



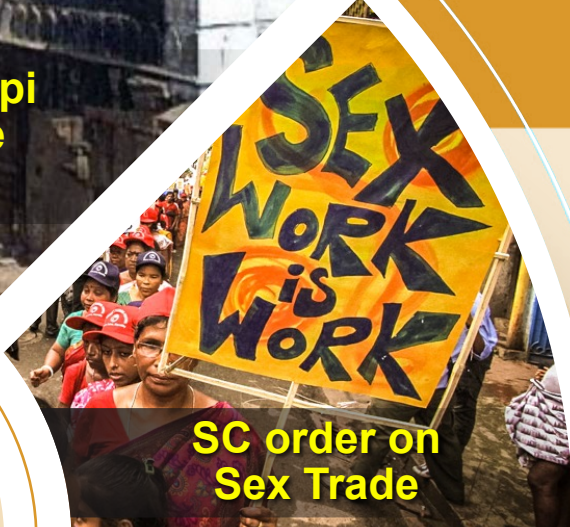
VAJIRAM & RAVI

(Institute for IAS Examination)

Current Affairs (May 2022)

the RECITALS

**Gyanvapi
Mosque
Dispute**



**SC order on
Sex Trade**



**Visit of PM Modi
to Nepal**

**Ruling on GST
council**

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Hate Speech & Sec. 144 of CrPC

CRS Report 2020

Sedition & Sec. 124A of IPC

Perarivalan Case & Pardoning
Power

State of Inequality Report 2021

Decline in Labor Force
Participation

Rupee Depreciation

Fertilizer Disruption

India-France

India-Germany

Indo-Pacific Economic Framework

Quad Leaders Summit 2022

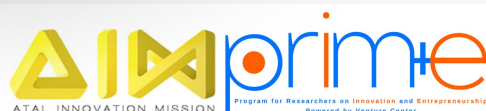


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State of Inequality in India 2021 Report

A report, titled “The State of Inequality in India” has been released by the Economic Advisory Council to the Prime Minister (EAC-PM).

The State of Inequality in India 2021 Report

- The report was commissioned by the **EAC-PM** and prepared by the **Institute for Competitiveness**.
- It presents a holistic analysis of the depth and nature of inequality in India.
- This report cuts across the intersections of class, gender, and region and highlights how inequality affects the society.

Methodology

- Consisting of **2 parts – Economic Facets and Socio-Economic Manifestations** – the report looks at **five key areas** that influence the nature and experience of inequality.
- These are **income distribution, labour market dynamics, health, education and household characteristics**.
- It uses data derived from various rounds of the Periodic Labour Force Survey (PLFS), National Family and Health Survey (NFHS) and Unified District Information System for Education (UDISE+). Each chapter is dedicated to explain the **current state of affairs, areas of concern, successes and failures in terms of infrastructural capacity and finally, the effect on inequality**.



Key Highlights Of The Report

• Move Beyond Wealth Concentration As A Metric Of Inequality

- The report presents the case for moving beyond wealth concentration as a metric of inequality.
- Instead, emphasis should be given to **dynamic variables** like income distribution that determine capital flow and measure the purchasing power of the households.

• Earnings Have Risen Over The Years, Benefits Remain Concentrated

The report concedes that while earnings have risen over the years, the benefits of that growth have largely remained concentrated. This has marginalised the poor further.

• Progress Has Been Made In Various Indicators

The report noted that the progress has been made in various indicators such as labour participation (pre-Covid), health infrastructure, enrolment ratio of students, and child mortality.

• Wealth Concentration Has Worsened

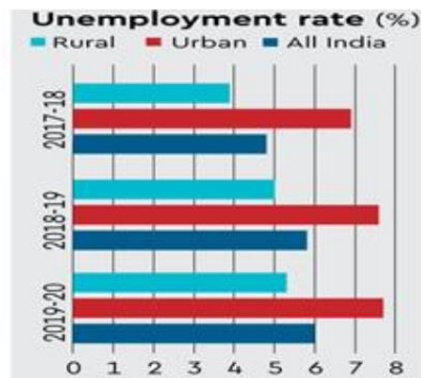
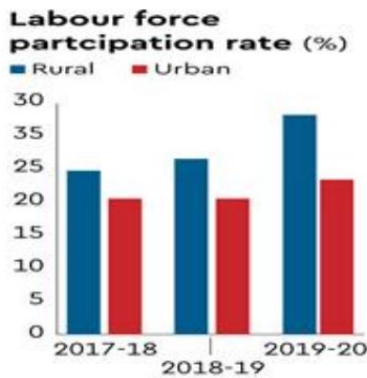
- The report also noted that wealth concentration has worsened.
- 44.4% wealth concentration in the **highest quintile** in urban areas is contrasted with a meagre 7.1% concentration that in rural India.
- The share of the top 1% accounts for 6-7% of the total incomes earned, while the top 10% accounts for one-third of all incomes earned.

• Unemployment Rate & Different Employment Categories

- In 2019-20, among different employment categories, the highest percentage was of self-employed workers (45.78%), followed by regular salaried workers (33.5%) and casual workers (20.71%).
- The share of self-employed workers also happens to be the highest in the lowest income categories.
- The country’s unemployment rate is 4.8% (2019-20), and the worker population ratio is 46.8%.
- The gender disparity in the labour market continues to be stark over the three years in 2019-20. The female LFPR was at 30%, in contrast the male LFPR is recorded at 76.8%.

- **Nutrition Profile Among Children Has Improved Compared To 2015-16 (NFHS 4)**

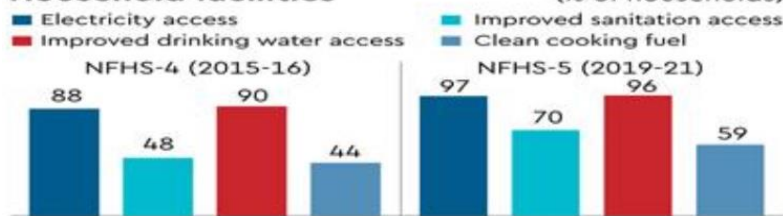
- As per the report, stunting in children has gone down from 38.4% and wasting from 21%, and 7.7% are severely wasted.
- Additionally, 32.1% of children (under five years) were reported to be underweight.
- There has been a considerable improvement in increasing the infrastructural capacity with a targeted focus on rural areas.



Gross enrollment ratio

Education level	2019-20	2018-19
Primary (I-V)	102.74	101.25
Upper primary (VI-VIII)	89.67	87.74
Secondary (IX-X)	77.9	76.9
Higher Secondary (XI-XII)	51.42	50.14

Household facilities



Wealth concentration*

Maximum	States/UT	Value
Chandigarh		80.80
Delhi		62.80
Punjab		62.00
Goa		55.90
Minimum	States/ut	Value
Bihar		3.300
Tripura		6.200
Meghalaya		6.300
Assam		6.400
Odisha		7.300
Jharkhand		8.800
West bengal		9.400

Quantile (%); *in the highest quintile
Source: PLFS, UDISE, NFHS

- **Education And Household Conditions Have Improved Enormously**

- According to the report, education and household conditions have improved enormously due to targeted efforts.
- It is emphasized that education and cognitive development from the foundational years is a long-term corrective measure for inequality.
- The Gross Enrolment Ratio has also increased between 2018-19 and 2019-20 at the primary, upper primary, secondary and higher secondary.
 - ✓ In 2019-20, the Gender Parity Index was more than 1 across all levels of education at the all-India level.
 - ✓ This index reflects the representation of females in schools in relation to the population of girls in the corresponding age group.
- In terms of improvement in household conditions, emphasis on providing access to sanitation and safe drinking water has meant leading a dignified life for most households.
- According to NFHS-5 (2019-21), 97% of households have electricity access, 70% have improved access to sanitation, and 96% have access to safe drinking water.

Recommendations

- **Demand-Based Guaranteed Employment Scheme For The Urban Unemployed**

- The report has suggested that the Government should launch a guaranteed employment programme for the urban unemployed.

- This demand-based guaranteed employment scheme should be launched on the lines of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). This will help in rehabilitation of the surplus-labour.
- This step was recommended after analysing the difference between the labour force participation rate in rural and urban areas.
- **Roll Out A Universal Basic Income (UBI) Scheme**
 - It also suggested to roll out a universal basic income (UBI) scheme to reduce income gaps.
 - UBI is a government program in which every adult citizen receives a set amount of money regularly.
 - The goals of a basic income system are to alleviate poverty and **replace** other need-based social programs that potentially require greater bureaucratic involvement.
 - In India, the idea of UBI was endorsed by former chief economic advisor Arvind Subramanian in the Economic Survey for FY17 in place of subsidy transfer.
 - **IMF**, In October 2017, endorsed the idea of India launching a fiscally-neutral UBI scheme by eliminating food and fuel subsidies.
 - The report mentions that this step can reduce income gap and ensure equal distribution of earnings in the labour market.
- **More Expenditure Towards Social Services And The Social Sector**
 - The report said that the Government must allocate more percentage of the expenditure towards social services and the social sector.
 - This will make the most vulnerable population resilient to sudden shocks and stop their descent into poverty.
- **Other Recommendations:**
 - Creating income slabs that provide class information,
 - Creating jobs, especially among the higher levels of education and
 - Increasing the budget for social protection schemes.



Section 144 of CrPC And Hate Speech

Section 144 of CrPC was imposed to restrict a religious gathering in Roorkee to prevent communal tension there. SC has instructed the government of Uttarakhand to ensure that there would be no untoward incidents or unacceptable statements (hate crimes) during the religious gathering.

About Section 144 of CrPC

- It is a colonial era law, which was first brought in CrPC 1882 and retained in CrPC 1973.
- It empowers the DM, SDM or any other executive magistrate empowered by the state government to issue a prohibitory order to prevent and address urgent and emergency cases of possible danger and nuisance.
- The provision empowers magistrate to restrict the unlawful assembly (gathering of four or more people), movement and **carrying certain arms**.
 - ✓ During **curfew**, people are instructed to stay indoors for a particular period. The government puts a **complete restriction** on traffic as well.
 - ✓ Markets, schools, colleges and offices remain closed under the curfew and only essential services are allowed to run on prior notice.
- The written order by the magistrate may be directed against an individual or group residing in a particular area or to public at large.

- It also empowers the authorities to block internet access in the region.
- In urgent cases, the magistrate may pass order *without giving prior notice* to an individual or the section of population targeted.
- The order passed under Sec 144 of CrPC remains in force for a period of 2 months. However, state government can extend it for a period up to 6 months.

Concerns

- **Article 19(1)(a)** of the constitution guarantees the freedom of speech and expression. Though, provisions in clauses (2) to (6) of Article 19 authorizes the State to restrict the exercise of the freedom guaranteed under the article; yet Sec 144 of CrPC, if used in arbitrary and undemocratic manner by the concerned magistrate, violates the very provision of the constitution.
- The first remedy against the order is a *revision application* that must be filed before the same officer. This is against the principle of natural justice.
- An aggrieved individual can approach the High Court by filing a writ petition if his fundamental rights are at stake. However, fears exist that before the High Court intervenes, the rights could already have been infringed.
- Prohibitory orders are imposed over a large area to suppress the political dissent. This is unwarranted in a democracy.

SC Judgements on Sec 144 of CrPC

- **Babulal Parate vs state of Maharashtra, 1961:** The SC upheld Section 144 of CrPC and said that it is not correct to say that the *remedy of a person aggrieved by an order under the section was illusory*.
- **Madhu Limaye vs SDM, 1970:** A seven-judge Bench held that the power under Sec 144 is not an ordinary power flowing from administration but a power used in a *judicial manner* and which can stand *further judicial scrutiny*. The court ruled that section 144 covers 'reasonable restriction' to the fundamental rights laid down in Article 19(2) of the constitution.
- **Ramlila Maidan vs Home Secretary of UOI case, 2012:** The perception of threat to public order should be real and not *imaginary or a mere possibility* for using Sec 144.

Thus, it is settled position of the law that the Sec 144 of CrPC should be imposed sparingly and only when the emergency is sudden and the apprehension of consequences are sufficiently grave. D Y Chandrachud has rightly said ***"Dissent is the safety valve of democracy. If dissent is not allowed, then the pressure cooker may burst,"***

About Hate Speech

- Hate speech covers **many forms of expressions** which advocate, incite, promote or justify hatred, violence and discrimination against a **person or group of persons** based on their religion, ethnicity, nationality, race, colour, descent, gender or other identity factor.
- It poses grave dangers for the cohesion of a democratic society, the protection of human rights and the rule of law.
- If left unaddressed, it can lead to acts of violence and conflict on a wider scale. In this sense, hate speech is an extreme form of intolerance which contributes to hate crime.

Legal Provisions on Hate Speech

- Hate speech has not been defined in any law in India. However, legal provisions in certain legislations prohibit select forms of speech as an exception to freedom of speech.
- Indian Penal Code (IPC) Provisions
 - ✓ Under Section **153A of IPC**, 'promotion of enmity between different groups on grounds of **religion, race, place of birth, residence, language, etc.**, and doing acts prejudicial to maintenance of

harmony', is an offence punishable with three years' imprisonment.

- ✓ **Sections 505(1) and 505(2)** make the publication and circulation of content which may cause ill-will or hatred between **different groups** an offence.

- Representation of the People Act, 1951

Section 8 disqualifies a person from contesting election if he is convicted for indulging in acts amounting to illegitimate use of freedom of speech and expression.

- Protection of Civil Rights Act, 1955

Section 7 penalizes incitement to, and encouragement of untouchability through words, either spoken or written, or by signs or by visible representations or otherwise.

- Religious Institutions (Prevention of Misuse) Act, 1988

Section 3(g) prohibits religious institution or its manager to allow the use of any premises belonging to, or under the control of, the institution for promoting or attempting to promote disharmony, feelings of enmity, hatred, ill-will between different religious, racial, language or regional groups or castes or communities.

Important Judgements

- In **Pravasi Bhalai Sangathan v. Union of India 2014**, the Supreme Court held that the implementation of existing laws would solve the problem of hate speech to a great extent.
- In **Jafar Imam Naqvi v. Election Commission of India 2014**, the petitioners filed a writ petition challenging the vitriolic speeches made by the candidates in the election and prayed for issue of **writ of mandamus** to the Election Commission for taking appropriate steps against such speeches.

However, the Court dismissed the petition on the ground that the petition under **Article 32** of the Constitution regarding speeches delivered during election campaign does not qualify as public interest litigation and that the Court cannot legislate on matters where the legislative intent is visible.

- In **Shreya Singhal v. Union of India 2015**, issues were raised about **Section 66A** of the Information Technology Act, 2000 relating to the fundamental right of free speech and expression guaranteed by **Article 19(1) (a)** of the Constitution, where the Court differentiated between **discussion, advocacy, and incitement** and held that the first two were the essence of Article 19(1).

Suggestions

- The Law Commission has proposed that separate offences be added to the IPC to criminalize hate speech quite specifically instead of being subsumed in the existing sections concerning inflammatory acts and speeches.
- Similar proposals to add sections to the IPC to punish acts and statements that promote racial discrimination or amount to hate speech have been made by the **M.P. Bezbaruah Committee (2014)** and the **T.K. Viswanathan Committee (2019)**.
- At present, the Committee for Reforms in Criminal Laws, which is considering more comprehensive changes to criminal law, is examining the issue of having specific provisions to tackle hate speech.



CRS Report 2020

The **UT of Ladakh** has recorded **highest sex ratio at birth in 2020**, followed by Arunachal Pradesh, A&N Islands, Tripura and Kerala, according to annual report of Vital Statistics based on 2020 Civil Registration System Report.

About Civil Registration System (CRS)

- ☞ The Annual Report on Vital Statistics of India based on Civil Registration System for 2020 has been published by the office of Registrar General of India on the basis of reports provided by the Chief Registrar of Births and Deaths of respective States/UTs as per the mandate of "The Registration of Births and Deaths Act, 1969".
- ☞ The implementation of the statute is vested with the State Governments.
 - The registration of births and deaths in the country is done by the functionaries appointed by the State Governments.
- ☞ It is the unified process of continuous, permanent, compulsory and universal recording of the vital events such as births, deaths and stillbirths, and their characteristics. Civil Registration records are the best source of Vital Statistics. A complete CRS system is a must for the country as it has important administrative and statistical uses.
- ☞ The data generated through CRS is essential for socio-economic planning and the evaluation of social sector programs. They also serve as the cornerstone of the public health system.
- ☞ The Registration of Births and Deaths Act, 1969 provides for the compulsory registration of births and deaths.
- ☞ The CRS records provides for the legal identity to an individual citizens and access to their rights and entitlements i.e., social benefits provided by the Government. Registration of birth is a right of every child and is the first step towards establishing her/his legal identity.



Registrar General of India (Ministry of Home Affairs)

- It arranges, conducts and analyses the results of the demographic surveys of India including the decadal Census of India and Linguistic Survey of India
- Census organization was set up on an ad-hoc basis for each census till the year 1951 census.
- The Census Act was enacted in the year 1948 to provide a plan for conducting population census along with the duties and responsibilities of census officers.
- The Government of India decided to take steps to develop a systematic collection of data on population figures including vital statistics and census. For that reason, a permanent office of the Registrar General of India and ex-officio Census Commissioner was set up under the Ministry of Home Affairs in May 1949.
- Later, this office was also entrusted with the task of implementation of the Birth and Death Registration Act, 1969 in the country.

Highlights Of The Report

A. Sex Ratio:

- ✓ Highest SRB (Sex Ratio at Birth: **Ladakh (1104)**, Arunachal Pradesh (1101), A&N Islands (984), Tripura (974) and Kerala (969).
- ✓ Lowest SRB: **Manipur (880)**, Dadar & Nagar Haveli, Daman and Diu (898), Gujrat (909), Haryana (916) and MP (921).

B. Birth Rate:

- ✓ States such as **Nagaland, Puducherry, Telangana, Manipur**, Delhi, Arunachal Pradesh, West Bengal, Kerala, Gujrat, Karnataka, Himachal Pradesh, Uttar Pradesh, Assam, TN, Uttarakhand, Maharashtra, Mizoram and Chandigarh recorded a **decrease in the registered birth rate**.
- ✓ States such as **Bihar, Haryana, Sikkim, MP & Rajasthan** recorded an **increase** in registered birth rate.

C. Death Rate:

- ✓ States such as **Maharashtra, Gujarat, Andhra Pradesh, Bihar**, WB, Nagaland, Haryana, Karnataka, TN, Sikkim, Punjab, MP, Odisha, Rajasthan, A&N Islands and Assam recorded an **increase** in death rate in 2020 compared to previous year. *Bihar saw the maximum increase in the death rate followed by Maharashtra and Assam.*
- ✓ States such as Manipur, Chandigarh, Telangana, UP, Uttarakhand, Puducherry, Arunachal Pradesh and Kerala saw a decrease in death rates in 2020 with respect to 2019.

D. Infant Deaths:

- ✓ The report noted that the share of infant death registration was only 23.4% for rural areas and **76.4%** for urban areas. *Non registration of infant deaths in rural areas* was a cause of concern due to non-reporting of infant deaths to local registrars.

Proposed Amendment To The Registration Of Births And Deaths Act, 1969

According to the **2020-21** annual report of the Ministry of Home Affairs (MHA), the government is planning to automate (real time registration) the **Civil Registration System (CRS)**.

- The RGI has proposed amendment to the Registration of Births and Deaths Act, 1969. This amendment will enable it to maintain the database of registered birth and deaths at the national level.
- According to the proposed amendment, the database may be used to update the **Population Register, Electoral Register, Aadhar, Ration Card, Passport and Driving License databases**

Key Highlights Of The Report

• Challenges Faced By CRS In Current Form

The CRS system is facing challenges in terms of timelines, efficiency and uniformity, leading to delayed and under-coverage of birth and death.

• Need To Introduce Transformational Changes In CRS For Prompt Service Delivery

- ✓ This will be done through an IT enabled backbone which will enable registration of birth and death in real-time basis with minimum human interface.
- ✓ The changes would be in terms of automating the **process delivery points**
- ✓ The changes would be sustainable, scalable and independent of the location.

