  - While the RaTG13 in bats is similar to SARS-CoV-2, the receptor binding domain (RBD) of the spike (the RBD protein binds to the ACE2 receptor) is divergent for the two.
    - RaTG13's RBD appears less efficient.
  - It is on the basis of this natural origin hypothesis, it was concluded that natural selection on a human or human-like host appeared to facilitate optimal binding of the spike protein of the novel coronavirus with ACE2 receptors. This ruled out the lab-leak hypothesis.
  - It is also believed that a virus was acquired by humans, and it became more efficient as it spread among humans during a certain phase that remains undetected.

## **2. Philippines protests against China's 'illegal' South China Sea presence**

### Context:

The Philippines has protested China's continuing illegal presence and activities near an island in the South China Sea held by it.

- A diplomatic protest was launched by Philippines over the incessant deployment, prolonged presence, and illegal activities of Chinese maritime assets and fishing vessels in the vicinity of **Thitu island**.
- According to Philippines, the **Pag-asa** Islands is an integral part of the country over which it has sovereignty and jurisdiction.
  - **Thitu, known as Pag-asa** in the Philippines, is 451 km from the mainland and is one of the **biggest among the eight reefs, shoals and islands it occupies in the Spratly archipelago**.

### Issue:

- Tensions between China and Philippines have escalated over the months-long **presence of hundreds of Chinese boats in the Philippines' exclusive economic zone.**
- The Philippines says it believes the vessels were manned by militia, while Beijing has said they were fishing boats sheltering from bad weather.
- This was at least the 84th diplomatic protest the Philippines has filed against China since President Rodrigo Duterte took office in 2016.
- An **international tribunal in 2016 invalidated China's expansive claim in the South China Sea**, where about \$3 trillion worth of ship-borne trade passes annually.
- Brunei, Malaysia, the Philippines, Taiwan and Vietnam also have competing claims to various islands in the South China Sea.

### 3. When two is too little

#### Context:

- China's Communist Party has introduced a "three child policy".

#### Background:

#### **China's family planning policy:**

- In a bid to limit the population explosion in China, it resorted to **strong state-led demographic interventions.** It was in this direction that it adopted its "one child policy" of 1979.
- It offers a reward and assistance system and preferential policies for those following family planning rules.
  - After the one child policy, China's fertility rate fell from 2.75 in 1979 to 1.69 in 2018.
- Recognizing the ill effects of its one child policy, China relaxed its stance on the number of children and introduced the two child policy in 2015. However, this measure too failed to boost birth rates.
  - The recent population census recorded 12 million births in 2020, the lowest number since 1961.

#### Concerns associated with Chinese policy of family planning:

- Population control measures have landed China in a **population crisis.**
- China's demographic interventions have had the following **unintended social and economic consequences.**

### **Social consequences:**

- The limitations on the number of children and the gender discrimination prevalent in the society led to a **deeply gender-imbalanced population**. Couples have been resorting to sex-selective abortions and this has reduced the sex ratio considerably. The skewed sex ratio has detrimental consequences for society.
- **The number of aged people has been increasing steadily in China**. As per the census, there were 264 million in the 60 and over age group, accounting for 18.70% of the population. The fast ageing population and the availability of very few people to take care of them would have a detrimental impact on their quality of life.

### **Economic consequences:**

- The rapidly ageing population has **reduced the workforce population and increased the dependency ratio**.
  - The dependency ratio is an age-population ratio of those typically not in the labour force (the dependent part - ages 0 to 14 and 65+) and those typically in the labour force (the productive part - ages 15 to 64). It is used to measure the pressure on the productive population. A low dependency ratio means that there are sufficient people working who can support the dependent population. A higher ratio indicates more financial stress on working people.
- The rapidly ageing population threatens to **limit the growth prospects of China**.

### **Moral concerns:**

- The intrusive family planning policy goes against the **right to freedom of choice for the parents**.
- The strict enforcement of the child policies in China has led to forced abortions and sterilisations.

### **Reasons for Chinese shift in family planning policy:**

- The shift to the three child policy marks an acknowledgement of the consequences of China's intrusive family planning measures.
- The shift to the three child policy is **aimed to improve China's population structure**. It intends to tackle the challenge of the ageing population, and preserve the country's human resource advantages.

### **Lessons for India from Chinese experience:**

- India has been toying with the idea of population control measures through a two-child norm, which found mention in the Prime Minister's Independence Day speech two years ago.
- The Chinese experience should serve as a warning for India that coercive population strategies can be counter-productive.

### Indian experience:

Population growth in India:

- **India, with 1.37 billion people, is the second-most populous country in the world.** A report from the United Nations released in June had said that around 2027, India is set to overtake China as the world's most populous country.
- **Birth rates are falling, but the population continues to grow** as more than 30% of the people are young and in the reproductive age group.

Skewed progress:

- India has done very well with its family planning measures and the current fertility rate is at the **replacement level fertility of 2.1**, which is desirable.
  - Replacement level fertility is the level of fertility at which a population exactly replaces itself from one generation to the next.
- However, the pattern has been skewed. In some states like Sikkim, Andhra Pradesh, Delhi, Kerala and Karnataka, the total fertility rate is way below replacement level. The low fertility rates in Sikkim and Lakshadweep have led to challenges of an ageing population, shrinking workforce and an increase in sex-selective practices.