• Need To Update The NPR Again

- ✓ The CRS is linked to the National Population Register (NPR), which already has a database of **119 crore residents**.
- ✓ The report said there was a need to update the NPR again to incorporate the changes due to birth, death and migration.
- ✓ NPR was first collated in 2010 and updated in 2015 with Aadhaar, mobile and ration card numbers.
- ✓ The NPR was to be updated with the decennial Census exercise that has been postponed indefinitely due to the COVID-19 pandemic.

• Registered Births And Deaths Had Witnessed A Steady Increase

- ✓ The report noted that the proportion of total registered births and deaths had witnessed a steady increase over the years.
 - The registration level of births has increased to **89.3% in 2018 from 81.3% in 2009**.
 - On the other hand, registration level of deaths has increased from **66.9% in 2009 to 86.0% in 2018**.
- ✓ It pointed out, adding that the level of total registration of deaths was lower than that of births in most of the States. This may partly be attributed to non-reporting of domiciliary deaths and deaths of females and infants.



Section 124A of IPC

- The Supreme Court (SC) has directed that all the proceedings on charges of sedition under **section 124A** of the IPC be kept in **abeyance** (temporary inactivity) until the government has completed re-examining the law under the section.
- The interim order issued **an absolute order staying all ongoing cases** under Section 124A of the IPC where a chargesheet had been filed.
- The court further stated that it expects the Centre and States to **refrain from filing FIRs, conducting investigations or taking coercive actions** under Section 124A while the colonial law is being reconsidered.

- Persons **charged in new cases were free to approach courts**, which would review their cases in light of the SC's judgement and the Union's clear position that the provision was abused and needed re-examination.

Historical Background of Sedition law

- 1870 – **J. F. Stephen** introduced Section 124A or the sedition law in the IPC as the original IPC Act of 1860 did not include the sedition law. However, it was the part of the **draft prepared by Macaulay**.
- 1891 – Queen vs Jogendra Chundar Bose Case was the **1st sedition case** in India. The editor of a Bengali magazine 'Bangobasi' was tried for sedition because he had criticized the 'age of consent Act 1891'. B.G. Tilak and Mahatma Gandhi were also charged and convicted under section 124A.
- 1947 – Sardar Patel proposed in constituent assembly that sedition law must serve an exception to the right to free speech.
- 1948 – K. M. Munshi did not agree with Sardar Patel's proposal. He advocated for not including the 'sedition' as a ground for reasonable restriction of fundamental rights. **The constitution did not include 'sedition' as reasonable restriction to freedom of speech under Art 19(2) of the constitution. However, section 124A remained in IPC.**
- 1950 – The SC ruled that the constitution does not include the word 'sedition' as an exception to the free speech. Thus, the decision of the State of Madras to ban the circulation of leftist journal violated the right to free speech under Art 19.
- 1974 – Sedition under section 124A of IPC made **cognizable offence** which means police can arrest without warrant.
- 1995 – SC observed, in **Balwant Singh vs State of Punjab Case**, that casually raising slogans without any violence resulting from them does not amount to sedition.

Issues Related To Sec 124A Of IPC

- **High Pendency Of Cases:** In the year 2020 only, more than 95% of cases were pending with courts and 82% cases were pending with police.
- **Low Conviction Rate:** The conviction rate fluctuated from 3-33% for sedition law in last 5 years as per NCRB data.
- **Chargesheet:** Police was able to file charge sheet in only 36% cases relating to sedition law in last 5 years.

Year	Cases	DISPOSAL OF CASES						
		Pending probe	Found false or mistaken	Shut for lack of evidence	Chargesheet filed	Pendency with police	Pendency with courts	Conviction rate
2014	47	–	–	–	–	–	–	–
2015	30	–	–	–	–	–	–	–
2016	35	86	2	6	16	72%	91%	33%
2017	51	156	5	6	27	76%	90%	17%
2018	70	190	2	15	38	71%	86%	15%
2019	93	229	8	21	40	69%	74%	3%
2020	73	230	6	10	23	82%	95%	33%
Total	399		23	58	144			

- Mr. Sibal (opponent) had said the Kedar Nath judgment had only covered how sedition affected free speech and expression enshrined in Article 19 (1)(a) and did not touch upon how the provision would snuff out the Right To Life (**Article 21**) and Right To Equal Treatment (**Article 14**).
- In light of the issues mentioned above, a three-judge Bench led by the Chief Justice of India is debating whether the sedition law, in light of what is said in the **Kedar Nath verdict**, should be referred to a **five or seven-judge Bench** for reconsideration.
 - ✓ In **Kedar Nath judgment (1962)**, a five-judge Bench allowed Section 124A (sedition) to remain in the IPC, however it confined its applicability to activities including *incitement to violence*.

Central Govt's Arguments

- The Central Government has informed SC that the 1962 Constitution Bench ruling upholding the legitimacy of the sedition law must be recognised as a binding precedent that has stood the test of time. The government said the logic of the Kedar Nath judgment was tested and applied successfully in several cases
- Countering Mr Sibal arguments, the central govt informed that merely because Article 14 and 21 are not mentioned, would not undermine its final judicial conclusion. The five-judge Bench read down Section 124A **only to bring it in conformity with Article 14, 19 and 21 of the Constitution**.
- Instances of abuse of Section 124A did not justify reconsideration of a binding judgment upholding the sedition law.

- **The remedy would lie in preventing such abuse** on a case-to-case basis rather than doubting a long-standing settled law for about six decades.
 - **A senior officer** at the level of the Superintendent of Police (SP) **could scrutinise the facts** of individual cases prior to registration of FIRs in a bid to prevent abuse.
- Section 124A represented a **cognisable offence** and the authorities could not be prevented from registering cases under the provision.
- There **could not be a blanket ban** on the prosecution of pending cases under Section 124A, as gravity of offences involve charges of terrorism, money-laundering, etc.

Conclusion

The sedition law is a colonial relic, used in past to curb freedom and democratic voices. The recent step of SC is in the direction of upholding democratic ethos. It will limit the **autocratic tendencies to curb free speech** by people in power. By placing all the proceedings under sedition law in abeyance, **the court has provided protection from unwarranted prosecution.**

The need of hour is to strengthen the democratic foundation of the country. Difference of opinion, dissent and criticism are vital for functioning of democracy. Sedition law has little relevance in modern day democracy. So, it should be used keeping Constitutional morality in mind by every stakeholder.

{For more information on sedition law, refer to The Recitals – Dec’ 2021}



Perarivalan Case: Pardoning Power of The President

Chronology of Events

The SC has also released Perarivalan, a convict in the Rajiv Gandhi assassination case, by invoking **Article 142** of the constitution. Article 142 says that the SC in the exercise of its authority may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it. It is an **extraordinary and inherent power** with the SC.

The court was hearing over the charge on Tamil Nadu Governor's conduct, which included -

- ✓ **Sitting for years** without acting on the State government's suggestion to pardon and release Perarivalan.
- ✓ Then **forwarding the case to the President of India** without making a decision.

The SC has rejected the argument put forth by Central Government on behalf of the Governor of Tamil Nadu that the President has '**exclusive power**' to grant pardon in murder related cases.

A long path | A brief timeline of Perarivalan's over 30-year-long incarceration:

June 11, 1991: CBI arrests 19-year-old Perarivalan

Jan. 28, 1998: A TADA court sentences 26 accused to death, including Perarivalan, in the Rajiv Gandhi assassination case

Aug. 26, 2011: Execution of Santhan, Murugan and Perarivalan fixed for Sept. 9, 2011

Feb. 18, 2014: SC commutes the death sentence on grounds of delay in disposing of their mercy pleas

Feb. 19, 2014: Tamil Nadu Cabinet decides to immediately release Santhan, Murugan, Perarivalan, Nalini, Robert Payas, Jayakumar and Ravichandran

Dec. 2, 2015: SC says Centre will decide whether the convicts will be released

Nov. 14, 2017: A former CBI officer makes a sworn statement that the CBI omitted a part of Perarivalan's confession

Jan. 23, 2018: A three-judge Bench of the SC gives the Centre three months to decide on his release

June 15, 2018: The Centre rejects T.N. govt.'s request

Sept. 9, 2018: T.N. govt. decides to recommend to Governor the release of all convicts

May 18, 2022: Supreme Court invokes its extraordinary powers to release Perarivalan

Highlights of The SC Order

- The President and Governor exercised **two distinct powers of mercy** under Articles 72 and 161, respectively.
- The President ***shall not have exclusive power to pardon*** as it will be **violation of Article 161** of the constitution which gives power of pardoning to the Governor as well.
- The central government has **no locus standi** to represent the Governor of state because he is the constitutional head of the state and he should be represented by the concerned state government.
- The Centre had missed the obvious question posed by the court - ***Whether the Governor has the jurisdiction to refer the mercy petition to the President in the first place?*** In case the Governor has a different opinion, he has to send it back to the Tamil Nadu Council of Ministers.
- Also, the question whether the Governor was right in referring the State Cabinet's wish to the President, instead of exercising his duty under Article 161, has to be decided by the **court and not by the President**

Rationale of Pardoning System in India

- The criminal justice system in India is **reformatory and not retributive**.
- Politicization of cases and media trial - There have been instances where the judgement of a criminal case is given on political consideration and popular sentiment rather than based on criminal jurisprudence.
- The SC has rightly pointed out that **'a barbaric crime needs not to be visited with the barbaric penalty.'**

Centre's Defence

- The Tamil Nadu govt had tried to assume the power of the President and the Centre to decide on the question of pardon, as the power was conferred on the Centre to advise the President on the question of pardon.
- The SC argue that by that analogy, if a pardon is sought in a murder case, the Governor should refer it to the President. Then, the end result of centre's submissions is that all pardons granted for IPC offences by Governors all these years are **unconstitutional**.

About Mercy Petition

- A mercy (or clemency) petition is a plea that a condemned can file to the **President of India under Article 72** or the **Governor of a state under Article 161** asking him/her to change his/her death sentence to life imprisonment.
- As per the Constitutional framework in India, mercy petition to the President is the last constitutional resort a convict can take when he is sentenced by the court of law.
- Previously, the Governor cannot pardon the death sentence, which only the Indian President can do. But recently on 3rd August 2021, the Supreme Court held that the Governor of a State can pardon prisoners, including death row ones, even before they have served a minimum of 14 years of a prison sentence.
 - The recent judgement regarding the Governor's power to pardon overrides a provision in the Code of Criminal Procedure (Section 433A) which mandates that a prisoner's sentence can be remitted only after 14 years of jail.

Process of Making a Mercy Petition

- There is no statutory written procedure for dealing with mercy petitions, but in practice, **after extinguishing all the reliefs in the court of law, either the convict in person or his relative on his behalf may submit a written petition to the President.**
- The petitions are received by the President's secretariat on behalf of the President, which is then **forwarded to the Ministry of Home Affairs for their comments and recommendations.**
- The Home Ministry in consultation with the concerned State Government discusses the merits of the petition.
- After the consultation, **recommendations are made by the Union Home Minister and then, the petition is sent back to the President for his decision.**

Is The Power of President/Governor Discretionary?

- Even though the President and Governor are the executive heads, but they cannot exercise their discretion with regard to their powers under Articles 72 and 161.
- Both the executive heads are required to act on the advice of the appropriate government—Central and State Government.
- The advice of the appropriate Government binds the Head of the state.

Is There A Time Limit Within Which The President/ Governor Has To Respond?

- She/He can either accept or reject the mercy plea as per the advice by the council of ministers.
- However, the Constitution doesn't provide for a specified time limit to accept/reject the mercy petition.
- She/He can keep the petition in abeyance for an indefinite period if he wishes to.

Judicial Review

- In a landmark case of **Epuru Sudhakar & Anr. v. Government of Andhra Pradesh** (2006), the Supreme Court held that the clemency power of the President and the Governor under Article 72 and Article 161 is subject to judicial review.
- The Supreme Court laid down certain grounds on which clemency power can be claimed by the petitioner for judicial review:
 - ✓ If the order is passed without any application of mind.
 - ✓ If the order passed is malafide.
 - ✓ If the order passed on completely irrelevant considerations.
 - ✓ If the order suffers from arbitrariness.

Important Judgements on Mercy Petition

- In **Maru Ram v. Union of India** (1981), the constitutional bench of the Supreme Court held that the power to grant pardon under Article 72 is to be exercised on the advice of the Council of ministers.
- The Supreme Court in **Dhananjay Chatterjee v. State of West Bengal** (1994) case reiterated its earlier decision in Maru Ram and said that the power under Article 72 and Article 161 can be exercised by the Central and State Governments, not by President and Governor on their own.
- In the case of **Kehar Singh v. Union of India** (1989), a five-judge bench of the Supreme Court had examined the scope of the President's pardoning power under Article 72 in detail. The Supreme Court took a liberal view and held that the President, in the exercise of the pardoning power vested in him under Article 72, could "scrutinize the evidence on the record of the criminal case and come to a different conclusion from that recorded by the Court in regard to guilt of and sentence imposed on the accused."
- In case of **Shatrughan Chauhan Vs Uoi 2014**, the SC has said that inordinate delays in execution amounts to cruelty and hence a violation of Article 21. So, it is a ground for commutation.



Decline in LFPR: A Serious Concern

- Data from the Centre for Monitoring Indian Economy (CMIE) shows that India's labour force participation rate (LFPR) has fallen to just 40% from an already low 47% in 2016.
- This shows that more than half of India's population in the working-age group (15 years and older) is deciding to sit out of the job market. Moreover, this proportion of people is increasing.

Labour Force Participation Rate (LFPR)

- As per CMIE, the labour force consists of persons who are of age 15 years or older, and belong to either of the following two categories:

Category 1 • Employed

Category 2 • Unemployed **but** are willing to work and are actively looking for a job.

- Thus, the LFPR is the percentage of the working-age (15 years or older) population that is asking for a job. It includes both employed as well as unemployed and represents the **demand for jobs** in an economy.

Correlation Between LFPR and UER

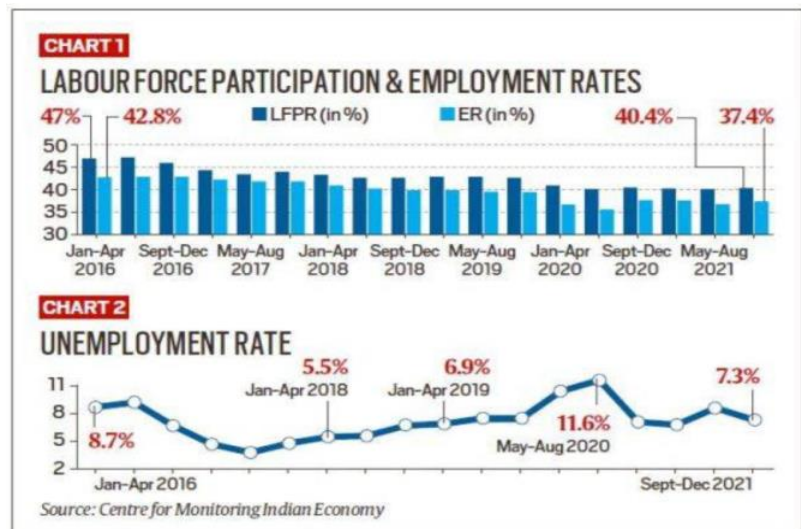
- The **Unemployment Rate (UER)** is the number of unemployed (category 2) as a proportion of the labour force.
- Typically, it is expected that the LFPR will remain largely stable. Thus, any analysis of unemployment in an economy can be done just by looking at the UER.
- But, in India, the LFPR is not only lower than in the rest of the world but also falling. This, in turn, affects the UER because LFPR is the base (the denominator) on which UER is calculated.
- This shrinkage implies that merely looking at UER will under-report the stress of unemployment in India.

- For example, if there are just 100 people in the working-age group but only 60 ask for jobs — that is, the LFPR is 60% — and of these 60 people, 6 did not get a job. This would imply a UER of 10%.

- If the LFPR falls to 40% and of these 40, only 2 people fail to get a job, the UER would reduce to 5%. Thus, it might incorrectly appear that the economy is doing better on the jobs front.

- Actually, beyond the 2 who are unemployed, a total of 20 people have stopped demanding work.

- Chart 1 shows that something similar has happened in India. Every time the LFPR falls, the UER also falls, giving the incorrect impression to policymakers that the situation has improved.



Reasons For Low LFPR In India

- The **high UER** suggests that among those looking for jobs, proportion of **people unable to find jobs are high**. Also, many people have opted out of the labour force, as they are disappointed by the absence of remunerative, productive jobs.
- There are signs of increasing formalisation as indicated by the Employees' Provident Fund Organisation (EPFO) data. However, a substantial share of the labour force continues to remain employed in the informal sector, lacking a safety net.
- One of the most important reasons is the significantly **low female LFPR**. According to CMIE, as of December 2021, while the male LFPR was 67.4%, the female LFPR was as low as 9.4%.
- Even data from the **World Bank** shows that India's female labour force participation rate is around 25% when the global average is 47%.

Reasons For Low Female LFPR

• Occupational Segregation

- ✓ Between 1977 and 2017, India's economy witnessed a surge in the contribution of services (39% to 53%) and industry (33% to 27%) to GDP.
- ✓ The proportion of rural men employed in agriculture fell from 80.6 percent to 53.2 percent, but rural women only decreased from 88.1 percent to 71.7 percent.
- ✓ Between 1994-2010, women received less than 19 percent of new employment opportunities generated in India's 10 fastest-growing occupations.

• Increased Mechanisation

- ✓ In agriculture, and as the use of seed drillers, harvesters, threshers and husking equipment increased, men displaced women.
- ✓ In textiles, power looms, button stitching machines and textile machinery phased out women's labour.
- ✓ Nearly 12 million Indian women could lose their jobs by 2030 owing to automation, according to a McKinsey Global Institute report.

• Income Effect

- ✓ With increasing household incomes, especially over the last three decades, the need for a "second income" reduced.
- ✓ Consequently, families withdrew women from labour as a signal of prosperity.
- ✓ This "income effect" can explain approximately 9 % of the total decline in the female LFPR between 2005 to 2010.

• Gender Gaps in Higher Education & Skill Training

- ✓ Tertiary-level female enrolment rose from 2 % in 1971 to only 30 % in 2019 (World Bank data).
- ✓ As of 2018-19, only 2 % of working-age women received formal vocational training, of which 47 % did not join the labour force (NSO, 2018-19).
- ✓ Consequently, women holds only 17 % of cloud computing, 20 % of engineering, and 24 % of data/artificial intelligence jobs (WEF, 2020).

• Social Norms

- ✓ Unpaid care work continues to be a women's responsibility, with women spending on average five hours per day on domestic work, vs. 30 minutes for men (NSSO, 2019).
- ✓ Women face inordinate mobility restrictions such that only 54 % can go to a nearby market alone (NFHS, 2015-16).
- ✓ Women regularly sacrifice wages, career progression, and education opportunities to meet family responsibilities, safety considerations, and other restrictions.

• Working conditions: Such as law and order, efficient public transportation, violence against women, societal norms etc — are not conducive for women to seek work.

• Methodological issues: Formally capturing women's contribution to the economy, since a lot of women in India are exclusively involved within their own homes.

Way Ahead

- When LFPR is falling as sharply as it has in India, it is better to track the Employment Rate (ER). The ER refers to the total number of employed people as a percentage of the working-age population.
- By using the working-age population as the base and looking at the number of people with jobs (instead of those without them), the ER captures the fall in LFPR to better represent the stress in the labour market.
 - ✓ In December 2021, India had 107.9 crore people in the working age group and of these, only 40.4 crore had a job (an ER of 37.4%).
 - ✓ Compare this with December 2016 when India had 95.9 crore in the working-age group and 41.2 crore with jobs (ER 43%).

- ✓ In five years, while the total working-age population has gone up by 12 crore, the number of people with jobs has gone down by 80 lakh.
- Policies should be designed to make working conditions conducive for women and create more job opportunities for them.
- The government should work towards developing a labour intensive manufacturing sector, which can not only absorb the millions entering the labour force each year, but also those moving out of agriculture.



Rupee Depreciation

The Indian rupee has been depreciating and recently hit an all-time low of 77.63 against the U.S. dollar. **Currency depreciation** is a fall in the value of a currency in a floating exchange rate system. For example, if the value of 1 US dollar changes from Rs. 75 to Rs. 77, the rupee is said to have depreciated against the US dollar.

India used to follow the administered or fixed rate of exchange until 1993, when it moved to a market-determined process or floating exchange rate.

- However, in India, the exchange rate is not fully determined by the market.
- From time to time, the RBI intervenes in the foreign exchange (forex) market to ensure that the rupee “price” does not fluctuate too much or that it doesn’t rise or fall too much all at once. This is called **Managed floating exchange rate**.
- For example, the RBI sells dollars when Indian rupee depreciates too much, while it purchases dollars when the Indian rupee appreciates beyond a certain level.

Factors Affecting Rupee’s Value

- The value of any currency is determined by demand and supply of the currency. When the supply of a currency increases, its value drops. On the other hand, when the demand for a currency increases, its value rises.
- In the wider economy, central banks determine the supply of currencies, while the demand for currencies depends on the amount of goods and services produced in the economy.
- In the forex market, the supply of rupees is determined by the demand for imports and various foreign assets. So, if there is high demand to import oil, it can lead to an increase in the supply of rupees (decrease in supply of dollars) in the forex market and cause the rupee’s value to drop.
- On the other hand, the demand for rupees in the forex market depends on foreign demand for Indian exports and other domestic assets.
- So, for instance, when foreign investors are positive about investing in India, it can lead to an increase in the supply of dollars in the forex market which in turn causes the rupee’s value to rise against the dollar.

RBI Intervention

- RBI’s policy is to allow the rupee to find its natural value in the market but without causing significant **volatility or unnecessary panic** among investors.
- Thus, the RBI has usually tried to slow down or smoothen, rather than reverse or prevent, the fall in exchange value of the rupee against the U.S. dollar.
- State-run banks are usually instructed by the RBI to **sell dollars** in order to offer some support to the rupee. Thus, by selling dollars in the open market in exchange for rupees, the RBI can improve demand for the rupee and support its fall.

- For example, recently, India's forex reserves have also dropped below \$600 billion, dropping by about \$45 billion since September, 2021, when forex reserves were at an all-time high of \$642 billion.
- This drop is believed to be largely due to steps taken by the RBI to support the rupee.

Factors Causing The Current Depreciation

- Since March this year, the U.S. Federal Reserve has been raising its benchmark interest rate. Driven by higher treasury yields, the dollar has climbed to its highest levels in two decades.
 - ✓ Due to this, foreign investors are pulling capital out from emerging markets such as India. Even developed market currencies such as the euro and the yen have depreciated against the dollar.
 - ✓ The dollar index, which tracks the currency against a basket of major currencies, is up nearly 9% this year and hit its highest in 20 years.
- China's zero-Covid policy and slowing economic growth have further unsettled forex markets that were already struggling to deal with the war in Ukraine.
 - ✓ The effects of the lockdown in China, has led to slowed export growth as the curbs halted factory production, disrupted supply chains and triggered a collapse in domestic demand.
- Moreover, India's current account deficit, which measures the gap between the value of imports and exports of goods and services, is expected to hit a 10-year high of 3.3% of GDP in the current financial year.
 - ✓ India's trade deficit rose by **87.5% to a record ₹192 billion** in 2021-22 from ₹102 billion in the previous financial year (2020-21).
 - ✓ This means that India's import demand amid **rising global oil prices (\$110/barrel)** is likely to negatively affect the rupee.

Impact Of Rupee Depreciation

- **Exports:** Rupee depreciation can give a boost to Indian exports, as it will be cheaper for other countries to buy goods from India.
 - ✓ But in a scenario of weak global demand and lingering volatility, exporters are not cheering the currency dip.
 - ✓ Further, India's key export items such as gems and jewellery, petroleum products, organic chemicals and automobiles, and machinery items have significantly high import content.
 - ✓ With rising commodity prices due to supply shortages, the cost of production for exporters will go up, affecting their margins. Therefore, export sectors where the import intensity is high such as electronics, may not see a gain.
 - ✓ Services sectors like IT and labour-intensive export sectors like textiles will indeed benefit.
- **Imports:** However, at the same time, India's imports will become more expensive, which will add to already rising trade deficit and the overall **inflation** in the short term.
- **Foreign portfolio investment (FPI) equity outflows** touch \$15 bn in Jan-March 2022, highest in last 15 years. This compares to net inflows of \$7 billion in 2021, \$14 billion in 2020 and \$19 billion in 2019.
- **Food inflation:** India is also heavily dependent on other countries for fertilizers and edible oils.
 - ✓ Fertilizer subsidy bill is already set to hit a record high of as much as Rs 1.9 trillion in FY23, according to Crisil.
 - ✓ A weaker currency will further escalate **imported edible oil prices** and lead to a **higher food inflation**.
- **Foreign Education:** It will also become expensive for people travelling abroad for foreign education.

Future Outlook

- Analysts believe that, over the long run, the rupee is likely to continue to depreciate against the dollar due to the significant differences in long-run inflation between India and the U.S.

- In fact, the International Monetary Fund expects the rupee to weaken past the 94 rupees to a dollar mark by FY29.
- At the moment, as the U.S. Federal Reserve **raises rates** to tackle historically **high inflation** in the country, other countries and emerging markets in particular will be forced to raise their **own interest rates** to avoid capital outflows and to protect their currencies.
- As interest rates rise across the globe, the threat of a global recession also rises as economies readjust to tighter monetary conditions.



Fertiliser Disruption

Supply Disruption

- Ahead of kharif sowing, due to begin next month, India faces the challenge of meeting its requirement of fertilisers, due to the disruption caused by the war in Ukraine.
- The pandemic has also had an impact on fertiliser *production, import and transportation* across the world during the last two years. Major fertilizer exporters such as China have gradually reduced their exports due to a dip in production.
- This has impacted countries such as India, which sources 40–45% of its **phosphatic** imports from China. Besides, demand has increased in regions like Europe, America, Brazil and Southeast Asia.

Fertilizer Estimates In India

- The **kharif season** (June–October) is very crucial for India's food security as it accounts for almost half the year's production of foodgrains, one-third of pulses and about two-thirds of oilseeds. Therefore, a sizeable quantity of fertiliser is required.
- The requirement varies each month according to demand, which is based on the *time of crop sowing*, which again varies from *region to region*.
- Every year, before the start of cropping season, the **Department of Agriculture and Farmers Welfare** assesses the requirement of fertilisers and informs the Ministry of Chemical and Fertilizers to ensure the supply.
- For kharif 2022, the **estimated requirement is 354.34 lakh metric tonnes (LMT)**. However, the opening stock of fertiliser available for the kharif season is 125.5 LMT, or 35% of the requirement.
 - ✓ Theoretically, the opening stock and the expected domestic production would be sufficient to meet the requirement.
 - ✓ India has 254.79 LMT domestically manufactured soil nutrients (fertilisers), during 2022 kharif season.
- However, war in Ukraine has disrupted the supply of **raw materials** that Indian companies import, which is expected to impact domestic production. Thus, the govt expects to import **104.72 LMT of fertilisers**.
- India imports over **25% of urea, 95% of phosphates, and 100% of potash**.

Impact Of Disruption On Prices

- There has been steady increase in prices of raw material as well as logistics & freight costs in recent months.
- The disruption in the logistics chain during Covid has caused the average freight rates for ships to jump up to *four times*. Besides, prices of fertilisers and raw materials such as ammonia and phosphatic acid, have risen up to 250–300%.
- The total fertiliser subsidy bill is expected to reach to Rs 2.5 lakh crore this financial year, up from Rs 1.62 crore in the revised estimates for the previous fiscal.

Efforts To Augment Supply

- India has entered into a C2C (corporation to corporation) supply arrangement with Russian companies for specific quantities every year for 3 years. Russia had also assured supply of additional quantities.
- India has also made efforts to secure fertiliser supply from alternative sources such as **Saudi Arabia, Iran and Oman**.
- The government is also exploring the option of domestically mining raw materials such as **rock phosphate**. The Centre has begun an inter-ministerial consultation to explore this option.

Way Ahead

- While the government has maintained that there will be no fertiliser shortage for the upcoming season, the challenges include securing supply from new sources, costlier raw material, and logistics.
- The Centre has asked the states to ensure micro-planning of fertiliser movement as per requirement.
- States will also have to ensure timely unloading of rakes for better utilisation of the rolling stock, promote use of alternative fertilisers such as **nano urea**, and take strict action against diversion, hoarding and black marketing of fertilisers.

EXTRA MILE

Fertiliser

- A fertiliser is any material that is applied to soil or to plant tissues to supply one or more plant nutrients essential to the growth of plants.
- **Fourteen essential plant nutrients** are known. Based on the amounts of nutrients that are required by plants, they are distinguished as macronutrients and micronutrients.
- Macronutrients are taken up in relatively large amounts (10 -100 kg or more per hectare), while the amount of micronutrients that is taken up by plants is mostly limited to several grams per hectare.

Macronutrients

- Nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg) and sulfur (S).

Micronutrients

- Manganese (Mn), Boron (B), Copper (Cu), Iron (Fe), Zinc (Zn), Nickel (Ni), Molybdenum (Mo) and Chlorine (Cl).

NPK Fertilisers

- NPK stands for the initials of the essential chemical elements (N – Nitrogen, P – Phosphorous, K – Potassium). They are vital for healthy plant growth, but not always available in the soil.
- Currently, there is excessive use of urea—a dominant source of N—compared to other fertilisers such as diammonium phosphate (DAP), the main source of P, and muriate of potash (MOP), the main source of K.
- This has led to increasing imbalance in the NPK-use ratio, with adverse consequences on crop yield, soil and human health. On an all-India basis, currently, this ratio is 6.7: 2.4: 1 against the ideal of **4:2:1 (N:P:K)**.

Fertiliser Subsidy

- Farmers buy fertilisers at MRPs (maximum retail price) below their normal market rates or what it costs to produce/import them.
 - ✓ **For urea based fertilisers:** The difference, which varies according to plant-wise production cost and import price, is paid by the Centre as subsidy. And the fertiliser is sold at MRP set by the government.
 - ✓ The MRPs of non-urea fertilisers are decontrolled and are fixed by companies. The Centre, however,

pays a **flat per-tonne subsidy** on these nutrients to ensure they are priced at reasonable levels.

- Decontrolled fertilisers, are thus, costlier than urea and also get lower subsidy.
- Also, non-urea based fertilisers are regulated under **Nutrient Based Subsidy scheme** since 2010.

Functioning Of The Fertiliser Subsidy

- Even though the ultimate beneficiary of the subsidy is the farmer who pays an amount less than the market rates, the subsidy is actually paid to fertiliser companies.
- Till 2018, companies, were paid after their material was sent and received at the approved godown.
- From March 2018, a new **direct benefit transfer (DBT) system** was introduced. Under this, subsidy payment to the companies is done only after fertiliser is actually sold to farmers by retailers.
- Each retailer now has a point-of-sale (PoS) machine linked to the Department of Fertilisers' e-**Urvarak DBT portal**.
- The quantities of the individual fertilisers purchased, along with the buyer's name and biometric authentication, have to be captured on the PoS device. Only after the sale gets registered on the e-Urvarak platform can a company claim subsidy.

Government Schemes/Initiatives

• Nutrient Based Subsidy Scheme, 2010

- ✓ Under the scheme, a fixed rate of subsidy **based on the weight** (Rs per kg basis) is announced for nutrients namely Nitrogen (N), Phosphate (P), Potash (K) and Sulphur (S) by the government on an annual basis.
- ✓ It aims at ensuring the balanced use of fertilizers, improving agricultural productivity, promoting the growth of the indigenous fertilizers industry and also reducing the burden of Subsidy.
- ✓ **Urea is not covered** under the scheme and due to delay in NBS subsidy payments,

• New Investment Policy 2012

The Government had notified New Investment Policy – 2012 in January, 2013 with the main objective to facilitate fresh investment, make India self-reliant and reduce import dependency in **urea sector**.

• Neem-coated Urea

- ✓ Since non-urea (MoP, DAP, complex) varieties cost higher, many farmers prefer to use more urea than actually needed. The government introduced neem-coated urea to reduce illegal diversion of urea for non-agricultural uses. It also stepped up the promotion of organic and zero-budget farming.
- ✓ Urea that is coated with neem tree seed oil is called neem-coated urea.
- ✓ The Department of Fertilizers has made it mandatory for all the domestic producers to produce 100% urea as Neem Coated Urea (NCU).
- ✓ Benefits of NCU include:
 - Slow down the process of nitrification of urea
 - Enhance the yield
 - Decrease urea requirement, hence save money

• New Urea Policy 2015: The Policy seeks to:

- ✓ Increase indigenous urea production,
- ✓ Promote energy efficiency in urea production, and
- ✓ Reduce subsidy burden on the Central government.



India - France To Expand their Cooperation

PM Modi has paid an official visit to France on his way back from the **2nd India-Nordic Summit in Copenhagen**. This was their first meeting after the French leader was recently re-elected in the presidential election.

Key Highlights Of The Visit

The Indo-Pacific Region

- Both the leaders appreciated the fact that the **first Indo-Pacific Ministerial Forum was held in Paris in February 2022**. It was launched during the French presidency of the Council of the EU.
- India and France decided to work together in the implementation of the India-EU Connectivity Partnership and the decisions made at the India-EU Leaders' Meeting in Porto in May 2021.

Strategic Cooperation

- India and France have agreed on **setting up a bilateral strategic dialogue on space issues**. The two sides agreed to hold the first dialogue by this year at the earliest.
- Both sides reaffirmed the commitment to the success of the strategic Jaitapur Nuclear project for access to reliable, affordable and low carbon energy.
- Counter-terrorism cooperation is a corner stone of Indo-French strategic partnership, particularly in the Indo-Pacific region. In this regard, both sides expressed their willingness to coordinate actively in the run up to third edition of the **"No Money for Terror" international Conference** to be hosted by India in 2022.

Climate, Clean Energy and Sustainable Development

- India invited France to participate in its initiative to make India a Green Hydrogen Hub under its **National Hydrogen Mission**.
- India and France welcomed the efforts made by AFD and India Exim Bank to step up their support to sustainable finance in the Indo-Pacific region.
- The **"Indo-Pacific Parks Partnership"** was adopted in Feb' 2022. It displays both sides' ambition to promote a sustainable approach in Indo-Pacific region through development of protected areas and natural parks.

India – France Bilateral Relation

- In **1998**, India and France established a **Strategic Partnership** which has since emerged as a close and growing bilateral relationship.
- The areas of **defence & security cooperation, space cooperation** and **civil nuclear cooperation** constitute the principal pillars of this Strategic Partnership.
- In addition, India and France are increasingly engaged in new areas of cooperation such as - in the Indian Ocean region, climate change (including the International Solar Alliance) and sustainable growth & development, governance of cyberspace, among others.

Economic Relations

- Bilateral trade practically doubled in a span of ten years, touching the **12-billion-euro** just before the pandemic. However, the overall volume of bilateral trade remains low; trade with France constituting only **1.41%** of India's total international trade.

- As a result of the public health crisis, the volume of bilateral trade between India and France fell significantly in 2020 to EUR 9 billion, a year-on-year reduction of 23.1%.
 - ✓ French exports to India fell from EUR 5.4 billion to EUR 4.2 billion (-21.4% y-o-y), while imports fell from EUR 6.3 billion to EUR 4.8 billion (-23.5%).
- France has emerged as a major source of FDI for India with more than 1,000 French establishments already present in India.
 - ✓ **France is the 9th largest foreign investor in India** with a cumulative investment of USD 7.10 billion from April 2000 to December 2019. This represents 1.55% of the total FDI inflows into India.
 - ✓ Indian investments in France have been growing and the total stock of Indian investments in France is estimated to be around 1 billion Euros.

Defence Cooperation

- In 2018, the two countries decided to create an **Annual Defence Dialogue at the Ministerial Level**, the first of which was held in October 2018.
- The three services also have regular defence exercises; viz. **Exercise Shakti (Army), Exercise Varuna (Navy) and Exercise Garuda (Air Force)**.
- The major ongoing defense related projects are the following:
 - ✓ Purchase of **Rafale aircraft**
 - ✓ **P-75 Scorpene Project**: The contract for six Scorpene submarines was signed in October 2006.

Space Cooperation

- A joint stamp was released to commemorate **fifty years** of bilateral space cooperation during the visit of Prime Minister Modi to France in April 2015.
- In March 2018, both India and France issued a "**Joint Vision for Space Cooperation**".
- The two sides have jointly developed **Megha-Tropiques satellite** providing valuable scientific data.
- The two countries are also cooperating in the training of medical support personnel for Indian astronauts, who will be part of India's manned space mission.

Civil Nuclear Cooperation

- An agreement on civil nuclear cooperation was signed between India and France in September 2008.
- Under that framework, the French utility company will construct **six European Pressurized Reactor (EPR) units** at Jaitapur of 1650 MW each.

Academic And Scientific Cooperation

- Scientific and technical cooperation brings together French and Indian researchers and research laboratories, particularly during the "**Knowledge Summit**".
- The latest edition of this summit was held in Pune in November 2021.

People to People Connect

- The Partnership Agreement on Migration and Mobility entered into force on 1 October 2021.
- The 75th anniversary of the independence of India is being celebrated since March 2022 through the **Bonjour India festival**, with a series of events throughout India. For its part, India is organising the **Namaste France festival**.

- India was the Guest of Honour at the Paris Book Festival 2022 and France will be the Guest of Honour at the next New Delhi World Book Fair.

Challenges

- **Limitations of France in IOR** – Unlike USA, France is yet to increase its footprint in Indian Ocean Region (IOR). So far, the cooperation between these two countries on Indo-Pacific is merely symbolic – with no concrete plan.
- **Increasing Cooperation between France and China** – In February 2022, France became the first country to join China to jointly build seven infrastructure projects in Africa, South East Asia and Eastern Europe. This is a boost for Beijing in the face of its growing hostility with the US.
- **Perception Issue** – There is a perception in India that the European countries, including France, will always follow the U.S, because of a very strong trans-Atlantic partnership.
- **Economic engagement not upto the potential** – Bilateral trade volume between these two countries highlights the fact that there is enough scope of increased economic engagement. Even during the recent visit, there was no mention of any Free Trade Agreement (FTA).

Conclusion

- France looks upon India to seek more relevance in the greater power dynamics of Asia and the Indo-Pacific. Similarly, India has a desire to become a “net-security provider” in the Indian Ocean.
- Also, there is a very rare cultural understanding between France and India that cause the Governments to understand each other’s impulses.
- This offers an opportunity for both the countries to further deepen their relationship.



India, Germany To Work On Projects In Third Countries

Prime Minister Modi paid an official visit to Germany. During this visit, PM Modi held bilateral discussions with Chancellor Scholz, and co-chaired the **6th India-Germany Inter-Governmental Consultations (IGC)**. The *biennial* IGC is a unique dialogue format that also sees participation of several Ministers from both sides.

Key Highlights Of The Visit

➤ List Of Agreements Signed

- Joint Declaration of Intent (JDI) on Green and Sustainable Development Partnership
- JDI on the implementation of Triangular Development Cooperation projects in Third Countries
- Indo-German Development Cooperation Regarding Renewable Energy Partnership
- Comprehensive Migration and Mobility Partnership

➤ Virtual Signing

Indo-German Green Hydrogen Task Force, JDI on Agroecology, JDI on Forest Landscape Restoration

➤ Biennial Ministerial Mechanism within the framework of the IGC

- Both sides agreed to create a biennial Ministerial Mechanism within the framework of the IGC. It will provide high-level political direction to this Partnership.

- All existing bilateral formats and initiatives in the fields of *climate action, sustainable development, energy transition, development cooperation and triangular cooperation* will report on progress to the Ministerial Mechanism.

Green and Sustainable Development Partnership

- The Joint Declaration of Intent (JDI) establishing the Green and Sustainable Development Partnership envisages a whole-of-government approach to India-Germany cooperation on SDGs and climate action.
- Under this, Germany has agreed to make an advance commitment of 10 billion Euros of new and additional development assistance until 2030.
- As deliverables of the Indo-German Partnership for Green and Sustainable Development, both sides agreed to:
 - ✓ Develop an Indo-German Green Hydrogen Roadmap
 - ✓ Establish an Indo-German Renewable Energy Partnership focusing on innovative solar energy and other renewables
 - ✓ Establish a lighthouse cooperation on "Agroecology and Sustainable Management of Natural Resources"
 - ✓ Further examine collaboration on Green Energy Corridors, e.g. the Leh-Haryana transmission line and the project of a carbon neutral Ladakh.
 - ✓ Deepen cooperation in restoring forest landscapes under the **Bonn Challenge**.
 - ✓ Work together on Triangular Cooperation, based on individual strengths and experiences in development cooperation and offer sustainable, viable and inclusive projects in **third countries** to support the achievement of SDGs and climate targets.