### Recommendations for India:

Family planning as a national priority:

- Given that unchecked population growth could go against the efforts to bring millions of people out of poverty and undo the benefits of higher welfare spending for the poor, India needs to treat population stabilization and family planning as a national priority.

Addressing structural issues:

- Notably, even other developing countries, without stringent child-limitation policies like that of China, have also experienced declines in total fertility rates.

- This seems to suggest the fact that the mere relaxation or even abolishing of birth quotas would not help in raising the fertility rate and there is the need for governments to **acknowledge and address structural problems like reducing the child-rearing costs (education and nutrition) borne by prospective parents**. This critical aspect needs to be prioritized.

Focussing on population stabilization:

- India needs to focus its attention on population stabilisation measures rather than resort to coercive measures.
  - **Population stabilization is a stage when the size of the population remains unchanged**. It is also called the stage of zero population growth. Country-level population stabilization occurs when births plus in-migration equals deaths plus out-migration.
- The measures needed in this direction could include the following:
  - **Incentivise later marriages and childbirths**; ensuring a sufficient gap between childbirths.
  - Stepping up **access to contraceptive** choices and addressing socio-cultural barriers towards contraception.
  - **Offering family planning support** and investing in behaviour-change communication strategies and family planning.

#### **4. Give details on scheme for orphaned children, says SC**

##### Context:

The Supreme Court has questioned the centre as to why the **details of the scheme announced for the orphaned children is not available in the public domain**.

##### Background:

The centre had recently announced a special **“PM-CARES for Children” scheme** for all those orphaned due to COVID-19.

##### Details:

- **Children who have lost both parents or the lone surviving parent or their legal guardian or adoptive parent due to COVID-19** will be supported under the scheme.

### Monetary Support:

- It will include a corpus of **₹10 lakh for each child till he or she reaches the age of 18.**
  - When a child turns 18, he/she will draw a **monthly stipend from the corpus** of ₹10 lakh in order to meet expenses for personal needs and higher education.
  - On reaching the age of 23, the **child will get the entire ₹10 lakh.**

### Schooling:

- The government will also assist such children with school education.
  - They will be given **admission in the nearest Kendriya Vidyalaya or in a private school as a day scholar.**
- If the child is admitted in a private school, the **fees will be paid from the PM CARES Fund** as per norms under the Right To Education Act, 2009.
- PM CARES will also meet the expenses on uniform, text-books and notebooks.
- Children in the age group of 11-18 will have the **option to study in a residential school** under the Central government such as **Sainik School and Navodaya Vidyalaya.**

### Health:

- All children will be enrolled as a **beneficiary under the Ayushman Bharat Scheme** with a **health insurance cover of ₹5 lakh**, where the **premium amount will be paid by PM CARES** till a child turns 18.

### Note:

- The government has also announced measures to help the families who have lost the sole earning member due to COVID-19.
- Pension scheme of the Employees State Insurance Corporation is being extended.

## **5. BRICS will help India in fighting COVID-19, says China Minister**

### Context:

BRICS (Brazil-Russia-India-China-South Africa) foreign ministers held a virtual meeting.



## BRICS:

- The BRICS brings together five of the largest developing countries of the world, representing 41 per cent of the global population, 24 per cent of the global GDP and 16 per cent of the global trade.

## Details:

- **India** hosted it in its capacity as the **chair of BRICS**.
- The meeting was attended by Russia's Foreign Minister Sergey Lavrov, China's Foreign Minister Wang Yi, South African Minister of International Relations Grace Naledi Mandisa Pandor, and Brazil Foreign Minister Carlos Alberto Franco.
- Chinese Foreign Minister said that the grouping was ready to assist the country to fight the pandemic.
- The Ministers **agreed on reforming the multilateral system**.
  - They have also agreed that such reform has to cover all key multilateral institutions, including the UN and its principal organs (UN Security Council, General Assembly, ECOSOC, the Secretariat, etc); international financial architecture (IMF, World Bank); multilateral trading system (WTO, UNCTAD); and the global health governance system with the WHO at its core.
  - This is the **first time that such a consensus was reached**.
  - They also agreed to **a set of six principles** that should guide the reform of multilateral institutions.
- The proposal by South Africa and India at the WTO seeking a patent waiver for Covid-19 vaccines was also among the issues discussed.
  - India and South Africa have been raising the issue of **Trade-Related Aspects of Intellectual Property Rights waiver for Covid 19 vaccines**.
  - All the **BRICS countries have agreed to support** this measure.
  - They called for supporting **ongoing consideration in WTO on a Covid-19 vaccine Intellectual Property Rights waiver** and the **use of flexibilities of the TRIPS agreement** and the **Doha Declaration on TRIPS Agreement and Public Health**.

## **6. Breaking the cycle of child labour is in India's hands**

### Challenge of child labour in India:

#### **Substantial number of working children:**

- The Census of India 2011 reports **1 million working children in the age group of 5-14 years.**
  - A substantial proportion of them (8.1 million) reside in rural areas and are mainly engaged as cultivators and agricultural labourers.