India-Germany Relations

- Germany is one of India's most important partners in Europe, owing to the strength of bilateral relations and also Germany's key role in the EU.
- India and Germany have a '**Strategic Partnership**' since **May 2000**.
- This has been further strengthened with the launch of Intergovernmental Consultations (IGC) in 2011 at the level of Heads of Government.
- On March 7, 2021, **India and Germany marked the 70th anniversary** of the establishment of diplomatic relations. As part of the celebrations, commemorative stamps were issued by both countries.

Economic & Commercial Relations

- Germany is **India's largest trading partner in Europe**. It was India's seventh-largest trading partner in FY 2020-21.
- Bilateral trade in 2020-21 was USD 21.76 billion registering a marginal decline of about 1% over 2019-20.
 - ✓ Indian exports during this period decreased by 2% reaching USD 8.12 billion and Indian imports decreased by 0.35% to USD 13.64 billion.
- Germany is the **7th largest FDI source** for India. The total FDI from Germany to India from April 2000-September 2021 is over USD 13 billion.
 - ✓ Indian investments in Germany continue to grow, having surpassed the figure of USD 7 billion.

Development Cooperation

- Germany has committed a total volume of new funding of USD 1,368.02 million for 2021 for Financial & Technical Cooperation.

- Energy, sustainable economic and urban development, environment & management of natural resources are priority areas.

Security & Defence

- The MoU on Security Cooperation signed at the 3rd IGC held in Delhi in 2015 defines collaboration in this field.
- There are dialogue mechanisms on various aspects of security, including:
 - ✓ Joint Working Group on Counter Terrorism;
 - ✓ Cyber Consultations;
 - ✓ Joint Steering Group on Disaster Management in Berlin (2016).

Science & Technology

- Bilateral Science and Technology cooperation is implemented under an Inter-Governmental Agreement on '*Cooperation in Scientific Research and Technological Development*'.
- The jointly funded Indo-German Science and Technology Centre (IGSTC) was set up in Gurgaon in September 2008.

Sister State/City Arrangements

- The States of Karnataka and Bavaria, Maharashtra and Baden Wuerttemberg, and the cities of Mumbai and Stuttgart have twinning arrangements.
- Twin city relations between Coimbatore and Esslingen were established in 2016.

Culture

- Max Mueller, a German, was the first scholar of Indo-European languages to translate and publish Upanishads and Rigveda.
- A MOU for museum cooperation was signed during the 5th IGC held in Delhi in November, 2019.

Education

- There are approximately 29,000 (2020) Indian students who are studying in Germany, a number which is rising each year. Around 800 German students are studying or doing internships in India.
- Instruments of faculty exchange and student mobility between India and Germany are:
 - ✓ **Visiting Advanced Joint Research (VAJRA)** from DST and **Scheme for Promotion of Academic and Research Collaboration (SPARC)** from Ministry of Education (MoE)
 - ✓ New Passage to India (from the German side).

Challenges

- Germany finds India a **more complex partner to negotiate** and conduct business with. On the other hand, doing business with China is seen to be relatively simpler (even in the face of forced technology transfers, intellectual property rights violations etc.).
- It's commonplace in Germany to **point to the flaws in Indian democracy**, and thereby deem India an unworthy partner, at least in terms of shared values.
- Germany focuses **on trade and investment as the main conduit** to deepen its relations with India. As a result, Germany remains adamant on labour and environmental standards, at the expense of macro-level values of liberalism.

Conclusion

- Similar geopolitical perceptions form the foundation for the expansion of Indo-German relations. Economically, India continues to present great growth potential for German companies.
- However, strategic alignments, mismatched capabilities and inability of Germany to reconcile its values with its strategic interests particularly in the field of social policy have prevented bilateral security competition from reaching their full potential.
- In this backdrop, both the countries require close consultations on issues that define their national interests, as well as broad-ranging cooperation and coordination on security, commercial, and developmental issues.



Indo-Pacific Economic Framework

US President Joe Biden, during his **East Asia trip**, has launched **Indo-Pacific Economic Framework (IPEF)** in **Tokyo**. US President was on an East Asia trip that saw him touch down first in Seoul and in Tokyo ahead of the May 24 **Quad summit**.

Indo-Pacific Economic Framework (IPEF)

- According to an insight paper on IPEF, put out by the US Congressional Research Service, the IPEF is *not a traditional trade agreement*. **IPEF is not a free trade agreement. Neither is it a security pact.** The agreement is more of an **administrative arrangement**.
- Rather, it would include different **modules** covering:

Fair and Resilient Trade

Supply chain resilience

Infrastructure and Decarbonization

Tax and Anticorruption

- Countries would have to **sign up to all of the components within a module**, but do not have to participate in all modules.
- The fair and resilient trade module will be led by the US Trade Representative and include digital, labour, and environment issues, with some binding commitments.
- Under IPEF, no market access or tariff reductions have been outlined, although experts say it can pave the way to trade deals.
- After the launch, so far, **IPEF is being joined by 12 other countries including India**.
 - ✓ The other 11 countries are Australia, Brunei, Indonesia, Japan, the Republic of Korea (South Korea), Malaysia, New Zealand, the Philippines, Singapore, Thailand, and Vietnam.
 - ✓ These countries, together, account for **40%** of the world's **GDP**.

Four Pillars of IPEF

Connected Economy

- higher standards and rules for digital trade, such as cross-border data flows

Resilient Economy

- resilient supply chains that will withstand unexpected disruptions like the pandemic

Clean Economy

- targeting green energy commitments and projects

Fair Economy

- implementing fair trade, including rules targeting corruption and effective taxation

Origin of IPEF

- Biden first spoke about the IPEF at the **October 2021** East Asia Summit.
- At this summit, he said that the United States will explore with partners the development of an Indo-Pacific economic framework.
- This framework will define our shared objectives around:
 - ✓ trade facilitation, standards for the digital economy and technology, supply chain resiliency, decarbonization and clean energy,
 - ✓ infrastructure, worker standards, and other areas of shared interest.

Why US Is Keen On Launching The IPEF?

- The US is trying to regain credibility in the region after former President Donald Trump pulled out of the Trans Pacific Partnership (TPP).
- Since then, there has been concern over the absence of a credible US economic and trade strategy to counter China's economic influence in the region.
 - ✓ China is an influential member of the TPP, & has sought membership of its successor agreement Comprehensive & Progressive Agreement on Trans Pacific Partnership (CPTPP).
 - ✓ It is also in the 14-member Regional Comprehensive Economic Partnership (RCEP), of which the US is not a member (India withdrew from RCEP).
- The Biden Administration is projecting IPEF as the new US vehicle for re-engagement with East Asia and South East Asia.

Why The Indo-Pacific?

- As per the US President, the future of the 21st century economy is going to be largely written in the Indo-Pacific. About 60% of the world's population resides in the Indo-Pacific, and the region is expected to be the biggest contributor to global growth over the next three decades.
- The U.S. wants to **restore its economic leadership in the region** and is "presenting Indo-Pacific countries an alternative to China's approach."

India's Response

- On the side-lines of the **Quad summit**, India announced it will join the bloc despite its concerns over certain aspects of the IPEF.
- **Concerns of India include:**
 - ✓ Analysts believe that India may be uncomfortable with the US perusing high-standard rules in digital economy, such as standards on cross-border data flows and data localisation.
 - ✓ The IPEF talks about digital governance but the IPEF formulation contains issues that directly conflict with India's stated position. Among these are:
 - **Prohibition / restrictions on cross-border data flows and data localization requirements, including for financial services;**
 - Prohibition of the levying of customs duties on digital products distributed electronically;
 - Promotion of interoperability of privacy rules and related enforcement regimes, such as the APEC Cross-Border Privacy Rule, while respecting U.S. federal and state privacy laws and regulations.
 - IPEF also wants to frame rules on labour standards, environment norms and decarbonisation, which India has never been keen on, including in its free trade pacts.

Why Has India Chosen To Join This After Walking Out Of RCEP?

- The main reason for India to walk out of RCEP was its concern that the pact would allow China to flood the country's market with cheap products at preferential import duties, leaving domestic producers uncompetitive.

- The IPEF, with a membership accounting for about 40% of the global GDP, is providing India another opportunity to be part of a mega economic arrangement, but outside the influence of China.

Analysis

1. **IPEF Is More Suited To The 21st Century:** American officials have argued the IPEF is more suited to the 21st century than *traditional trade deals that cut tariffs*. They have also made clear that conventional agreements have become politically toxic in US politics, making it difficult to sign deals that grant market access.
2. **Not An Initiative Of Quad:** Although Biden launched it on the sideline of Quad summit, IPEF is not going to be an initiative by Quad.
3. **Does Not Include Access To The US Market:** Critics contend that some countries were reluctant because they did not see much value for them. This is particularly because the IPEF will not include access to the US market.
4. **Economic Complexity Involved:** Members of IPEF have a deep economic engagement with China. Given the fact that this platform is created to counter China, this engagement might increase the complexity.



Quad Leaders' Summit 2022

- The **second in-person Quad summit** took place at Tokyo, Japan. The summit saw the participation of leaders of *Australia, India, Japan and the United States*. India was represented by PM Modi
- Just over one year ago, the Quad Leaders met for the first time. However, the Tokyo was their fourth meeting (second in person meeting).

Key Outcomes

IMPORTANT TAKEAWAYS		Photo: AFP
<ul style="list-style-type: none"> > \$50 billion of infrastructure assistance and investment in the Indo-Pacific over five years > Launch of 'Quad Climate Change Adaptation and Mitigation Package (Q-CHAMP)' for tangible climate action > Quad Fellowship that will bring 100 students from the 4 countries to the US each year to pursue graduate degrees in STEM fields 		<ul style="list-style-type: none"> > Launch of Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA) for combating illegal fishing > Quad partnership on Humanitarian Assistance and Disaster Relief (HADR) in the Indo-Pacific

COVID-19 and Global Health Security

- To date, the Quad partners have collectively pledged approximately **USD \$ 5.2 billion** to the COVAX Advance Market Commitment (AMC). It has delivered over 670 million doses, including at least 265 million doses to Indo-Pacific.
- The participating leaders welcomed the progress on the expansion of J&J vaccine production at the *Biological E facility in India* under the **Quad Vaccine Partnership**.
 - ✓ In March 2021, Quad leaders launched the Quad Vaccine Partnership for enhancing equitable access to vaccines. They had decided to donate more than 1.2 billion vaccine doses globally, in addition to the doses we have financed through COVAX.

- ✓ These vaccines were to be *developed in the US, manufactured in India, financed by Japan & US, and supported by Australia.*

Infrastructure

- Quad leaders promised to extend more than **50 billion USD of infrastructure assistance** and investment in the Indo-Pacific, over the **next five years**.
- They also decided to promote **debt sustainability and transparency** through various means. This includes the *Quad Debt Management Resource Portal*, which consists of multiple bilateral and multilateral capacity building assistance.

Climate

- The summit launched the "**Quad Climate Change Adaptation and Mitigation Package (Q-CHAMP)**" with mitigation and adaptation as its two themes.
- Q-CHAMP includes ongoing activities under the Quad Climate Working Group on:
 - ✓ **Green shipping and ports** aiming for a shared green corridor framework building on each Quad country's input;
 - ✓ **Clean energy cooperation** in clean *hydrogen and methane* emissions from the natural gas sector;
 - ✓ Strengthening **clean energy supply chains**, welcoming the contribution of the Sydney Energy Forum;
 - ✓ **Climate information services** for developing an engagement strategy with Pacific Island countries; and
 - ✓ **Disaster risk reduction**, including disaster and climate resilient infrastructure

Cybersecurity

- The leaders decided to coordinate capacity building programs in the Indo-Pacific region under the Quad Cybersecurity Partnership.
- They also decided to initiate the **first-ever Quad Cybersecurity Day** to help individual internet users to better protect themselves from cyber threats.

Critical & Emerging Technologies

- In the area of *5G and beyond 5G*, the participating leaders decided to advance interoperability and security through the signature of a new Memorandum of Cooperation on 5G Supplier Diversification.
- The **Common Statement of Principles on Critical Technology Supply Chains** was launched. This advances the cooperation among Quad countries on semiconductors and other critical technologies.

Quad Fellowship

The **Quad Fellowship** was officially launched. The Fellowship will bring 100 students from Quad countries to the United States each year to pursue graduate degrees in **STEM fields**.

Space

Quad countries decided to share space-based civil Earth observation data, along with providing a "**Quad Satellite Data Portal**" that aggregates links to their respective national satellite data resources.

Maritime Domain Awareness and HADR

- A new maritime domain awareness initiative, the **Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA)**, was launched.

- ✓ IPMDA would offer a *near-real-time, integrated, & cost-effective* maritime domain awareness picture.
 - ✓ It will respond to humanitarian and natural disasters, and combat illegal fishing. It will also allow the tracking of “**dark shipping**” across the Indo-Pacific region.
 - ✓ It will support and work in consultation with Indo-Pacific nations and **regional information fusion centres** in the region.
- The summit also announced the establishment of the “**Quad Partnership on Humanitarian Assistance and Disaster Relief (HADR) in the Indo-Pacific**”. This Partnership will further strengthen the collaboration to effectively respond to disasters in the region.

To know about Quad grouping, please refer The Recitals Feb’ 2022.

Advantages of Quad Group

1. Greater Cooperation Among Democratic Nations In Changed Scenario

Since the tsunami, climate change has grown more perilous, new technologies have revolutionized our daily lives, geopolitics have become ever more complex, and a pandemic has devastated the world.

2. Free, Open, Resilient And Inclusive Indo-Pacific

- ✓ Quad countries are striving to ensure that the Indo-Pacific is accessible and dynamic, governed by international law.
- ✓ It wants to create an environment in which all countries are able to make their own political choices, free from coercion.

Challenges

1. Assertiveness of China

- ✓ Chinese officials have **likened the group to a “mini-NATO”** and said its activities are aimed at targeting third parties.
- ✓ Beijing sees Quad as part of a **strategy to encircle China** and has pressured countries like Bangladesh to avoid cooperating with the group.

2. China as a Trading partner

Beijing has emerged as the most important trading partner of the Indian Ocean region

3. Approach of Member Countries

- ✓ While USA is quite vocal in naming the aggressive China, other members show restraint and avoid naming China directly.
- ✓ There is difference in the approach as well. E.g., **USA looks the Indo-Pacific region militarily. On the other hand, India views this region diplomatically.**

4. Different Areas of Prioritisation

- ✓ The way that the four different Quad members view their interests in the Indo-Pacific leads them to prioritise different areas.
- ✓ For instance, for the US, South China Sea and East China Sea are vital. Same goes for Japan. And for Australia, it also includes the Western Pacific.
- ✓ But for India, the **Quad is about the Indian Ocean and South China Sea is a secondary theatre.**

5. ASEAN

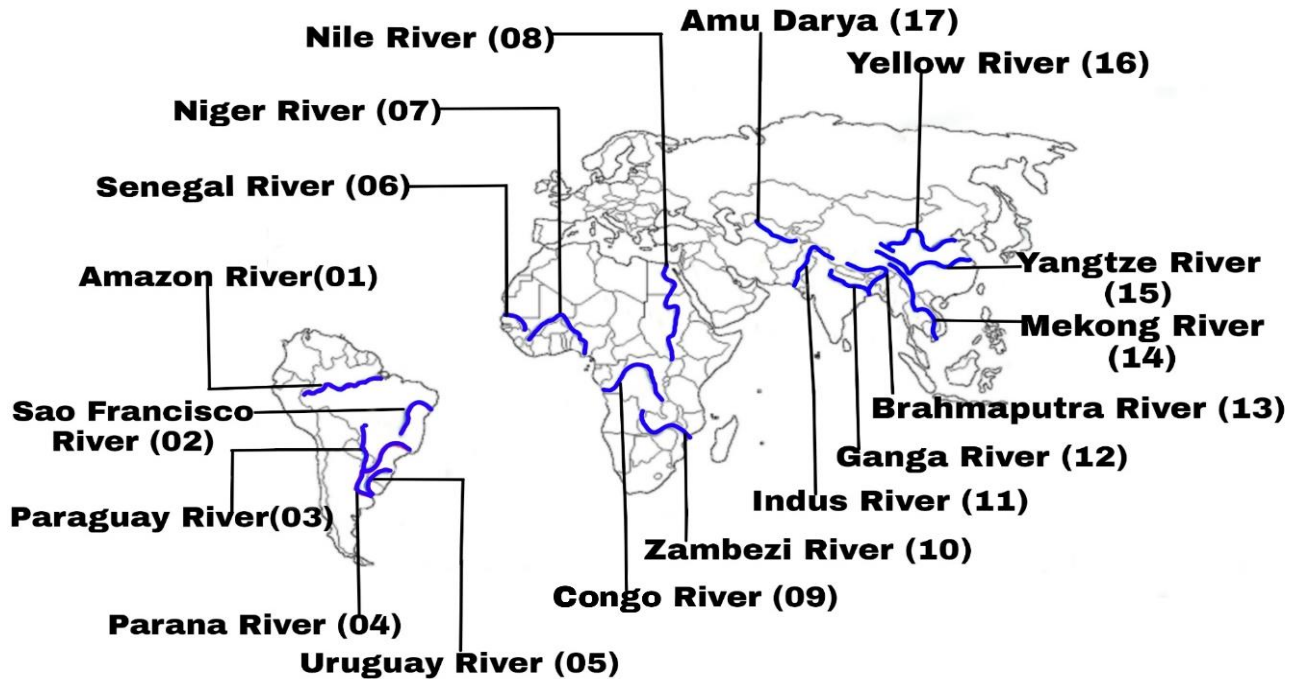
As of now there are no signs that the ASEAN is willing to take a united stand on many issues so far raised by Quad. It would be difficult for the Quad to execute any effective policy minus the cooperation from the ASEAN countries.

6. RCEP

- ✓ Japan and Australia joined the Regional Comprehensive Economic Partnership (RCEP).
- ✓ This is an indication of their desire to do business with China even as they seek to deter its growing clout in the region.

MAPS: PLACES IN NEWS

Important River of South America, Africa, and Asia



South America

01	Amazon River	It is the 2nd longest river in the world , and the largest in terms of the size of its watershed, the number of tributaries, and the volume of water discharged into the sea. The Amazon and its tributaries flow through Peru, Bolivia, Venezuela, Colombia, Ecuador, and Brazil before emptying into the Atlantic Ocean.
02	Sao Francisco River	It is the longest river that runs entirely in Brazilian territory, and the 4th longest in South America after the Amazon, the Parana and the Madeira. It empties into the Atlantic Ocean.
03	Paraguay River	It runs through Brazil, Bolivia, Paraguay and Argentina .
04	Parana River	It runs through Brazil, Paraguay, and Argentina . It is 2nd longest among South American rivers. It merges with the Paraguay River and then farther downstream with the Uruguay River to form the Rio de la Plata and empties into the Atlantic Ocean .
05	Uruguay River	It flows from north to south and forms parts of the boundaries of Brazil, Argentina, and Uruguay . An unusual feature of this River is a submerged canyon.

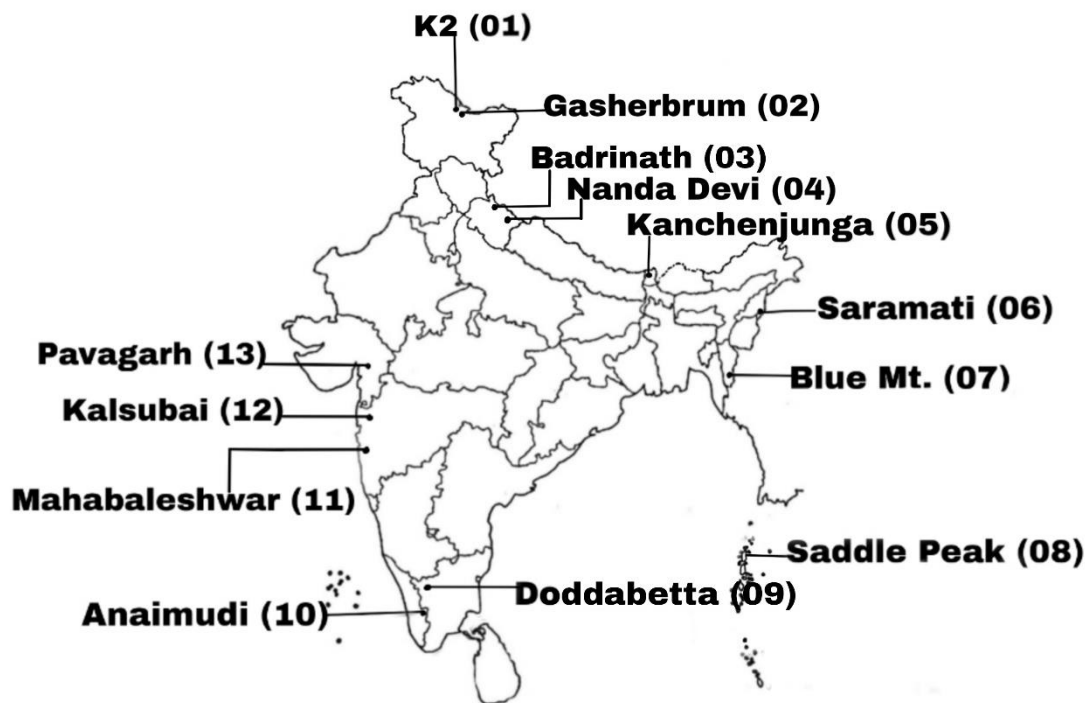
Africa

06	Senegal River	It is a river in West Africa, much of its length marks part of the border between Senegal and Mauritania . Important tributaries are the Faleme River, Karakoro River, and the Gorgol River.
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07	Niger River	It is the 3rd-longest river in Africa , after the Nile and the Congo River. It runs in a crescent through Mali, Niger, on the border with Benin and then through Nigeria , discharging through a massive delta, known as the Niger Delta into the Gulf of Guinea in the Atlantic Ocean.
08	Nile River	It is considered as the longest river in the world . It is a north-flowing river in northeastern Africa. It flows into the Mediterranean Sea . Its drainage basin covers eleven countries. The Nile has two major tributaries, the White Nile and the Blue Nile.
09	Congo River	It formerly known as the Zaire River . It is the 2nd longest river in Africa . It is also the world's deepest recorded river. The river and its tributaries flow through the Congo Rainforest, the 2nd largest rain forest area in the world, after the Amazon Rainforest.
10	Zambezi River	It is the 4th-longest river in Africa , the longest east-flowing river in Africa and the largest flowing into the Indian Ocean from Africa. Its most noted feature is Victoria Falls .

Asia

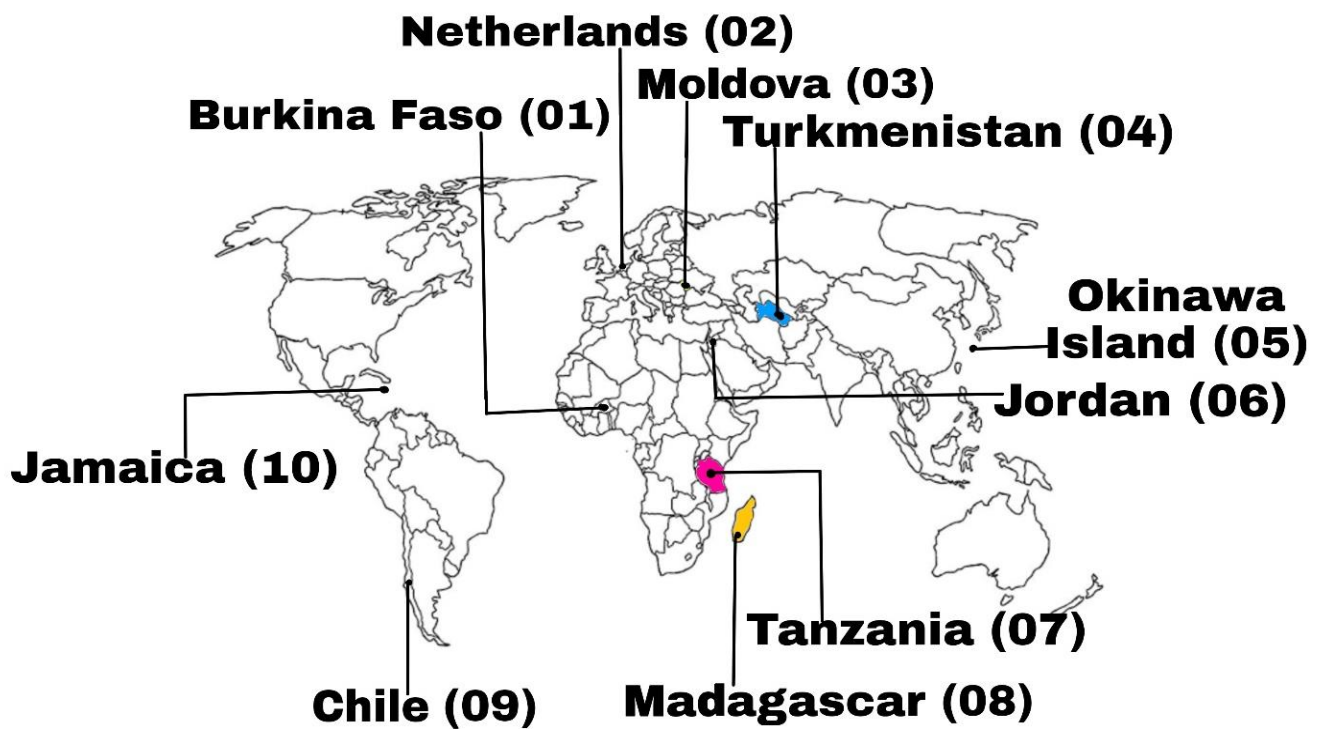
11	Indus River	It is a transboundary river of Asia . It originates from a glacier near Bokhar Chu in the Tibetan region in Kailash Mountain range near the Mansarovar Lake , flows northwest through the region of Kashmir, and then Pakistan, before emptying into the Arabian Sea.
12	Ganga River	It is a trans-boundary river of Asia, flows through India and Bangladesh . It is the longest river in India. It rises from the Gangotri glacier near Gaumukh in the Uttarkashi district of Uttarakhand. The Bhagirathi meets the Alaknanda at Devprayag, where it becomes the Ganga.
13	Brahmaputra River	It is a trans-boundary river that flows through Tibet, India, and Bangladesh . It is also known as Yarlung Tsangpo in Tibet , the Siang/Dihang River in Arunachal Pradesh . The source of this river in southwest Tibet. It merges with Ganga in this area to form the Sunderbans, a massive delta.
14	Mekong River	It is a trans-boundary river in East Asia and Southeast Asia . Rising from the Tibetan Plateau, the river runs through China, Myanmar, Laos, Thailand, Cambodia, and Vietnam . The river is a major trade route between western China and Southeast Asia.
15	Yangtze River	It is longest river in both China and Asia and 3rd longest river in the world after Nile and Amazon river. It rises at Jari Hill in the Tanggula Mountains (Tibetan Plateau) and flows in a generally easterly direction to the East China Sea.
16	Yellow River	It is the 2nd-longest river in China, after the Yangtze River . It Originates in the Bayan Har Mountains in Qinghai province of Western China.
17	Amu Darya	It is a major river in Central Asia and Afghanistan . Rising in the Pamir Mountains , north of the Hindu Kush, it is formed by the confluence of the Vakhsh and Panj rivers.



01	K2	It is the 2nd-highest mountain on Earth at 8,611 metre above sea level, after Mount Everest. It lies in the northwestern Karakoram range . It is located between Baltistan in the Gilgit-Baltistan region and the Dafdar Township in Taxkorgan Tajik of Xinjiang, China.
02	Gasherbrum	It is a remote group of peaks situated at the northeastern end of Baltoro Glacier in the Karakoram Mountain range . The peaks are located within the border region of Xinjiang, China and Gilgit-Baltistan
03	Badrinath	This peak has exclusively grown up as a Hindu pilgrimage all over the world . The Peak has an average elevation of 3,415 metres. It is included in the Garhwal hills, on the banks of Alaknanda River.
04	Nanda Devi	It is located in Chamoli Garhwal district of Uttarakhand . The surrounding Nanda Devi National Park was declared a UNESCO World Heritage Site in 1988.
05	Kanchenjunga	It is the third highest mountain peak in the world . It lies in the border region between the Sikkim state of India and Nepal.
06	Saramati	It is a peak rising above the surrounding peaks at the mountainous border of Nagaland state, India . It is popularly known as the Crown of Nagaland. It forms a natural boundary between India and Myanmar.
07	Blue Mt.	It is also known as Phawngpui . It is the highest mountain peak in the Mizo Hills in the state of Mizoram, India.
08	Saddle Peak	It is located on North Andaman Island . It is the highest point of the archipelago in the Bay of Bengal . It is surrounded by Saddle Peak National Park.
09	Doda Betta	It is the highest mountain in the Nilgiri Mountains . It is the 4th highest peak in South India next to Anamudi, Mannamalai and Meesapulimala.
10	Anamudi	It is located in state of Kerala . It is the highest point in India south of Himalayas.

		Thus, it is known as "Everest of South India" . It is located in the southern region of Eravikulam National Park at the junction of the Cardamom Hills, the Anaimalai Hills and the Palani Hills.
11	Mahabaleshwar	It is located on the mountainous Sahyadri range of the Western ghats that run North to south along western coast of India. It reaches a height of 1,439 m at its highest peak above sea level, known as Wilson/Sunrise Point.
12	Kalsubai	It is a mountain in the Western Ghats . It is the highest point in Maharashtra . The mountain range lies within the Kalsubai Harishchandragad Wildlife Sanctuary.
13	Pavagadh	It is situated within a plain in Panchmahal district, Gujarat . It is associated with the volcanic eruption which occurred in the region approximately 500 million years ago.

International Places In The News



01	Burkina Faso	A military court in Burkina faso handed down life imprisonment to former president. It is a landlocked country in West Africa, bordered by Mali, Niger, Benin, Togo, Ghana and Ivory Coast .
02	Netherlands	The number of monkeypox cases in humans rose in the Netherlands. It is country located in northwestern Europe, also known as Holland . It is sandwiched between Belgium and Germany . It also shares maritime borders with both countries and with the United Kingdom in the North Sea.
03	Moldova	London has begun talks with allies on sending modern weapons to Moldova according to NATO standards. It lies in the northeastern corner of the Balkan region of Europe . Its capital city is Chisinau. It is bordered by Romania and Ukraine .
04	Turkmenistan	Turkmenistan bans beauty services for women. It is a landlocked country in Central

		Asia, bordered by Kazakhstan, Uzbekistan, Afghanistan and the Caspian Sea. Ashgabat is the capital and largest city of the country. About nine-tenths of Turkmenistan is desert.
05	Okinawa Island	China's vessel passed through the Miyako Strait, that separate Japan's Okinawa's main island from Miyako Island. Okinawa islands are part of Ryukyu islands chain, an archipelago, which define boundaries between east China sea and the Philippines sea.
06	Jordan	India and Jordan have signed long term MoUs for assured fertilizers supply to India. It is a Middle Eastern Country located in the Arabian Peninsula. It shares its land border with Syria, Iraq, Saudi Arabia, Israel and parts of Palestine (West Bank).
07	Tanzania	Prime minister of India has paid tributes to the former Tanzanian president Mwalimu Nyerere on his 100 th birth anniversary. Tanzania shares borders with Uganda, Kenya, Mozambique and Malawi, Zambia, and Rwanda, Burundi, and the Democratic Republic of Congo and the Indian Ocean. Mount Kilimanjaro, Africa's highest mountain, is in northeastern Tanzania.
08	Madagascar	India and Madagascar are planning direct flights between Mumbai and Antananarivo. Madagascar is an island country in the Indian Ocean, approximately 400 kilometres off the coast of East Africa across the Mozambique Channel. It is the world's second-largest island country, after Indonesia.
09	Chile	Cabinet has approved the signing of the MOU between India and Chile for cooperation in the disability sector. Chile is a long narrow country located in the southeastern part of south America. It shares its boundary with Peru, Bolivia and Argentina.
10	Jamaica	President Kovind becomes first Indian President to visit Jamaica. It is an Island country of West Indies. It is the third largest island in Caribbean Sea after Cuba and Hispaniola. It is situated in west of Haiti, south of Cuba, and northeast of mainland Central America.

Star Rating For Food May Mislead Buyers

- The Food Safety and Standards Authority of India (FSSAI) had recently proposed to introduce ‘**Health Star Rating**’ (HSR) to check how healthy the packaged food items are.
- The HSR is similar to the one used by the **Bureau of Energy Efficiency** for measuring the energy efficiency of electrical appliances.
- In February 2022, the FSSAI decided in its draft regulations for a Front of Package Labelling (FoPL) system that it will propose the health star rating system, which rates the overall nutritional profile of packaged food and assigns it a rating from **half a star to five stars**.
- The move has upset public health experts who favour the **warning label system** such as a black-and-white stop symbol used in Chile or the red warning symbol in Israel for each of the three ingredients — salt, sugar and fat.

About Health Star Rating

- As per the 'Health Star' rating system, packaged foods will display the number of stars on the front of the pack, indicating how healthy or unhealthy it is, depending upon the amount of salt, sugar and fat it has.
- The FSSAI is bringing in the regulation based on a report from **Indian Institute of Management – Ahmedabad**.
- The study endorsed the HSR format as the best suited to Indians in helping to choose healthier packaged food items under a new policy on Front of Package Labelling (FoPL).

Criticism of HSR System

- Under the health star rating system, an algorithm assigns a product a certain number of stars based on “positive” components (fibre, protein, and fruit, vegetable, nut and legume content) balanced against other components (energy, sugars, sodium, and saturated fat).
- Experts argue that this is divorced from science as the presence of high quantities of sugar can’t be offset by the so-called positive ingredients.
- The industry can easily manipulate the system as food products high in sugar or fat that deserve a low rating (1 star) could get a moderate rating (3 or even 4 stars) only because they contain some positive nutrients (for example, fruit and nut chocolates).

*{For more about **FOPL & Food Safety and Standards (Labelling and Display) Regulations 2019 refer September Recitals 2021}**}*

Petition on Polygamy

Recently, the Delhi High Court (HC) asked the Centre to respond to a petition to declare bigamy or polygamy by a Muslim husband, in the absence of prior consent of the existing wife or wives, as illegal.

- The petitioner contended that bigamy or polygamy without the consent of the existing wife and securing her well-being was **unconstitutional, anti-Shariat, illegal, arbitrary, harsh, inhuman, and barbaric**.
- The petitioner stated that bigamy or polygamy by a Muslim husband is permitted under Shariat laws **only in exceptional circumstances** (such as an illness of the first wife or her inability to bear children) after taking the consent of the first wife.
- The petitioner sought directions **to be framed to regulate polygamy** by placing certain conditions on Muslim husbands looking to solemnise another marriage.

- She proposed that such husbands should be **required to furnish a certificate from a judicial officer**, which certifies that the husband has the capacity to provide equal treatment to all wives. The petitioner also sought the **framing of laws for compulsory registration** of Muslim marriages

Polygamy in India

- Polygamy is a practice whereby a person has more than one spouse, and this can be of two kinds, **Polygyny and polyandry**. In the first kind, a man marries more than one woman and in the next a woman marries more than one man.
- Polygamy is **illegal in India for every religion except for the Islam religion** where limited polygyny up to four wives is permitted but polyandry is absolutely prohibited.
- **India is a secular state** which sees every religion with an equal eye and respect. However, numerous religions are disputing the validity of certain laws, including those pertaining to 'polygamy.'

Constitutional provisions invalidating polygamy in India

- **Article 13** clearly and specifically declares that the laws inconsistent with the Part III (Fundamental Rights) of the Constitution shall be void.
- However, **personal laws** don't seem to be laws in force under Article 13 of the Constitution as they are supported by religious precepts and customary practice.
- **Article 14** declares, the state shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.
- **Article 15 (1)** forbids the state from discriminating against any citizen based only on religion, race, caste, sex, or place of birth.

Statutory provision outlawing or preserving polygamy in India

Polygamy in Hindu law - The Hindu Marriage Act, 1955:

- It **abolished and criminalized** (IPC, 1860 makes it an act of offence) Hindu Polygamy. Monogamy was the only option to be adhered to for the Hindu.
- It was made clear that a Hindu spouse was not permitted to have a second marriage **unless the first one is dissolved**, either by a divorce or due to the death of any spouse.
- The **Buddhists, Jains and Sikhs** are all included in it. They do not have any separate laws.

Polygamy in Muslims law

- The Muslims in India are subject to the provisions of **Muslim Personal Law Application Act (Shariat) of 1937**, interpreted by All India Muslim Personal Law Board.
- Polygamy is not prohibited under Muslim legislation because it is recognised as a **religious practise**, and Muslims tend to preserve and practise it.
- However, it is clearly subject to change if this practice is shown to be **breaching the fundamental rights guaranteed by the constitution**.

Impact Of Polygamy On Indian Society

- **Derogatory to women** and regressive to their rights, coming in direct conflict with the fundamental rights of citizens.
- **Domestic violence** is most commonly associated with polygamous families because to the verbal arguments that occur as a result of its immoral setup.
- It is regarded as the most effective medium for the spread of **HIV/AIDS**.
- **Property disputes** develop as a result of polygamy.
- There are **few resources** shared by many people who are participating in a vital social institution, the **family**.
- Polygamy is related with **illegal activities** like sexual abuse, and so has a negative impact on society.
- This problematic issue causes **trauma in children**, which has an impact on their education and social outlook on life.

Roe v. Wade

- According to a US media source, the US Supreme Court has decided to overturn Roe v. Wade, the court's historic **1973 decision** that made **abortion a constitutional right**.
- In this context, the US President urged US voters recently to safeguard their "fundamental" rights to legal abortion.

Debate Over Abortion In US

- **Roe v. Wade case, 1973:**
 - It was a landmark decision of the U.S. Supreme Court in which the Court ruled that the **Constitution of the U.S. protects a pregnant woman's liberty** to choose to have an abortion without excessive government restriction.
 - It struck down laws that made abortion illegal in several states, and ruled that abortion would be legal up to the trimester.
 - It **fuelled an ongoing abortion debate** in the U.S. about whether or to what extent abortion should be legal, who should decide the legality of abortion and what the role of moral and religious views in the political sphere should be.
 - The Court's ruling was criticised by some in the legal community and some called the decision an example of **judicial activism**.
- **Planned Parenthood v. Casey case, 1992:**
 - In this case, the Supreme Court **revisited and modified** its rulings in Roe v. Wade judgement.
 - The Court **reaffirmed** that a woman's right to choose to have an abortion is constitutionally protected.
 - However, it rejected Roe's trimester framework in favour of a **foetal viability** (the time after which a foetus can survive outside the womb) threshold and overruled the strict scrutiny criteria for considering abortion restrictions.
- **Confusion over foetal viability threshold:**
 - Foetal viability was around 28 weeks (7 months) at the time of the Roe judgement. Experts now agree that advances in medicine **have brought the threshold down** to 23 or 24 weeks (6 months or a little less).
 - In 2018, the state of Mississippi (the Republican-majority legislature) prohibited most abortions after 15 weeks, considerably earlier than foetal viability and earlier than Roe, **initiating a direct challenge to the 1973 decision**.
- **Significance of above judgements:** They recognised the concept of **personal liberty** as enshrined in the Fourteenth Amendment against government interference with intensely personal decisions.
- **Social and ideological clash over the issue of abortion:** However, the issue has resulted in a social and ideological struggle (between Democrats [pro-abortion] and Republicans [conservative, anti-abortion]), further polarising the country's already polarised society and politics.