#### **Factors aiding child labour in India:**

- **Inequality, lack of educational opportunities, traditions and cultural expectations** all contribute to the persistence of child labour in India.

#### **High number of out of school children:**

- UNESCO estimates based on the 2011 Indian Census record **1 million children as “out of school” in India.** Given the fact that out of school children are at an increased risk of being pushed into child labour, a substantial number of children in India (18.3% of total children in the age group of 6-13 years) remain vulnerable to be employed as child labour.
- A Government of India survey suggests that 95% of the children in the age group of 6-13 years are attending educational institutions (formal and informal) while it is 79.6% for the 14-17 years age group.

#### **Ill effects of child labour:**

- Working children face **physical and psychological risks to a healthy development.**
- Child labour impedes children from gaining the skills and education they need to have opportunities for decent work as adults. This impedes their capacity to overcome the **vicious circle of poverty.**

#### **Recent improvement:**

##### **Decrease in child labour:**

- The incidence of child labour has **decreased in India by 2.6 million between 2001 and 2011.**

##### **Policy interventions:**

- **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2005**, has guaranteed wage employment (unskilled) for rural families hence ensuring economic stability for the poor families. A financially secure family would not push its children into work and would rather invest in the education of its children.

- The **Right to Education Act 2009** and the **Mid Day Meal Scheme** have helped in ensuring greater enrolment of children in schools.
- The implementation of the **National Child Labour Project** has helped in the rehabilitation of children rescued from child labour.
  - The National Child Labour Project (NCLP) Scheme is a Central Sector Scheme. Under this Scheme, the children in the age group of 9-14 years are withdrawn from work and put into NCLP Special Training Centres, where they are provided with bridge education, vocational training, mid-day meal, stipend, healthcare, etc. before being mainstreamed into formal education system. The children in the age group of 5-8 years are directly linked to the formal education system through a close coordination with the Sarva Shiksha Abhiyan.
- The Ministry of Labour and Employment-operated **online portal PENCiL (Platform for Effective Enforcement for No Child Labour)** allows government officials, law enforcement agencies and non-governmental organisations to share information and coordinate on child labour cases at the national, state and local levels for effective enforcement of child labour laws. It also allows for better monitoring and transparency with respect to the child labour laws.
- The Indian government has also ratified two Core Conventions of the International Labour Organization (ILO), **Convention 138** regarding admission of age to employment and **Convention 182** regarding worst forms of Child Labour.
  - ILO Convention 138 says that the minimum age for employment should not be less than the age of completion of compulsory schooling (14 years of age in India's case).
- The Central government had enacted a new law – **Child labour (Prohibition and Prevention) Amendment Act, 2016** – banning employment of child labour below 14 years of age in all occupations and processes. It further prohibits the employment of adolescents (14-18 years of age) in hazardous occupations.

### Concerns:

#### **Slow progress:**

- While child labour has declined during the past decade globally, estimates indicate that the rate of reduction has slowed by two-thirds in the most recent four-year period.

#### **Change of nature of job employing child labour:**

- While there has been an overall decrease in the number of child labour, the decline was more visible in rural areas, while the number of child workers has increased in urban areas, indicating the **growing demand for child workers in menial jobs**.

### **Impact of the pandemic:**

- The pandemic has had a significant impact on child labour in India.

### **Economic aspects:**

- The economic contraction and lockdowns ensuing from the pandemic have led to income reductions for enterprises and workers, many of them in the informal economy. The slower economic growth has resulted in rising unemployment.
- With **increased economic insecurity, lack of social protection and reduced household income**, children from poor households are being pushed to contribute to the family income with the risk of exposure to exploitative work.
- The children of migrant workers are at an increased risk of being pushed into child labour.

### **Challenges in education:**

- The closure of schools and challenges of distance learning due to the **digital divide** threatens to increase the number of children dropping out of education.
  - The NSS Report titled 'Household Social Consumption on Education in India' suggests that in 2017-18, only 24% of Indian households had access to an Internet facility.

### **Way forward:**

- **Stable economic growth, decent work for all, universal education, social protection, recognizing the needs and rights of children** can help tackle the root causes of child labour.
- Given the threat of the pandemic undoing the gains made in eliminating child labour, India must develop appropriate policies and ensure programmatic response during and after the novel coronavirus pandemic. There is a need for more **affirmative and immediate actions**.
- **Strategic partnerships and collaborations** involving government, community-based organisations and child labour families is the need of the hour.

### Additional information:

- The United Nations has declared **2021 as the International Year for the Elimination of Child Labour**.
  - 152 million children around the world are still in child labour, 73 million of them in hazardous work.
- **Sustainable Development Goal 8.7 envisages ending child labour in all its forms by 2025.**

### **7. 'Europe should speak in one voice'**

#### Context:

Lithuania has announced that it would **pull out of the China and Central & Eastern European (CEE) 17+1 mechanism.**

#### Details:

- China and Central & Eastern European (CEE) 17+1 mechanism is seen as a **pro-China grouping of countries within the EU.**
- Lithuanian Ambassador has said that the grouping has not proved beneficial.
- **Tensions between China and Lithuania have been building up** over a number of issues: Lithuania's new ties with Taiwan, its Parliament's resolution on Uighurs, and then Chinese sanctions on Lithuanian and EU politicians, which led to the EU putting the Comprehensive Agreement on Investment on hold.

### **8. DM Act is of 2005 vintage, was first enforced during pandemic**

#### Context:

Hours before retiring, former Chief Secretary of West Bengal Alapan Bandyopadhyay was served a **show-cause notice by the Union Home Ministry under Section 51 of the Disaster Management (DM) Act, 2005, punishable by imprisonment of up to two years or a fine or both.**

#### **Disaster Management Act 2005**

- The **DM Act, 2005**, came into existence **after the tsunami of 2004.**
- It was **invoked for the first time in the wake of the COVID-19 pandemic.**

- In March 2020, the Centre, through the National Disaster Management Authority (NDMA) headed by the Prime Minister, invoked the provisions of the Act to **streamline the management of the pandemic**, empowering **district magistrates to take decisions** and centralise other decisions on the supply of oxygen and movement of vehicles.
- The Act has been extended across the country till June 30, 2021.
- It is **enforced by the Home Ministry**.

### Details:

- Section 51 of the DM Act, 2005 pertains to **punishment for obstruction for refusal to comply with a direction given by the Central government**.
- It prescribes punishment for obstruction for **refusal to comply with any direction given by or on behalf of the Central Government or the State government or the National Executive Committee or the State Executive Committee or the District Authority under the Act**.
- However, the section has **two important caveats**. Under the Act, in order to be punishable, the action on the part of the person has to be:
  - 'without reasonable cause'
  - 'failure of an officer to perform the duty without due permission or lawful excuse'.

## **GS 3 : Economy, Science and Technology, Environment**

### **9. IMD increases monsoon rain outlook to 101%**

#### What's in News?

The India Meteorological Department (IMD) expects more rain in the monsoon months of June-September than its earlier estimate.

#### Updates:

- The **monsoon rain would be 101% of the Long Period Average (LPA)** of 88 cm.
- In **central India** – constituting the core rainfed agricultural region, there would be a **6% increase over the usual for the monsoon**.
- Rainfall over the **northwest and southern peninsula is normal**.
- The latest global model forecasts say
  - The **sea surface temperatures at the Equatorial Pacific conditions are unlikely to significantly rise**.

- There are also ‘negative’ IOD (Indian Ocean Dipole) conditions over the Indian Ocean during the monsoon season.
- These larger climate factors are unlikely to have a significant influence over the prevailing monsoon.
- **Sea surface temperature (SST) conditions over the Pacific and the Indian Oceans are known to have a strong influence on the Indian monsoon.** Therefore, IMD is monitoring the evolution of sea surface conditions over these Ocean basin.

### Indian Ocean Dipole

- The Indian Ocean Dipole (IOD), also known as the **Indian Niño**, is an **irregular oscillation of sea surface temperatures** in which the western Indian Ocean becomes alternately warmer (positive phase) and then colder (negative phase) than the eastern part of the ocean.
- A positive IOD is found to be beneficial for the Indian monsoon.

## 10. What explains the surge in FDI inflows?

### Context:

- **Impressive growth in total foreign direct investment (FDI) inflow in 2020-21** reported by the Ministry of Commerce and Industry

### Details:

- As against the claim being made by the government that its measures on the fronts of Foreign Direct Investment (FDI) policy reforms, investment facilitation and ease of doing business have resulted in increased FDI inflows into the country, the article raises doubts over this development based on the following arguments.

### No net increase in FDI:

- The direct investment in India has actually decreased while it is the 47% increase in **repatriation/disinvestment** that accounts for the rise in the gross inflows into India. Hence there is a wide gap between gross FDI inflow and direct investment to India.

### Surge led by FPI:

- **Short-term foreign portfolio investments** are entirely responsible for the surge in foreign investment.
- FDI inflows have increasingly consisted of private equity funds or portfolio investments, which are usually short-term investments in domestic capital (equity and debt) markets meant to realise better financial returns.
- In principle, private equity funds do not make long-term greenfield investment and hence is **not adding to fixed investment, output growth and employment creation**.

#### **Negligible impact on domestic output:**

- The ratio of **net FDI to GDP** has remained just over 1% (left-hand scale), with no discernible rising trend being observed over the years.
- Likewise, the proportion of **net FDI to gross fixed capital formation (fixed investment)** has remained range-bound between 4% and 6%.
- Thus, FDI inflow's contribution to domestic output and investment remains modest.

#### **Rise in stock prices:**

- While the FII inflow did little to augment the economy's potential output, it has resulted in a substantial rise in stock prices.
  - While GDP has contracted by 7.3% in 2020-21 on account of the pandemic and the economic lockdown, the **BSE Sensex has nearly doubled**.
  - **BSE's price-earnings (P-E) multiple** – defined as share price relative to earnings per share – is among the world's highest.

**THE INDIAN EXPRESS**

**GS 2 : Polity, Governance, International Relations**

#### **1. India-Australia Meeting**

Recently, India and Australia reviewed **cooperation in the sectors of agriculture and defence**.