WHO Estimates 4.7 Million COVID-19-Linked Deaths In India

- According to a recent World Health Organization (WHO) report, COVID-19 is expected to cause 4.7 million fatalities in India between 2020 and 2021, either directly or indirectly.
- India maintained its opposition to the **WHO methodology**, which estimated that India saw one-third of the 15 million such deaths worldwide, the highest figure for any country.

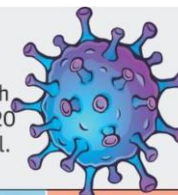
Findings of the WHO report

- Between January 1, 2020 and December 31, 2021, the total death toll related directly or indirectly with the Covid-19 pandemic, referred to as excess mortality, was roughly 14.9 million.

- **Excess mortality** comprises deaths caused by coronavirus, either directly (as a result of the disease) or indirectly (as a result of the pandemic's influence on health systems and society).
- Excess deaths are calculated as the difference between the number of deaths that have occurred and the number that would be expected in the **absence of the pandemic based data** from earlier years.
- The cumulative excess deaths associated with the Covid-19 pandemic assessed by the WHO for India are 4,740,894, implying that the WHO estimate is **roughly 10 times the official tally**.
- These gloomy statistics not only **highlight the pandemic's impact**, but also highlight the **need for all countries to invest in more robust health systems** capable of sustaining key health services during emergencies, including improved health information systems.

Scary count

According to WHO's calculations, 4.74 million excess deaths associated with COVID-19 occurred in India between 2020 and 2021, nearly 10 times the official toll. A look at top 10 countries



Country	Cumulative excess deaths associated with COVID-19 in million	Officially reported COVID-19 deaths in million	Excess deaths as a multiple of official COVID-19 deaths
India	4.74	0.48	9.8
Russia	1.07	0.30	3.5
Indonesia	1.03	0.14	7.1
U.S.	0.93	0.82	1.1
Brazil	0.68	0.62	1.1
Mexico	0.63	0.30	2.1
Peru	0.29	0.20	1.4
Turkey	0.26	0.08	3.2
Egypt	0.25	0.02	11.5
S. Africa	0.24	0.09	2.6

Indian Government's Response To WHO's Estimate

- India has **disputed the WHO's findings**, stating that WHO projected different excess mortality figures for India based on multiple models, **raising concerns about the validity and robustness of the models utilised**.
- According to the Union Health Ministry, India has an extremely robust system of **births and deaths registration**.
- India has also questioned the WHO's own admission that data in respect of 17 Indian States were obtained from some websites and media reports and was used in their mathematical model
- The Health Ministry stated that the **test positivity rate** (another key variable used by WHO) for Covid-19 in India was **never uniform** at any point in time.
- WHO's modelling method **fails to take into account the variability** in Covid positive rate both in terms of area and time within the country.
- The model also fails to account for the influence of **various diagnostic procedures** (RAT/RT-PCR) utilised in different geographies.
- The government asserted that the WHO's published statistics are **completely erroneous**.
- Given the availability of authentic data released by the **Registrar General of India (RGI)** through the **Civil Registration System (CRS)**, mathematical models should not be utilised to estimate excess mortality numbers for India.

Cannot Share Aadhaar Details For Crime Inquiry, UIDAI Tells HC

Recently, the Unique Identification Authority of India (UIDAI) told the Delhi High Court that fingerprints found at a scene of crime cannot be matched against the Aadhaar database to identify a criminal.

- The query came after the prosecution sought to know if potential fingerprints and photographs of unknown accused could be matched with the Aadhaar database to identify the culprits.
- In an order passed in February, the High Court asked the UIDAI to respond whether the Aadhaar Act 2016 permits the same.

UIDAI Response

- The UIDAI said in its affidavit that sharing or use of biometric information for any use other than the generation of the Aadhaar number, and authentication, is "impermissible".

- **Section 29** of the Aadhar Act places restrictions on sharing information collected or created under the Act.
- The UIDAI also referred to regulation 3 of the Aadhaar Act, which says “core biometric information collected by the Authority under the Act shall not be shared with anyone for any reason whatsoever”.
- The UIDAI also added that it does not have the technology to match fingerprints etc found at the scene of a crime with those available on its database.
- The UIDAI added that the biometrics information is only used for de-duplication of residents and to ensure uniqueness of Aadhaar number.
- The UIDAI submitted that as per the mandate of the Aadhaar Act and the direction of the Supreme Court, such information cannot be provided without giving an opportunity of hearing to the Aadhaar cardholder in question

Exceptions When Information Can Be Revealed

Certain provisions of the Aadhar Act, 2016 allow for sharing the information in the following two scenarios:

- In the **interest of national security**, a Joint Secretary in the Central Government may issue a direction for revealing, (i) Aadhaar number, (ii) biometric information (iris scan, finger print and other biological attributes specified by regulations), (iii) demographic information, and (iv) photograph.
 - Such a decision will be reviewed by an **Oversight Committee** and will be valid for six months.
- On the **order of a court**, only (i) an individual's Aadhaar number, (ii) photograph, and (iii) demographic information, may be revealed.

About Aadhar Act, 2016

The Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016 (shortly called Aadhaar Act), was passed by the Parliament in March, 2016.

Objectives:

- To provide legal backing to the Aadhaar unique identification number project.
- To provide for targeted delivery of subsidies and services to individuals residing in India by assigning them unique identity numbers, called Aadhaar numbers.

Major Features of the Act

Eligibility:

- **Every resident shall be entitled to obtain an Aadhaar number.**
- A resident is a person who has **resided in India for 182 days, in the one year preceding the date of application for enrolment for Aadhaar.**

Information to be Submitted:

- Biometric (photograph, finger print, iris scan) and Demographic (name, date of birth, address) information.

Use of Aadhaar Number:

- To verify the identity of a person receiving a subsidy or a service, the government may require them to have an Aadhaar number.
- Any public or private entity can accept the Aadhaar number as a proof of identity of the Aadhaar number holder, for any purpose.
- **Aadhaar number cannot be a proof of citizenship or domicile.**

Protection of Information:

- Biometric information such as an individual's finger print, iris scan and other biological attributes (specified by regulations) will be used only for Aadhaar enrolment and authentication, and for no other purpose.
- Such information will not be shared with anyone, nor will it be displayed publicly, except for purposes specified by regulations.

Offences & Penalties:

- A person may be punished with imprisonment up to three years and minimum fine of Rs 10 lakh for **unauthorised access to the centralized data-base, including revealing any information stored in it**



Global Report on Food Crises 2022

Recently, the **Global Network Against Food Crises (GNAFC)** published its annual report titled ‘Global Report on Food Crises’ for the year 2022.

What is Food Security?

Food security means availability, accessibility and affordability of food to all people at all times.

- **Availability** of food means food production within the country, food imports and the previous years' stock stored in government granaries.
- **Accessibility** means food is within reach of every person.
- **Affordability** implies that an individual has enough money to buy sufficient, safe and nutritious food to meet one's dietary needs.



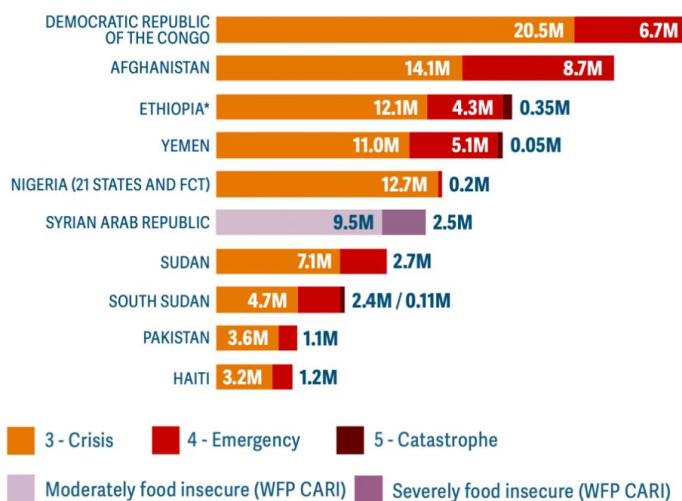
Global Network
Against Food Crises

- The GNAFC was founded by the European Union, Food and Agriculture Organization (FAO), and World Food Programme (WFP) in 2016.
- It is an alliance of humanitarian and development actors working together to prevent, prepare for and respond to food crises and support the SDG-2 to End Hunger
- The Global Report on Food Crises is the flagship publication of the Global Network and is facilitated by the Food Security Information Network (FSIN).
 - FSIN is a global initiative co-sponsored by FAO, WFP and International Food Policy Research Institute (IFPRI) to strengthen food and nutrition security information systems for producing reliable and accurate data to guide analysis and decision-making.
- The Report is the result of a consensus-based and multi-partner analytical process involving 17 international humanitarian and development partners.

Key Highlights of Global Report on Food Crises 2022

- Some 40 million more people globally experienced acute food insecurity at crisis or worse levels in 2021 than 2020
- The report reveals that around 193 million people in 53 countries or territories experienced acute food insecurity at crisis or worse levels in 2021.
- Of these, over half a million people (5,70,000) in Ethiopia, southern Madagascar, South Sudan and Yemen were classified in the **most severe phase** of acute food insecurity Catastrophe.
- These countries require urgent action to avert widespread collapse of livelihoods, starvation and death.
- An additional 236 million people were stressed across 41 countries/territories in 2021 and required livelihood support and assistance for disaster risk reduction to prevent them from slipping into worse levels of acute food security.
- In 2021, almost 70 percent of the total number of people in Crisis or worse or equivalent were found in ten food crisis countries/territories.

Ten countries/territories with the highest number of people in Crisis or worse (IPC/CH Phase 3 or above) or equivalent in 2021



- The outlook for global acute food insecurity in 2022 is expected to deteriorate further relative to 2021.

Root Causes of Food Crises

The key drivers behind rising acute food insecurity in 2021 were:

- **Conflict** (main driver pushing 139 million people in 24 countries/territories into acute food insecurity);
- **Weather Extremes** (over 23 million people in 8 countries/territories);
- **Economic Shocks** - (over 30 million people in 21 countries/territories).

Way Ahead

- The international community must anticipate and act to mitigate the severe consequences of those already experiencing the highest levels of acute food insecurity.
- In contexts where food availability is limited by reduced imports, providing support to farmers to raise their productivity and improve their access to markets, and to rural communities to diversify their livelihoods and enhance their resilience to shocks is crucial.
- The urgency to do this will likely continue to grow in the coming months and years, driven by the direct and indirect effects of the war in Ukraine.

Fertility Falls, Obesity Goes Up In India: NFHS-5

- According to the report of the National Family Health Survey (**NFHS**) - 5, between NFHS 4 and 5, **the Total Fertility Rate (TFR)** or the average number of children per woman, fell from 2.2 to 2.0 at the national level.
- **Only five states in India** - Bihar, Meghalaya, Uttar Pradesh, Jharkhand and Manipur are above the replacement level of fertility (level of fertility at which a population exactly replaces itself from one generation to the next) of **2.1**.



The National Family Health Survey (NFHS)



- > **About:** It is a large-scale, multi-round survey conducted in a **representative sample of households** throughout India.

Objective

- > To collect reliable and up-to-date information on **fertility, family planning, mortality and maternal & child health**.
- > The national report also includes data by socioeconomic and other background variables, which are useful for policy formation and programme execution.

Conducted by

- > It is a **project** of the International Institute for Population Sciences (IIPS), Mumbai, India. IIPS **collaborates** with a number of Field Organizations (FO) for survey implementation.
- > **The Ministry of Health and Family Welfare (MoHFW)**, Government of India, designated **IIPS as the nodal agency**, responsible for providing coordination and technical guidance for the NFHS.

Funding

- > NFHS was funded by the United States Agency for International Development (**USAID**) with supplementary support from United Nations Children's Fund (**UNICEF**).

The Fifth Survey (NFHS-5)

- > Started in 2019, NFHS-5 was however stalled amid the COVID-19 associated lockdown.
- > The NFHS-5 National Report details the progress from NFHS-4 (2015-16) to NFHS-5 (2019-21).
- > **The scope of NFHS-5 is expanded** in respect to earlier rounds of the survey (NFHS-4) by adding new dimensions such as **death registration, pre-school education, expanded domains of child immunization, etc.**
- > NFHS-5 provides information on important indicators which are helpful in tracking the progress of **Sustainable Development Goals (SDGs)** in the country.

Key Highlights Of The NFHS-5

- **Institutional births:** Increased from 79% to 89% in India (around 87% in rural and 94% in urban areas).
- **Immunization:** As per results of the NFHS-5, more than three-fourths (77%) children aged 12-23 months were fully immunized, compared with 62% in NFHS-4.

- **Stunting among children under five years:** It has marginally declined from 38% to 36% (37% in rural areas and 30% in urban areas) in the country since the last four years.
- **Overweight or obesity:** Compared with NFHS-4, the prevalence of overweight or obesity has increased in most States/UTs in NFHS-5. At the national level, it increased from 21% to 24% among women and 19% to 23% among men.
- **SDGs:** NFHS-5 shows an overall improvement in SDGs indicators in all States/UTs.
- **Women participation in decision making:** The extent to which married women participate in (health care for herself, making major household purchases; visit to her family or relatives), indicates that their participation in decision-making is high, ranging from 80% in Ladakh to 99% in Nagaland and Mizoram.
 - The prevalence of women having a bank or savings account that they use has increased from 53% to 79% in the last four years.

National Health Survey: Key findings

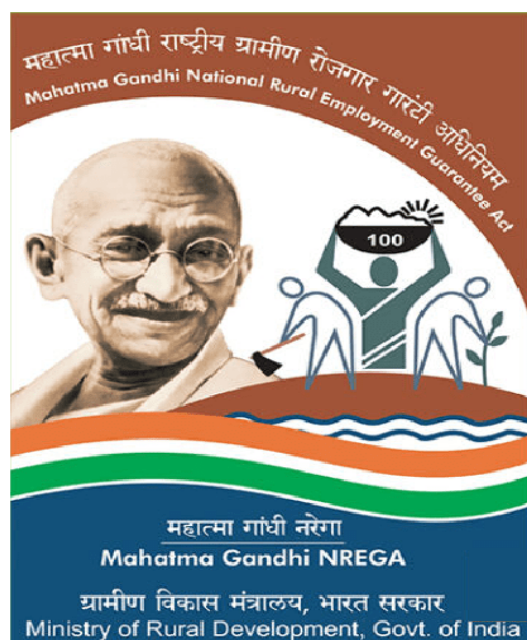
- 96% of households use an improved source of drinking water
- 19% of households have no sanitation facility
- 95% of rural households have electricity
- 59% percent of households use clean fuel for cooking
- 90% of household population have an Aadhaar card
- 5% are orphans among children under 18 years
- 38% of men aged 15 and over use tobacco products
- 1% of women and 19% of men aged 15 and over drink alcohol

New Systems Delay MGNREGS Wage Payments

The **mandatory implementation** of a **national mobile monitoring system** for the MGNREGS without addressing various technical issues has led to payments to workers being held up in Kerala.

Background

- The national mobile monitoring system was first piloted with a requirement to capture the attendance at worksites with more than 20 workers through the mobile system.
- It has now been mandatory without ensuring that the system is working without any glitches.
- After the mobile monitoring system for MGNREGS was made mandatory, reports have come from most districts in Kerala regarding inability to process wage payments.



The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

- Enacted in August, 2005, it provides a **legal guarantee for one hundred days of employment** in every financial year to **adult members of any rural household** willing to do public work-related **unskilled manual work** at the statutory minimum wage.
- The Ministry of Rural Development (MRD) is monitoring the entire implementation of this scheme in association with state governments.
- This act was introduced with an aim of improving the purchasing power of the rural people, primarily semi or un-skilled work to people living below poverty line in rural India.
- It attempts to bridge the gap between the rich and poor in the country.

Mobile Monitoring System for MGNREGA

- The Union Ministry of Rural Development introduced a **Mobile Monitoring System** for effective implementation of the MGNREGA.
- This system is aimed at bringing more transparency and ensuring proper monitoring of the schemes.
- It permits taking real time attendance of workers at MGNREGA worksites along with geo-tagged photograph.
 - It is expected to plug leakages in the rural job scheme.
- It also helps in increasing citizen oversight of the programme.

Complaints

- **Technical issues in new system**
 - Officials have been getting complaints from across the State regarding inability to upload attendance data and capturing of attendance.
 - Even in cases where the upload happened successfully, wage has not been processed.
 - Critics point towards the fact that many of these changes are being imposed without any consultations or adequate study.
- **Issues with the new arrangement under the Public Financial Management System(PFMS)**
 - The new arrangement under the PFMS has been another issue.
 - All MGNREGS payments in all panchayats have to be now made through a single account.
 - ✓ The new arrangements require that every single vendor for any kind of material also should be registered with the centralised system.
- **Analysts say that it needlessly complicates the system**
 - There are a lot of vendors for each panchayat and such vendors across the country have to register with the system.
 - Even the registration process is stuck and payments are held up.

Centre Extends Scholarship For J&K, Ladakh Students

The Central government has extended the **Prime Minister's Special Scholarship Scheme (PMSSS)** for students from **Jammu and Kashmir and Ladakh** for another **five years** in the wake of the encouraging response it has received.

Prime Minister's Special Scholarship Scheme (PMSSS)

- It was introduced by the Central government in **2011**.
- **Objective:** To promote employment opportunities for students from J&K and Ladakh.
- Under the scheme, **funding is provided to 5,000 meritorious students each year to study in private and government educational institutions across the country.**
- The scheme offers 4,500 seats for general education courses (Bachelor's in Arts, Commerce and Science), and 250 each for engineering and medical degrees.
- **Budget:** Rs 180-190 crore annually
- **Implementing Agency:** All India Council for Technical Education (AICTE)

Eligibility

- Students who are the **domiciles** of Union Territories of J&K and Ladakh.
Those who have passed the **10+2** exam from the J&K Board or CBSE affiliated schools located in UTs of J&K and Ladakh.
- Students who have passed **10+3 diploma** from UTs of J&K and Ladakh Polytechnic.
Students having an annual family income of less than **Rs 8 lakh**.

PMSSS Benefits

- A total of 5,000 scholarships are awarded for students pursuing courses in General Degree, Professional Degree, and Medical Streams.
- Students selected for the scholarship will receive the following benefits:

General Degree

- Up to RS 30,000 per annum for the academic fee (payable to the institution)
- Maintenance charges of RS 1 lakh per annum (hostel and mess charges-payable to the student)

Professional Degree

- Up to RS 1.25 lakh per annum for the academic fee (payable to the institution)
- Maintenance charges of RS 1 lakh per annum (payable to the student)

Medical stream

- ₹ 3 lakh per annum for the academic fee
- Maintenance charges of RS 1 lakh per annum (payable to the student)

Recent Performance Of The Scheme

- There are not many takers for general education seats. When these seats are not filled, they are converted on a **pro rata basis** into engineering and medical seats, raising the 500-seat limit.
- According to AICTE data, there was a substantial increase in the number of applications received in the academic years 2020-21 and 2021-22, following a dip in 2018-19 and 2019-20.
- The rise was recorded after J&K's special status granted under **Article 370** of the Constitution was revoked by Parliament in August 2019.
- The term of the scheme was due to end last year, but the Central government decided to extend it for another five years for the benefit of students.

Year	Students registered	Students who joined
2017-18	24767	2609
2018-19	18582	2404
2019-20	17521	4631
2020-21	25970	4780
2021-22	24455	4095

Centre Retracts Caution On Aadhaar Photocopies

- The government has withdrawn the notification cautioning people against sharing a photocopy of their Aadhar card, claiming that it could be misinterpreted.
- It said that the UIDAI had advised Aadhaar card holders to only exercise normal prudence in using and sharing their Aadhaar numbers. UIDAI had issued the notification in the context of an attempt to misuse an Aadhar card using a photocopy.
- Aadhaar Identity Authentication ecosystem has provided adequate features for protecting and safeguarding the identity and privacy of the Aadhaar holder.

What Was The Earlier Notification?

- The earlier notification asked the general public not to share photocopy of one's Aadhaar with any organisation because it can be misused.
 - It was issued by the Bengaluru Regional Office of the UIDAI.
- It further added that a **masked Aadhaar**, which displays only the last 4 digits of the biometric ID, can be used for the purpose.
- That notification also advised against using a public computer to download electronic versions of the Aadhar.