## Key Points

- **In the field of Agriculture:**
  - The **India-Australia Grains Partnership** aims to use Australia's expertise in post harvest management to strengthen rural grain storage and supply chains so as to reduce losses and wastage.
    - **National Institute of Agricultural Marketing** will be the **nodal organisation from India**.
  - The flagship program of **National Innovation for Climate Resilient Agriculture (NICRA)** was mentioned and collaboration could be set up with the research organisations of Australia.
    - **NICRA is a network project of the Indian Council of Agricultural Research (ICAR)** launched in February 2011.
    - The project aims to enhance the resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology demonstration.
    - The research on adaptation and mitigation covers crops, livestock, fisheries, and natural resource management.
- **On Defence Cooperation:**
  - Participation of Australia in **Exercise Malabar**.
    - After the **Ladakh confrontation**, **India extended the invitation to Australia** and an Australian contingent participated in the **2020 Malabar exercises**.
  - Various bilateral defence cooperation initiatives like **AUSINDEX**, **Mutual Logistic Support Arrangement (MLSA)** and **Defence Science & Technology Implementing Arrangement (DSTIA)** were reviewed.
  - Expressed an intent to convene the **2+2 Ministerial Dialogue** at the earliest.
    - **2+2 Ministerial Dialogue** is a format of dialogue where the **defense and foreign ministers meet with their counterparts** from another country. It is the **highest-level institutional mechanism** between the two countries.
- **India-Australia Ties:**
  - **On the Covid-19 front**, Australia has sent oxygen, ventilators and Personal Protective Equipment (PPE) kits to India as part of an immediate support package.
  - The trade Ministers of **India, Japan and Australia** have formally launched the **Supply Chain Resilience Initiative (SCRI)**.
  - Recently, **India-Australia Circular Economy Hackathon (I-ACE)** was organised.
  - Both countries upgraded their relationship to a **Comprehensive Strategic Partnership** and signed **multiple defence agreements in 2020**.

- India and Australia co-operate in various **multilateral fora**.
  - Australia supports India's candidature in an expanded **UN Security Council**.
  - Both India and Australia are members of the **Quad, Commonwealth, Indian Ocean Rim Association (IORA), ASEAN Regional Forum, Asia Pacific Partnership on Climate and Clean Development**, and have participated in the **East Asia Summits**.
  - Both countries have also been cooperating as members of the **Five Interested Parties (FIP)** in the **World Trade Organization** context.
  - Australia is an important player in **Asia Pacific Economic Cooperation (APEC)** and supports India's membership of the organisation.
- A **Civil Nuclear Cooperation Agreement** between the two countries was signed in September 2014.
- The **Mutual Legal Assistance Treaty (MLAT)** and the **Extradition Treaty** between India and Australia, which were signed in June 2008, have been ratified by both the Governments.
- Both sides are also likely to **explore other options** such as a **closer intelligence relationship**, and in other areas such as **high technology and outer space**.

## 2. BIS SDO Recognition Scheme

### Why in News

Recently, the **Research Design & Standards Organization (RDSO)** of Indian Railways has become the **first Institution** to be declared a **Standard Developing Organization (SDO)** under **One Nation One Standard mission** of **Bureau of Indian Standards (BIS)**.

- RDSO took the initiative to seek recognition as a Standard Developing Organization (SDO) under the **BIS SDO Recognition Scheme**.

### Research Designs & Standards Organization

- It is the **sole R&D Wing of the Ministry of Railways**, is one of India's leading Standard formulating bodies undertaking standardization work for the railway sector situated in **Lucknow, Uttar Pradesh**.

## Key Points

- **About:**
  - The idea of **One Nation One Standard Mission** was first conceived in **2019**, it was envisioned **on the line of one nation, one ration card scheme** in order to ensure quality products in the country.
  - To attain the One Nation One Standard vision of the Government of India, BIS launched a scheme which provides for **Recognition of SDO**.
    - The recognition is **valid for 3 years** and will require renewal after completion of the validity period.
- **Objectives:**
  - **Aggregating and integrating the existing capabilities** and dedicated domain specific expertise available with various organizations in the country engaged in standards development in their specific sectors.
    - The idea is **to develop one template of standard for one given product instead of having multiple agencies set it.**
  - Enable **convergence of all standard development activities** in the country resulting in **One National Standard for One Subject**.
    - This will help in **establishing in the long run Brand India**. This will also ensure **market relevance for the Indian standards**.
- **Other Initiatives of BIS:**
  - **BIS-Care App:**
    - With this app, consumers can **check the authenticity** of the **ISI-marked and hallmarked products** and lodge complaints.
  - **Covid-19 Standards:**
    - BIS developed **Covid-19** standards for Cover-all and Ventilators and issued norms for grant of **licence for N95 Masks, surgical masks and eye protectors** which has resulted in an increased production of ISI-marked **Personal Protection Equipment (PPE) items**.
  - **Quality Control Orders:**
    - BIS has been playing an important role in the **formulation of Quality Control Orders (QCO) to make the standards mandatory**.
  - **Portal for Consumer Engagement:**
    - BIS is developing a portal on Consumer Engagement, which **will facilitate the online registration of Consumer Groups, submission of proposals and approval thereof and complaint management**.

## Bureau of Indian Standards

- It has been established for the harmonious **development of the activities of standardization, marking and quality certification of goods** and for matters connected therewith or incidental thereto.
- It was **established by the Bureau of Indian Standards Act, 1986** which came into effect in December 1986. It works under the aegis of the **Ministry of Consumer Affairs, Food & Public Distribution.**
- A new **Bureau of Indian standard (BIS) Act 2016** has been brought into force with effect from October 2017.
  - The Act establishes the **Bureau of Indian Standards (BIS) as the National Standards Body of India.**

## **GS 3 :Economy, Science and Technology,Environment**

### **3. Lawsuit against 5G and the debate around**

A notable actor has filed a lawsuit in the Bombay High Court against the 5G telecom technology up-gradation, trial runs for which have started in India now.

#### **What is 5G technology?**

- 5G or fifth generation is the latest upgrade in the long-term evolution (LTE) mobile broadband networks.
- It mainly works in 3 bands, namely low, mid and high-frequency spectrum – all of which have their own uses as well as limitations.

#### **Issues with the rollout**

- However, 5G and its rollout in many countries have been hampered due to fears over health concerns even some conspiracy theories as well, which have tried to link it with the coronavirus among other things.
- The recent lawsuit is asking questions around the overall impact of 5G and low intensity radiofrequency (RF) electronic magnetic field (EMF) radiation on human health, and its environmental impact as well.
- These concerns, while not yet proven, have been raised by various scientists before too.

### **Arguments raised in the lawsuit**

- It has stated that the 'radiation' it will emit will be "extremely harmful and injurious to the health and safety of the people".
- While using wireless devices one is in a constant dilemma about "RF radiation from wire-free gadgets and network cell towers".
- There is sufficient reason to believe that the radiation is extremely harmful and injurious to the health and safety of the people.
- It wants the concerned department to certify that 5G technology is safe for humans and also animals and birds.

### **Why is 5G essential?**

- 5G promises to revolutionize mobile broadband and is a big generational leap over the existing 4G technology.
- This new technology will be capable of not just ensuring fast internet on our phones, but also help power IoT (Internet of Things) networks to run connected cars and homes smarter.
- It will also support the streaming of rich media.

### **Rollout status in India**

- 5G has not yet been rolled out in India though some companies have been given a trial spectrum to test 5G technology in the country.
- Once this is over, it is expected that networks will go live with the 5G bands by the end of this year.
- The 5G rollout is expected to gather pace in the country by 2022.

### **Fear around the impact of 5G radiation on human health**

- The claim is that the more powerful 5G waves will emit more radiation and cause harm to humans as well as other living beings.
- Also, 5G will require more towers in order to ensure better connectivity, and since it will power more than just our smartphones, it will increase human exposure to such radiation in general.
- This is an extension of the idea that cellular towers, which emit low-level RF-EMF radiation, are in general damaging our bodies.
- But radiation from cellphone towers, mobile phones, WiFi routers is typically called non-ionizing radiation like radio waves, microwaves, and optical radiation.
- RF fields have been classified by WHO's International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B).

## Layman understandings over such radiations

- There's no doubt that radiation at very high levels, also referred to as ionizing radiation, heats up our tissue and can eventually lead to cancer.
- This applies to medical devices such as a CT-scan machine or X-ray machine, which emit high-level ionizing radiation.
- That's exactly why doctors don't recommend that you go get a CT scan for every health issue because it does increase unnecessary exposure to radiation.
- But there are increasing concerns that our smartphones, other WiFi-ready devices such as laptops, and mobile phone towers which also emit low-level RF radiation are damaging our bodies given the constant exposure.

## What WHO has to say?

- On its page on 5G, the World Health Organization (WHO) says "no adverse health effect has been causally linked with exposure to wireless technologies."
- But it also states that "only a few studies have been carried out at the frequencies to be used by 5G."
- Given the growing concerns, the WHO is conducting "a health risk assessment from exposure to radio frequencies, covering the entire radiofrequency range, including 5G."
- This study will be published by 2022.

## 4. Growth of farm sector during COVID-19 Pandemic

2020-21 saw the Indian economy register its worst-ever contraction since Independence and also the first since 1979-80. There has been recording economic contraction, however, the farm sector actually grew by 3.6%.

### Growth in Farm Sector

There are two main reasons why agriculture didn't suffer the fate of the rest of the economy last year.

#### (1) Better monsoon and yields

- 2019 and 2020, by contrast, were above-normal monsoon years, with the country receiving an area-weighted rainfall.
- It led to the filling of reservoirs and recharging of groundwater tables and aquifers, unlike after the deficient monsoons of 2014 and 2015 and the near-deficient one of 2018.

- Not surprisingly, 2019-20 and 2020-21 produced back-to-back bumper harvests.

## **(2) Ease during lockdowns**

- The second reason had to do with agriculture being exempted from the nationwide lockdown that followed the first wave of Covid-19.
- Lockdown restrictions only spared PDS ration shops and other stores selling food, groceries, fruits & vegetables, milk, meat and fish, animal fodder, seeds and pesticides.
- But within days, an addendum was issued, extending the lifting of curbs to fertilizer outlets, all field operations by farmers and farmworkers, intra- and inter-state movement of agricultural machinery, sale of produce in wholesale mandis and procurement.