- Only those organisations with a ‘user licence’ from the UIDAI could use Aadhar for establishing a person’s identity.
 - Hotels and cinema halls weren’t authorised to collect photocopies of Aadhar.

UIDAI Stand On Sharing The Card Details

- UIDAI, on multiple occasions, had publicly stated that Aadhar details, without biometric information, couldn’t be used to impersonate a person.

What is a masked Aadhaar?
 An Aadhaar number consists of 12 digits. Masking an Aadhaar number means replacing the first eight digits with some characters like “xxxx-xxxx” while only the last four digits of the original number are visible

HOW TO DOWNLOAD A MASKED AADHAAR?

Downloading an electronic version of masked Aadhaar card is a five-step process

1. Go to the link <https://eaadhaar.uidai.gov.in/genricDownloadAadhaar>
2. Type your Aadhaar card number and enter the captcha

3. There will be an option "Do you want a masked Aadhaar". Select it
4. Enter the OTP received on your mobile phone
5. Verify and download your masked Aadhaar card



- However, it should be remembered that Aadhar is a document that detailed a person’s personal information.
- Hence, it was akin to giving out a mobile phone number, or a bank account number or a PAN card and ought to be “ordinarily protected” to ensure a person’s privacy.
- In 2018, UIDAI tweeted that Aadhar as an identity document by its very nature needs to be shared openly with others as and when required for.
 - On the other hand, in November 2016, UIDAI from its official handle tweeted: We urge you to be very discreet about your Aadhar and other identity documents. Do not share the document no. or a printed copy with anyone.



Unique Identification Authority of India
 Government of India

- UIDAI is a statutory authority established under the provisions of the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016 (“Aadhaar Act 2016”).
- It has been established under the administrative control of the Ministry of Electronics and Information Technology (MeitY).
- UIDAI was created to issue Unique Identification numbers (UID), named as "Aadhaar", to all residents of India.
 - As on 31st October 2021, the Authority has issued 131.68 crore Aadhaar numbers to the residents of India.
- It has its Headquarters (HQ) in New Delhi and eight Regional Offices (ROs) across the country.
 - UIDAI has two Data Centres, one at Hebbal (Bengaluru), Karnataka and another at Manesar (Gurugram), Haryana

Role & Responsibilities: Under the Aadhaar Act 2016, UIDAI is responsible for:

- Aadhaar enrolment and authentication, including operation and management of all stages of Aadhaar life cycle,
- Developing the policy, procedure, and system for issuing Aadhaar numbers to individuals
- Perform authentication and the security of identity information and authentication records of individuals.

Composition of the Authority

- The Authority consists of two part-time Members and a Chief Executive Officer who shall be the Member-Secretary of the Authority.
- Chairman of the Authority is Vacant.

ECONOMY AND INFRASTRUCTURE

MSME Sustainable (ZED) Certification Scheme

- The Ministry of Micro, Small and Medium Enterprises (MoMSME) recently launched the **MSME Sustainable (ZED) Certification Scheme** for Udyam-registered MSMEs. The scheme is a revamped version of the Zero Defect, Zero Effect (ZED) scheme, launched in 2016.
- It aims to enable and facilitate MSMEs adopt Zero Defect Zero Effect (ZED) practices and motivate and incentivize them for ZED Certification while also encouraging them to become MSME Champions.

Zero defect

- Practice of manufacturing goods in such a way that they carry zero defects, and India's exported goods are never returned to the country.

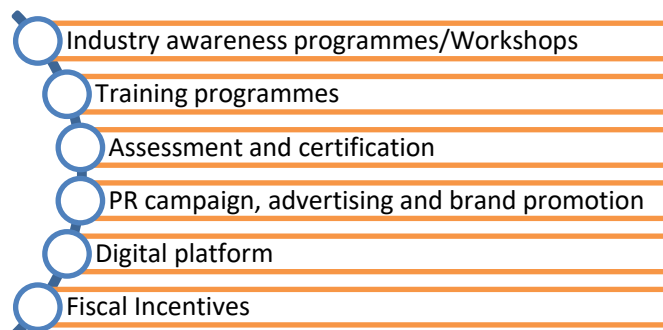
Zero effect

- Practice of manufacturing goods with the view that they should not have a negative impact on the environment.

Details Of The Scheme

- The number of certification levels has been reduced in the new scheme from the earlier five including bronze, silver, gold, diamond, and platinum. The new scheme comprises **three certification levels** including **bronze, silver and gold**.
- The **number of parameters** for the certification has also been reduced to a total of 20 from 50 in the erstwhile scheme.
- While bronze certification marks MSMEs on five parameters including workplace safety, quality management etc., silver certification has 14 parameters.
- The gold certification involves 20 parameters such as supply chain management, corporate social responsibility etc.

Components Of The Scheme



Fiscal Incentives Under The Scheme

- MSMEs will get **subsidy** on the cost of ZED certification as follows:

Micro Enterprises: 80%

Small Enterprises: 60%

Medium Enterprises: 50%

- There will be an **additional subsidy of 10%** for MSMEs owned by Women/SC/ST entrepreneurs or MSMEs in North Eastern Region/Himalayan/Left Wing Extremism affected/island territories/aspirational districts.
- In addition to above, there will be an **additional subsidy of 5%** for MSMEs which are also a part of the SFURTI or Micro & Small Enterprises - Cluster Development Programme (MSE-CDP).

- Further, a limited purpose joining reward of Rs. 10,000/- will be offered to each MSME once they take the **ZED pledge**.
- A provision of up to Rs. 5 lakhs (per MSME) will be made available for handholding and consultancy support for assisting them to move towards Zero Defect Zero Effect solutions.
- MSMEs can also avail a number of other incentives offered for ZED Certification by States & UTs, financial Institutions etc. and can also apply for free certification under the MSME KAWACH (COVID-19 Support) initiative.

Phases

- The new scheme will be implemented in **two phases**. Currently, the certification will be provided to **manufacturing enterprises** under **phase 1**.
- Later, **phase 2** will focus on inclusion of **services sector** MSMEs and also work to integrate manufacturing and services sector MSMEs that are registered under a state government system but not on Udyam.

Benefits

- It will help MSMEs with improved quality, reduced rejection rate, higher productivity, higher revenues with credible recognition from the industry for being ZED certified.
- MSMEs can reduce wastage substantially, enhance environmental consciousness, save energy, optimally use natural resources and expand their markets.
- **Scheme of Fund for Regeneration of Traditional Industries (SFURTI)**
 - SFURTI organizes traditional industries and artisans into clusters in order to make them competitive and provide support for their long- term sustainability.
 - It provides support up to Rs. 2.5 crore to clusters with 500 artisans (Regular clusters) and upto Rs. 5 crore for clusters with more than 500 artisans (Major clusters).

MSE-CDP

- MSE-CDP addresses common issues of MSMEs such as improvement of technology, skills & quality, market access, etc.
- The scheme creates or upgrades infrastructural facilities in new or existing industrial areas or clusters of MSMEs.

Udyam

- **Udyam** is a government portal for registration of MSMEs. Maintained by the MoMSME, it provides for free of cost, and paperless registration.

Increase In Purchasing Managers' Index

- According to seasonally adjusted S&P Global India Manufacturing **Purchasing Managers' Index (PMI)**, manufacturing activity in India rose in April, to 54.7 from 54 in March, due to quicker increases in production, factory orders and international sales.
- Along with it, the services PMI rose to 57.9 in April from 53.6 in March.

Purchasing Managers' Index (PMI)

- PMI is an **indicator of business activity** in the manufacturing and services sectors.
- It is a **survey-based measure** that asks managers and supply executives from specific companies about changes in their perception of some key business variables **from the month before**.
- The surveys conducted on a **monthly basis, seek factual information on variables such as new orders, output, employment, supplier deliveries, inventories, new export orders and prices**.
- It is calculated separately for the manufacturing and services sectors and then a composite index is constructed.

Reading The PMI Numbers

- A PMI above 50 denotes expansion in business activity when compared to the previous month, while anything below 50 denotes contraction. Higher the difference from this mid-point greater the expansion or contraction.
- The rate of expansion can also be judged by comparing the PMI with that of the previous month data.
- If the figure is higher than the previous month's figure, then the economy is expanding at a faster rate. If it is lower than the previous month, then it is growing at a lower rate.

Significance of PMI

- The PMI is one of the most tracked indicators of business activity across the world. It provides a reliable expectation of how an economy is doing as a whole — and manufacturing in particular.
- It is a good indicator of boom-and-bust cycles in the economy and closely watched by investors, business, traders and financial professionals besides economists.
- The PMI is usually released at the start of the month, much before most of the official data on industrial output, manufacturing and GDP growth becomes available. It is, therefore, considered a good leading indicator of economic activity.
- Even central banks use the PMI to take decisions on interest rates. Besides influencing equity market movements, PMI releases also impact bond and currency markets.
- A good reading of PMI enhances the attractiveness of an economy compared to other competing economies.

Front Running

- Axis Asset Management Company (AMC), which manages assets worth Rs 259,818 crore, recently suspended two fund managers for various irregularities, including front-running the AMC's transactions on their personal accounts.
- Front-running involves purchasing a stock based on advance non-public information of an upcoming large transaction that can affect the price of the share.
- By buying shares just before the big order hits the market and selling them once the price moves up, the front-runner makes huge gains. A reverse strategy is used with sell trades.
- Front-running by insiders can adversely impact investors in a fund by bidding up the prices they get to buy stocks or reducing the prices at which they get to sell.
- Usually, there are **two parties** in a front-running operation.
 - An **information carrier** who gets advance information about the big investor's orders because he/she is an employee, dealer or trader for it.
 - And the **front-runner** who is usually a friend or acquaintance who conducts the actual trades.
- Front-running is not an offence specific to the mutual fund industry. In India, SEBI has detected cases of front-running among foreign portfolio investors, dealers, brokerages and mutual funds.

Regulatory Apparatus

- SEBI (Prohibition of Fraudulent and Unfair Trade Practices Relating to Securities Market) Regulations, 2003 clearly define front-running and characterizes it as a fraudulent and unfair practice. Hence it is **illegal**.
- SEBI has invoked this section many times to pass orders against front-runners.
- However, as the people who purchase the stocks on behalf of the fund manager are not related to them, it becomes hard to establish a direct link and the proof.

Way Ahead

- **Surveillance software** that tracks real-time trades in the market is well-equipped to spot similar trading patterns between big investors and individuals, which forms the basis for front-running investigations by the regulator.
- Therefore, it is important that exchanges conduct stringent examination of surveillance data and quickly escalate any suspicious trades to SEBI.
- Putting in place clear **whistle-blower policies** with anonymity for the informer at the exchanges, big institutions, and brokers trading in the markets can also help to highlight a nexus between market players at an early stage.
- SEBI will also need to consider **more stringent punishments** for information carriers and front-runners when investigations find evidence of wrongdoing.
- Soft measures such as barring the entities from securities markets for a temporary period, levying a low-key fine or settling with the accused without admitting to the offence, may not suffice.

Kwar Hydro Electric Project

The Cabinet Committee on Economic Affairs (CCEA), recently approved the **540 Megawatt (MW)** Kwar Hydro Electric Project located on **river Chenab** in the Kishtwar district of Jammu and Kashmir (J&K) at an investment of ₹4,526.12 crore.

Background

- Under the **1960 Indus Water Treaty (IWT)** between India and Pakistan, the two countries share the waters of six rivers in the Indus basin that flow through India towards Pakistan.
- Of these, India has complete rights over three eastern rivers - Sutlej, Beas and Ravi, while Pakistan has rights over the western rivers - Chenab, Jhelum, and Indus.
- India can, however, build run-of-the-river projects on the western rivers. Thus, over the last few years the government has been trying to utilize the potential in the Indian side of the Indus basin.

Details of the project

- The project would be implemented by **Chenab Valley Power Projects Private Ltd.**, a **joint venture** between National Hydroelectric Power Corporation (NHPC) and Jammu and Kashmir State Power Development Corporation (JKSPDC).
- To make the project viable, the government of UT of J&K will extend exemption from levy of water usage charges for 10 years after commissioning the project.
- The project will be commissioned within 54 months and will generate 1975.54 million units in a 90% dependable year.

Benefits

- The power generated will help balance the grid and improve the power supply position.
- Further, the UT of J&K will benefit from free power of around ₹4,548.59 crore and ₹4,941.46 crore with water usage charges during the project life cycle of 40 years.
- The construction activities of the project will result in direct and indirect employment for almost 2,500 people. It will also contribute in overall socio-economic development of the Union Territory of J&K.

GatiShakti Sanchar Portal

- In line with the PM GatiShakti National Master Plan, the govt recently launched the **“GatiShakti Sanchar”** portal. The portal has been built by the Madhya Pradesh State Electronics Development Corporation.

- The portal will enable **centralised Right of Way (RoW) approvals** for telecom infrastructure projects and can be used by industry players to apply for RoW approvals, including for 5G services.
- RoW rules on *setting up of telecom towers and cable laying* offer a framework for giving approvals, settling of disputes, and facilitates coordination between industry and various agencies.

Reasons For Launching The Portal

- Currently, the application process for the installation of digital infrastructure gets delayed due to inconsistency and uncertainty of policy and processes adopted at various levels.
- So, there is a need for fast-tracking the application process to overcome the challenges of implementation of RoW Rules.
- The portal has been developed keeping in view the vision areas of the **National Broadband Mission**. These are, providing broadband infrastructure to every citizen, governance and services on demand and digital empowerment of the citizens.

Features Of The Portal

- It will provide a **collaborative institutional mechanism** between all stakeholders including Central and State Governments, central land-owning authorities (Railways, Defence, Ports), local bodies, and service providers to facilitate the RoW permissions.
- Thus, it will enable applicants from various Telecom Service providers (TSPs) as well as Infrastructure providers (IPs) to apply at a common single portal for RoW permissions to lay down optical fibre cable and for erecting mobile towers.
- For effective monitoring of RoW applications across the country, the portal comes with a dashboard showing State and District wise pendency status of applications.

Benefits

- It will enable speedy infrastructure creation leading to timely rollout of 5G Network as well.
- It will accelerate laying of optical fibre cable, speed up fiberization and increase tower density for connectivity, overall ensuring better broadband speed and service quality.
- Further, the integration of the portal with **Geographic Information System (GIS)**, will give state governments and various agencies more visibility into the optical fibre mesh and digital networks that are in place.
- It promises to reduce the days involved in getting stipulated permissions, lower costs, and facilitate ease of doing business.
- This will bring transparency, accountability, and responsiveness to all stakeholders.

Future Outlook

- At present, the RoW rules are based on administrative process, and a strong legal backing is required to empower local officials, bring clarity on the fee structure, and fix accountability.
- The government has assured that a strong legal backing will be put in place by December.
- The Centre also plans to link various other portals handled by railways, highways, and waterways, among others to the GatiShakti Sanchar portal.
- This will help to provide a robust mechanism to achieve the goal of '**Broadband for All**', as envisaged in the National Digital Communication Policy, 2018.

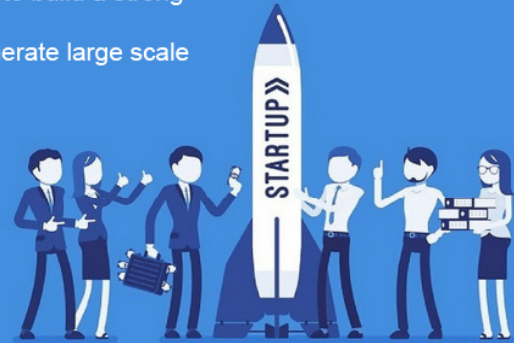
National Startup Advisory Council

- The *Ministry of Commerce and Industry* recently launched the **NavIC Grand Challenge** at a meeting of **National Startup Advisory Council (NSAC)**.

- The NavIC Grand Challenge is aimed at promoting adoption of NavIC as a geo-positioning solution. It aims to identify and handhold solutions of startups which are engaged in developing NavIC enabled drones.

National Startup Advisory Council (NSAC)

- ▲ It was constituted by **Department for Promotion of Industry and Internal Trade (DPIIT)** to advise the government on measures needed to build a strong ecosystem for nurturing innovation and startups in the country.
- ▲ This would help to drive sustainable economic growth and generate large scale employment opportunities.
- ▲ At NSAC, policy making process is driven as part of collaboration between all the key stakeholders of the Startup ecosystem.
- ▲ The **Minister for Commerce and Industry** is the Chairman of NSAC.
- ▲ Besides the ex-officio members, the council has **non-official members, representing various stakeholders such as founders of successful startups, veterans who have grown and scaled companies in India.**



NavIC

- The **Indian Regional Navigation Satellite System (IRNSS)**, with an operational name of NavIC (Navigation with Indian Constellation) is a *regional satellite navigation* system that provides accurate real-time positioning and timing services.
- It covers India and a region extending 1,500 km around it, with plans for further extension.

Open Network for Digital Commerce

- The pilot phase of the **Open Network for Digital Commerce** was recently launched in five cities - Delhi NCR, Bengaluru, Bhopal, Shillong and Coimbatore.
- It is an initiative of the **Department for Promotion of Industry and Internal Trade (DPIIT)** under the Ministry of Commerce and Industry. It has been incorporated as a private sector led non-profit company.
- It aims at promoting open networks developed on open-sourced methodology, using open specifications and open network protocols independent of any specific platform.

Need

- The e-commerce market is currently operated and dominated by a few platforms like Amazon and Flipkart.
- These large platforms have been accused of discriminating among sellers on their platforms and promoting certain seller entities in which they hold **indirect stakes**.
- The government wants to change the fundamental structure of the e-commerce market from the current **platform-centric model to an open-network model**.
- Through this platform, consumers can potentially discover any seller, product or service by using any ONDC-compatible application or platform, thus increasing freedom of choice for consumers.

Functioning of ONDC

- The ONDC project is modelled around the successful Unified Payments Interface (UPI) project. The UPI project allows people to send or receive money irrespective of the payments platforms on which they are registered.
- Similarly, the government wants to ensure that buyers and sellers of goods in the e-commerce market can transact irrespective of the platforms on which they are registered.
- The platform basically works on **two ends** — the seller side and the buyer side. The ONDC platform lies in the middle of the interfaces hosting the buyers and the sellers.

- Till now, the buyer side interface is being hosted by **Paytm**, whereas the seller side interface is being hosted by other players like **GoFrugal**, etc.
- When a buyer searches for an item on the Paytm app, for where ONDC has gone live, the app will connect to the ONDC platform, which will connect it to seller side interfaces that will list all the sellers that have listed that particular item.
- On the ONDC, there will be several other backend partners such as logistics service providers, enterprise resource planners, e-commerce store hosting service providers, etc.

Benefits

- ONDC is expected to digitise the entire value chain, standardise operations, promote inclusion of suppliers, derive efficiency in logistics, and enhance value for consumers.
- It will create a level playing field for smaller offline traders who have been hurt by the unfair trade practices of e-commerce giants.
- It will provide access to a large repository of buyer and seller data for those joining the open-source platform. Such data has so far been accumulated by large e-commerce marketplaces without providing access to this data for their individual sellers.
- It will also help merchants to save their data to build credit history and reach consumers.
- The platform will also be compliant with the Information Technology Act, 2000 and designed for compliance with the emerging Personal Data Protection Bill.

Meaning of Open-source

- Making a software or a process open-source means that the code or the steps of that process is made available freely for others to use, redistribute and modify.
- For example, the operating system of Apple's iPhones — iOS — is closed source, meaning it cannot be legally modified or reverse engineered.
- However, **Google's Android operating system is open-source**, and therefore it is possible by smartphone makers such as Samsung, Xiaomi, OnePlus, etc to modify it for their hardware.

RBI's Report on Currency and Finance

- RBI recently released a Report on Currency and Finance that provides an **assessment of the state of the Indian economy**.
- As per the report, India is likely to take another **13 years** to overcome the losses incurred due to the Covid pandemic that hit the country in March 2020.
- Taking the actual growth rate of (-) 6.6 per cent for 2020-21, 8.9 per cent for 2021-22 and assuming growth rate of 7.2 per cent for 2022-23, and 7.5 per cent beyond that, India is expected to overcome Covid-19 losses in 2034-35.
- The output losses for individual years have been worked out to Rs 19.1 lakh crore, Rs 17.1 lakh crore and Rs 16.4 lakh crore for 2020- 21, 2021-22 and 2022-23, respectively.