## **Inherent resilience of India's farm sector**

- Simply put, farmers made sure they did not waste a good monsoon, finding ways to even mobilize harvesting and planting labor during peak lockdown.
- The inherent resilience and adaptability of rural economic actors – meant that the farm sector was relatively insulated from lockdown-imposed supply-side

## **What were the issues faced?**

- The problems agriculture encountered due to the lockdown had more to do with the demand
- The closure of hotels, restaurants, roadside eateries, sweetmeat shops, hostels, and canteens – and no wedding receptions and other public functions – resulted in a collapse of out-of-home consumption.
- This was demand destruction not from rising prices – “movement along the demand curve”.
- Instead, it was from forced consumption reduction, translating into lower demand for farm produce even at the same price – “a leftward shift in the demand curve”.

## **Various successes**

### **(1) Success of MSP procurement**

- MSP procurement was effective largely in crops and regions where the institutions undertaking such operations – be it the Food Corporation of India, NAFED, Cotton Corporation of India or even cooperative dairies.

- These all were active and could stem price declines during the period of demand destruction.
- Such intervention wasn't possible in non-mainstream produce (vegetables, fruits, poultry, fish, flowers, spices, etc) and regions (maize in Bihar), where the corresponding institutional mechanisms were non-existent.
- The demand situation improved, though, with the gradual lifting of lockdown restrictions and also the recovery in global agri-commodity prices.

## (2) MGNREGA

- While agriculture grew amid an unprecedented economic contraction, 2020-21 was also notable for the record person-days of employment generated under MGNREGA.
- This flagship employment scheme was yet another source of liquidity infusion and, again, a pre-existing program that the government could deploy to support rural incomes during a crisis.
- Rural consumption, in turn, provided some cushion to the economy and preventing a bad situation from turning much worse. ★

## Prospects for this Year

The one obvious difference between now and last year is Covid-19 cases. Covid's impact on agriculture per se would depend on the spread, intensity, and duration of the infection.

- Rural areas were mostly unaffected by the pandemic's first wave.
- Farm-related activities could, then, go on relatively unhindered, which government policy, whether to do with lockdown or public procurement, also facilitated.
- That situation has changed with the second wave and rising share of rural districts in total cases, even without factoring in the higher probability of underreporting in these places.

## What next?

- While fear of the virus may induce precautionary behavior and economic growth, it is unlikely to affect normal agricultural operations.
- And if last years' experience is any guide, the adaptability of farmers and myriad rural economic agents should not be underestimated.

**(1) The first factor to be considered is the monsoon.** The good news this time is that there is no El Niño.



- There are increasing chances of a La Niña – El Niño’s counterpart that is associated with above-normal rains and lower temperatures in India – for the autumn and winter months.
- El Niño is the abnormal warming of the tropical central and eastern Pacific Ocean surface waters, resulting in increased evaporation and cloud-formation activity around South America and away from Asia.

## (2) Uncertainty in prices

- Global prices – be it of wheat, maize, soybean, palm oil, sugar, skimmed milk powder or cotton – have scaled multi-year highs in the recent period, helping India’s agri-commodity exports.
- But export demand alone cannot sustain prices, especially in a scenario where job and income losses, accelerated post the pandemic that has severely dented domestic purchasing power.
- Diesel prices alone have gone up by over a third in the last year; so have that of most non-urea fertilizers.

## Way forward

- The real challenge for Indian agriculture and farmers will be on the demand side.
- That is specifically going to come from declining real incomes and particularly affecting demand for milk, pulses, egg, meat, fruits, vegetables and other protein/micronutrient-rich foods.
- While rising rural wages and overall incomes is what propelled the demand for these foods in the past – in turn, contributing to dietary and cropping diversification – the ongoing slide presents a frightening proposition.

## 5. International Nitrogen Initiative (INI)

The United Nations (UN) Sustainable Development Goals (SDGs) are the main focus of the eighth triennial conference of the International Nitrogen Initiative (INI) being held virtually this week.

### International Nitrogen Initiative

- INI is an international program, set up in 2003 under the sponsorship of the Scientific Committee on Problems of the Environment (SCOPE) and from the International Geosphere-Biosphere Program (IGBP).
- The key aims of the INI are to:

1. optimize nitrogen's beneficial role in sustainable food production, and
2. minimize nitrogen's negative effects on human health and the environment resulting from food and energy production.

### Why nitrogen?

- Reactive nitrogen compounds like NO<sub>x</sub>, ammonia and the greenhouse gas nitrous oxide impact air, water and soil quality, health, biodiversity and climate change, among others.
- These compounds are lost from fertilizers, manures, and sewage as well as from fuel burning in transport and industry.
- Assessing and managing them sustainably will be crucial to achieving the 17 UN SDGs targeted for 2030.

### 6. Species in news: Litoria Mira

A species of frog lives in the rainforests of New Guinea that appears to be made from chocolate – just like the magical sweets popular in the wizarding world of J K Rowling's Harry Potter.

#### Litoria mira

- The cocoa-colored frogs have turned out to be a new species – and an addition to our knowledge of the animal kingdom.
- It has a well-known relative – the common green tree frog of Australia called Litoria cerulean.
- Litoria Mira can be distinguished from all other Litoria by its unique combination of moderately large size, webbing on hand, relatively short and robust limbs, and a small violet patch of skin on the edge of its eyes.

### Prelims Practice Questions

#### 1. With reference to the 'AmbiTAG', consider the following statements:

1. It is an Internet of Things (IoT) based device.

2. It is a temperature data logger for cold chain management.

Which of the statements given above is/are correct?

- A 1 only
- B 2 only
- C Both 1 and 2
- D Neither 1 nor 2

Answer : C

Explanation

- Recently, Indian Institute of Technology (IIT) Ropar, Punjab **has developed a first-of-its-kind IoT (Internet of Things) device. Hence, statement 1 is correct.**
  - AmbiTag that records real-time ambient temperature during the transportation of perishable products, vaccines and even body organs and blood.
- The device has been developed under Technology Innovation Hub – AWaDH (Agriculture and Water Technology Development Hub) and its Startup ScratchNest
- 'AmbiTAG' is shaped as a USB (Universal Serial Bus) device.
- It is India's **first indigenous temperature data logger** for cold chain management. **Hence, statement 2 is correct.**
  - It continuously records the temperature of its immediate surroundings from -40 to +80 degrees in any time zone for a full 90 days on a single charge.
  - Most of the similar devices available in the international market record data only for a duration of 30- 60 days.
  - It generates an alert when the temperature goes beyond a pre-set limit.
  - The recorded data can be retrieved by connecting the USB with any computer.

**2. In which of the following regions of India are shale gas resources found?**

Cambay Basin

1. Cauvery Basin
2. Krishna-Godavari Basin

**Select the correct answer using the code given below.**

- a. 1 and 2 only
- b. 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

**Answer: d**

**Explanation:**

In India, shale gas resources are found in Cambay Basin, Cauvery Basin as well as Krishna-Godavari Basin.

**3. The “Three Child Policy”, sometimes seen in the news, was approved recently by which of the following countries?**

- a. China
- b. Japan
- c. Madagascar
- d. New Zealand

Answer : a

- *The Republic of China for the first time allowed the couples to have a third child.*
- This comes as a further relaxation of family planning rules, five years after a “two-child policy” largely failed to boost birth rates.
- The Three Child Policy aims to actively address the ageing of population.
- The change comes after the recent release of China’s once-in-a-decade population census that painted an alarming picture of declining births.
- Forecasts say the population could peak in the next couple of years and most likely by 2025, when India will become the world’s most populous country.

**4. Arrange the following hills from East to West:**

1. Naga Hills
2. Mikir Hills
3. Jaintia Hills
4. Garo Hills

**Options:**

- a. 1-2-3-4
- b. 2-3-4-1
- c. 3-4-1-2
- d. 4-1-2-3

**Answer: a**

**5. Consider the following pairs:**

1. Point Calimere Wildlife and Bird Sanctuary: Tamil Nadu
2. Pench Tiger Reserve: Arunachal Pradesh
3. Pobitora Wildlife Sanctuary: West Bengal

**Which of the above pairs is/are correctly matched?**

- a. 1 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

**Answer: a**

**Explanation:**

- Point Calimere Wildlife and Bird Sanctuary is located in Tamil Nadu.
- Pench Tiger Reserve is located in Madhya Pradesh.
- Pobitora Wildlife Sanctuary is located in Assam.

**6. Consider the following statements:**

1. The effectiveness of the Nano Urea Liquid is greater than the conventional urea.
2. The Nano Urea Liquid is indigenously developed in India.

**Which of the statements given above is/are correct?**

- A 1 only
- B 2 only
- C Both 1 and 2
- D Neither 1 nor 2

Answer : C

Explanation

- The Indian Farmers Fertiliser Cooperative Limited (IFFCO) introduced the world's first Nano Urea Liquid for farmers across the world.
- Nano Urea Liquid is a nutrient (liquid) to provide nitrogen to plants as an alternative to the conventional urea.
  - It is developed to replace conventional urea and it can curtail the requirement of the same by at least 50%.
  - It contains 40,000 mg/L of nitrogen in a 500 ml bottle which is equivalent to the impact of nitrogen nutrient provided by one bag of conventional urea.
  - **Conventional urea is effective 30-40% in delivering nitrogen to plants, while the effectiveness of the Nano Urea Liquid is over 80%. Hence, statement 1 is correct.**
    - Its effectiveness has been tested in over 11,000 farmers' fields for 94 crops like rice and wheat.
    - An average 8% increase in yield has been witnessed.
- Nano Urea Liquid has been **indigenously developed at Nano Biotechnology Research Centre, Kalol, Gujrat** in line with Atmanirbhar Bharat and Atmanirbhar Krishi. **Hence, statement 2 is correct.**

**Mains Practice Questions**

**1. Citizen's Charter seeks to continuously improve the quality of public services for the people so as to respond to their needs and wishes. In the light of the statement discuss the foundational features of a citizen's charter and what do citizens expect out of it.**

### **Approach**

- Start the answer by defining the concept of the Citizen's Charter
- Discuss the foundational features of a citizen's charter and what do citizens expect out of it.
- Conclude suitably.

**2. Farmer producer organizations have the potential to act as a solution to agrarian distress. Comment.**

### **Approach**

- Start the answer by defining the concept of Farmer Producer Organizations.
- Discuss the role of FPOs in dealing with agrarian distress.
- Conclude suitably.