Reasons for Subdued Growth

- India's economic rebound faces difficult challenges from deep-rooted structural bottlenecks as well as the impact of the pandemic.
- The Russia-Ukraine conflict has also slowed down the momentum of recovery, with its impact through record-high commodity prices, weaker global growth outlook, and tighter global financial conditions.
- Furthermore, the concerns surrounding de-globalisation impacting future trade, capital flows and supply chains have increased uncertainties for the business environment.

Way Ahead

The reforms proposed in the report revolve around **seven wheels of economic progress**:

Aggregate supply

Aggregate demand

Institutions,
intermediaries and
markets

Macroeconomic
stability and policy
coordination

Productivity and
technological progress

Structural change

Sustainability

The report suggests the following **structural reforms**:

- ▶ Enhancing access to **litigation free low-cost land**,
- ▶ Raising the **quality of labour** through public expenditure on education and health and the Skill India Mission,
- ▶ **Scaling up R&D activities** with an emphasis on innovation and technology,
- ▶ Creating an **enabling environment for startups and unicorns**,
- ▶ **Rationalisation of subsidies** that promote inefficiencies and
- ▶ **Encouraging urban clusters** by improving the housing and physical infrastructure.

- A feasible range for medium-term steady state GDP growth in India works out to 6.5–8.5%. Timely **rebalancing of monetary and fiscal policies** will likely be the first step in this journey.
- Further, **price stability** is a necessary precondition for strong and sustainable growth.
- **Reducing general government debt** to below 66% of GDP over the next five years is important to secure India's medium-term growth prospects.
- PSU banks should not be dependent on the government for recapitalisation, to achieve greater privatisation of the sector.
- Industrial revolution 4.0 and committed transition to a **net-zero emission target** necessitate a policy ecosystem that facilitates adequate access to risk capital and a globally competitive environment for doing business.

Report On Country's Livestock

The **report**, which is based on **20th Livestock Census** conducted during **2018-19**, was released by the government.

Major Highlight of This Report

Indigenous cattle

- The total number of **indigenous cattle declined by 6%** to 14.21 crore in 2019 from 15.12 crore in 2012.
- The **origins of over half of India's cattle, sheep, goats, horses, ponies, mules, donkeys and pigs are not known.**

Exotic/Crossbred cattle

- The number of **Exotic/Crossbred cattle grew from 3.9 crore in 2012 to 5 crore in 2019.**

About 20th Livestock Census

- It was **released by the Department of Animal Husbandry & Dairying, Ministry of Fisheries, Animal Husbandry and Dairying.**
- In the 20th Livestock Census, animals which belong to Descript (identified)/non-descript (non-identified) breeds of indigenous origin are considered as indigenous animals.

Key Findings of the 20th Livestock Census

- The **total Livestock population is 535.78 million in the country showing an increase of 4.6%** over Livestock Census 2012.

- Total **Bovine population (Cattle, Buffalo, Mithun, and Yak)** is **302.79 million** in 2019 which shows an **increase of 1.0%** over the previous census.
- Total number of **cattle in the country** is **192.49 million** in 2019 showing an **increase of 0.8 %**.
- The **Female Cattle (Cows population)** is **145.12 million**, **increased by 18.0%**.
- The Exotic/Crossbred and Indigenous/Non-descript Cattle population in the country is 50.42 million and 142.11 million, respectively.
 - Indigenous/Non-descript female cattle population has increased by 10% in 2019.
 - The population of the total Exotic/Crossbred Cattle has increased by 26.9 % in 2019.
- There is a **decline of 6 % in the total Indigenous (both descript and non-descript) Cattle population over the previous census**. However, the pace of decline of Indigenous Cattle population during 2012-2019 is much lesser as compared to 2007-12 which was about 9%.
- The **total milch animals in cows and buffaloes** is **125.34 million**, **an increase of 6.0 %**.
- The **total Poultry in the country** is **851.81 million** in 2019, **increased by 16.8%**.

About Livestock Census

- The Livestock Census has been **conducted in the country periodically since 1919-20**.
- It takes place once **every five years**.
- The census provides some key results reflecting the aggregate counts of various species as well as its comparison with previous census.

Why Is Livestock Census Crucial For India?

- India leads the world in livestock population at 125.5 crore.
- Livestock is not only an integral part of the agriculture economy supporting the rural livelihood; it is also a **fundamental element of the socio-cultural system of India**.
- India's cultural heritage attaches immense importance to livestock ownership and rearing as an inseparable part of an inclusive universe.
- **Any government initiative that works for the development of the livestock, livestock census makes a note to formulate, implement, monitor and evaluate such schemes.**

Some Government Schemes for Livestock

- **Animal Husbandry Infrastructure Development Fund (AHIDF):** This is the first major fund (outlay of Rs.15,000 crore) launched in June 2020 by the government that includes a diverse set of stakeholders such as Farmer Producer Organizations (FPO), private dairy players, individual entrepreneurs, and non-profits within its ambit.
 - Aim: To support private investment in Dairy Processing, value addition and cattle feed infrastructure. Incentives will be given for establishing plants for export of niche products.
 - It will also support the establishment of **animal feed plants** of varying capacities and animal feed testing laboratory.
- **Rashtriya Kamdhenu Aayog** - It has been constituted for the conservation, preservation, protection and development of cows and their progenies and for giving directions for the cattle development programmes.
- **National Livestock Mission** – The mission aims to achieve the employment generation through entrepreneurship development in small ruminant, poultry and piggery sector & fodder sector and increase of per animal productivity through breed improvement.

- **Rashtriya Gokul Mission** – It is an initiative to develop and conserve the indigenous bovine breeds for improving the milk production and productivity in a *scientific manner* which includes superior nutrition and farm management.
- **National Artificial Insemination Programme** - It aims to suggest novel methods of bringing about impregnation in female breeds and also to prevent the spread of certain diseases which are genital in nature, thereby enhancing the efficiency of the breed.
- **Livestock Health and Disease Control Scheme** - It provides support for prevention and control of animal diseases like foot and mouth disease (FMD) and Brucellosis.

Annual Survey of Industries

- The provisional Annual Survey of Industries (ASI) was recently released by the Ministry of Statistics and Programme Implementation (MoSPI) for FY20.
- ASI, the principal source of industrial statistics in India, is the **most comprehensive data on organised manufacturing**.
- It covers all factories employing 10 or more workers using power and those employing 20 or more workers without using power.
- The survey was conducted during April 2021 to January 2022 through ASI Web Portal.

Findings

- Manufacturing sector investments grew 20% in 2019-20 over the previous fiscal even as the rent payout, interest paid and profits fell.
- **Gross fixed capital formation (GFCF)**, an indicator of investment, was Rs 4.15 lakh crore compared to Rs 3.44 lakh crore in FY19. Furthermore, there was a 1.7% increase in the number of factories in the country.
- **Employment in the corporate sector**, which includes public and private government and non-government companies, increased 5.5% to 97.03 lakh in 2019-20.
- Among states, the **highest number of employment of workers** in factories was in Tamil Nadu, followed by Maharashtra and Gujarat.
- Employment in the partnership sector fell by 11.7% to 18.58 lakh in 2019-20 while that for limited liability partnership grew 42% to 1.22 lakh.
- **Total wages** provided to factory workers rose to Rs 2.29 lakh crore from Rs 2.15 lakh crore in the previous fiscal.
- These **factories' profits shrank** 16% on-year to Rs 4.67 lakh crore from Rs 5.56 lakh crore in FY19. This is the second straight contraction in profits.
- In FY20, the urban sector had 1.43 lakh factories with fixed capital of Rs 13.64 lakh crore employing 72.79 lakh workers.
- The rural sector had 1.03 lakh factories with fixed capital of Rs 22.71 lakh crore employing 57.78 lakh workers in 2019-20.

Press Freedom Index 2022

- India has fallen 8 ranks **from 142 to 150** out of 180 countries in the world press freedom index. It is lowest ever ranking of India.
- The report reveals a two-fold increase in "polarisation" amplified by information chaos, that is, media polarisation fuelling divisions within countries, as well as polarisation between countries at the international level.

About Press Freedom Index

- It is released by **reporters without borders or Reporters Sans Frontiers (RSF)**. This is being released since 2002 every year. Its head-quarter is in Paris.
- RSF is an independent NGO and has a *consultative status with UNESCO*.

Criteria for Ranking: The ranking is based on 5 categories:

- **Political context (India's ranking is 145)** – It is measured in terms of degree of support and respect for media autonomy vis-à-vis political pressure and to hold people in power accountable, and standard of journalism. Eg. Surveillances of prominent journalist by **Pegasus** Software allegedly.
- **Legal framework (India's ranking is 120)** – It is measured in terms of level of censorship, access to information and protection of sources as well as level of impunity for violence against journalists. E.G Sedation charges on **Assam journalist on editorial**.
- **Economic context (India's ranking is 149)** – It is measured in terms of policies related to advertisement by both state and non-state actors and media owners' conflict of interests. Allegedly Government gives advertisement on certain media platform to do embedded journalism.
- **Socio-cultural context (India's ranking is 127)** – It is measured in terms of attack on journalists based on issues of gender, class, ethnicity and religion. It also takes account of inability of journalists to question certain bastion of powers due to cultural constraints.
- **Safety of journalists (India ranking is 163)** – It is determined by ability to gather news without risk of physical, psychological/emotional and professional harm. Eg reporters are often harassed by police and paramilitaries (Kashmir issue).

Ranking of Countries

- Norway (1st) Denmark (2nd), Sweden (3rd) Estonia (4th) and Finland (5th)
- North Korea remained at the bottom of the list of the 180 countries.
- Nepal has climbed up by 30 points in the global ranking at 76th position.
- The index placed Pakistan at 157th position, Sri Lanka 146th, Bangladesh 162nd and Myanmar at 176th position.
- China was ranked at 175th position.

Criticism of the Index

- The methodology is highly subjective and sample size is very small. There are questions about transparency of the process as well.
- The language of the report shows recklessness with regard to diversity of opinion and democratic nature of society.
- Oversimplification and overgeneralisation of dynamic and diverse range of factors.

- Non-transparent funding and conflict of interests of RSF.
- Biasness against developing countries.
- Press Freedom Index is only about freedom of journalists and not about **quality of journalism**.

Way Forward

- Robust regulation mechanism under the aegis of **Press Council of India (PCI) and News Broadcasting Standard Association (NBSA)**.
- Countering fake News and paid news phenomena.
- Promotion of media ethics and quality of journalism.
- Fair and transparent procedure of government giving advertisement to media.

Press freedom is protected under **Article 19(1)(a)** of Indian constitution. The SC has time and again observed that the press freedom is the very foundation of democratic structure. An independent press gives voice to voiceless and holds person in power accountable.

Draft Rules of Criminal Practice 2020

The SC has directed the *HCs and State Governments* to file an *action taken report* on the compliance of the **Draft rules of criminal practice 2020**. The SC had issued draft rules in 2020 after getting a report from amicus curiae to deal with *inadequacies in the procedure followed during criminal trials* throughout the country.

Criminal Justice System

- The criminal justice is *the combination of processes of law enforcement, adjudication of crime and criminal conduct, and correction of criminals*.
- It includes agencies of state viz. **courts, police, prosecution and correctional agencies**.
- It is an instrument of social control. It not only ensures supremacy of law and order in the society by creating deterrence for crime and correcting the criminal behaviour.

Important Points Of The Draft Rules

Investigation	Every medico legal certificate must contain a printed format of the human body, photography/videography of every medico legal examination, spot panchnama (seizure memo) by investigating officer.
Documents	The accused must be provided statement of witnesses, list of records, list of documents, material objects and exhibits seized during investigation by investigating officer.
Charge	The presiding officer must prepare a formal charge along with the order of framing the charge.
Trial	The proceedings must be carried out efficiently. During the examination of witnesses, the case must be continued from day to day until all the witnesses in attendance have been examined. The Court must record the reasons of an adjournment if it thinks it is required.
Witnesses	Deposition of each witness must be recorded in separate paragraph along with question-answer format and assigning paragraph numbers
Exhibits	Exhibits must be marked and given a number. If a witness is introducing a document as evidence, then exhibit number must show the witness number.
Confessional Statements	Presiding officer should mark the admissible portion of confessional statement under the Indian evidence act.
Bail	The bail application should be disposed-off within a period of 3-7 days of first hearing. Otherwise presiding officer must give reasons in the order itself for the delay. Communication of bail order to the jail authorities on the very same day

Separation of prosecution & investigation The state government may appoint an advocate, other than public prosecutors, to advise during investigation.

Significance Of The Draft Rules

- Transformation of criminal justice system and making it more relevant and modern.
- Ensuring transparency and accountability by improving procedural aspects of criminal justice system.
- Improving the quality of investigation and that to within the time frame mentioned under CRPC.
- Enhancing the conviction rate for crimes by reducing procedural lapses during investigation and trial.
- The number of under trial in India is 76% of total number of prisoners in India. The new rule will help in increasing the speed of trial and thus reducing the number of under trials in prison.

Justice Malimath Committee Report, 2003 on Criminal Justice System

The committee felt that the current system favours accused rather than giving justice to victim of the crime.

Recommendation

- Adoption of elements from **inquisitorial system** of France and Germany, where a magistrate/judge supervises the investigation. In India, **adversarial system** is prevailing where by magistrate/judge doesn't take part in investigation and gives ruling based on evidences produced before them.
- Easing the strict protection of **right against self-incrimination** mentioned in Article 20(3) of the constitution.
- Victim should be allowed to participate in cases and also be given adequate compensation.
- Extension of limit of police custody from 15 to 30 days. An additional time of 90 days be granted for the filling of charge sheet in case of serious crimes.
- The punishment that can be awarded in summary trials be increased to 3 years (Presently it is 2 years).
- Reclassifying offences as social welfare code, correctional code, economic offences etc.
- Separate sentencing guidelines for *pregnant women and women with children below 7 years of age*.

Way Forward

- Cooperation and coordination between police, prosecution, courts and jail authorities to ensure proper investigation and trial.
- Revamp of penal codes and archaic laws and grading the criminal liability in a better way. New forms of punishment may be added viz. community service.
- Easing plea bargaining process and promoting alternative dispute redressal mechanism.
- Protection to victim and witnesses. E.g., Witness protection Scheme

The draft rules are significant from the perspective of criminal justice reform. It requires all the pillars of the system to work in coordination and upholding the due process of law to ensure both **procedural as well as substantive** nature of criminal justice.

Office Of Profit

Election Commission (EC) of India has sent a notice to CM of Jharkhand over an office of profit charge against him for allotment of a mining lease on his name. He **may** face disqualification under **section 9A** of Representation of People Act (RPA) 1951 for entering into government contracts.

- A constitution bench of SC in 1964 in the case of CVK Rao vs Dentu Bhaskara Rao has held that a mining lease does not amount to a contract of supply of goods.
- In 2001, a three-judge bench of the apex court in the case of Kartar Singh Bhadana vs Hari Singh Nalwa & others also made it clear that a mining lease does not amount to execution of a work undertaken by the government.
- Even if the CM is disqualified by any authority, he can challenge it in the **high court** and in that case and as per a Supreme Court order, the adjudication has to be completed within 4 months.

Office of profit

- When an elected representative such as MPs, MLAs and MLCs is holding any government office and deriving benefit from it, then that office is termed as 'office of profit'.
- It is capable of yielding **profit or pecuniary gain** such as pay, salary, emoluments, remuneration or non-compensatory allowance attached to the office.
- **Article 102(1)(a) and 191(1)(a)** provide for disqualification of legislature from being a member of the legislative house if he holds any office of profit under the government of India or of any state.
- The articles clarify that "a person **shall not** be deemed to hold an office of profit under the government of India or the government of any state **by reason only that he is a minister**".
- However, an office held by a legislature will not attract disqualification if other than an office declared by the law not to disqualify its holder. E.g., The Parliament (prevention of disqualification) Act, 1959.
- **Section 9A of RPA 1951** provides for disqualification of a legislature if he enters a contract with the appropriate government during business.
- **The President or the Governor**, on the recommendation of EC, can disqualify a law maker on the ground of office of profit.

Reasons For Including Office Of Profit As A Criterion For Disqualification

- Preventing **quid-pro-quo** between legislature and government.
- Maintaining legislative control over executive as well as adherence of separation of power.
- It protects law makers from conflict of interest.
- Strengthening the democracy and public trust on governance, and curbing cases of corruption.

Issues With 'Office Of Profit'

- The term 'office of profit' has *not been defined* in the constitution. Over the period of time both parliament and state legislatures have exempted several offices of profit from disqualification of its holder.
- There is no uniformity across the country on number and nature of 'office of profit' in the country.

Judicial Pronouncements On 'Office Of Profit'

1. The SC in **Pradyut Bardoloi vs Swapan Roy Goyal Case, 2001**, outlined the following tests for determining whether an office attracts the constitutional disqualification:
 - Whether the Government makes the appointment;
 - Whether the Government has the right to remove or dismiss the holder;
 - Whether the Government pays/determines the remuneration;
 - What are the functions of the holder? Does he perform them for the Government;
 - Does the Government exercise any control over the performance of those functions?
2. In **Jaya Bachan vs UOI case**, SC developed the doctrine of '**potential effect of an office**' to ascertain the nature of office of profit. It says that for deciding whether one is holding an office of profit or not, what is relevant is whether the *office can yield a profit or pecuniary gain and not*. It is **not relevant** whether the profit or pecuniary gain was *obtained or not*.

AIM PRIME Playbook

The AIM-PRIME Playbook was launched at the Dr Ambedkar International Center, New Delhi by **NITI Aayog**. This will help academicians to launch deep-tech spin-off.

Atal Innovation Mission (AIM)

It is Government of India's flagship initiative to create and promote a culture of innovation and entrepreneurship across the country.

Objectives of AIM

- To develop new programmes and policies for fostering innovation in different sectors of the economy
- To provide platforms and collaboration opportunities for different stakeholders of the process
- To create an umbrella structure to oversee the innovation & entrepreneurship ecosystem of the country

AIM PRIME

- In April 2021, **NITI Aayog**, in collaboration with the **Bill & Melinda Gates Foundation** launched **AIM-PRIME** (*Program for Researchers on Innovation, Market Readiness and Entrepreneurship*).
- The programme was aimed at promoting science-based, deep technology ideas to market, through training and guidance over a period of **12 months** using a blended learning curriculum.
- The programme included several lectures and hands-on sessions on various topics related to the lab-to-market journey.
- It will be implemented by Venture Centre - a non-profit technology business incubator hosted by **Council of Scientific And Industrial Research–National Chemical Laboratory (CSIR-NCL)**.

AIM-PRIME Playbook

- It is a guide for science-based entrepreneurs and ventures. It aims to be a comprehensive resource for academic researchers, entrepreneurs and incubators involved in building science-based enterprises from lab to-market.
- It consists of the **PRIME Library**, a curated resource shared by the faculty and expert mentors associated with the program, and the **PRIME Videos**, an open-access video collection of the lectures delivered as part of the PRIME Classroom.

Marital Rape

- A two-judge bench of Delhi HC delivered a split judgement on Marital Rape exception under **section 375** of the IPC.
- Section 375 of the IPC defines the acts that constitute rape by a man. The provision, however, lays down two exceptions as well:
 - ✓ It **decriminalises marital rape**,
 - ✓ It mentions that medical procedures or interventions shall not constitute rape.

About The Judgement

- Justice Shakti Singh held the 'Marital Rape exception under section 375 of IPC' unconstitutional and steeped in patriarchy and misogyny.
- Justice Hari Shankar differed and held that the exception is valid. He further added that a husband's sex with unwilling wife can't be equated with the act of ravishing by strangers.

Marital Rape Exception

- Section 375 defines rape and lists seven notions of consent which, if vitiated, would be constituted as rape by a man. However, the exception 2 under the section 375 provides that sexual act/intercourse with his own wife, the wife not being under 18 years of age, is not rape.

- The exception is result of conjugal rights (rights created by marriage).
- It only provides for **civil remedies**. There is no way for marital rape victims in India to initiate criminal proceedings against their perpetrator.

Problem Of Marital Rape In India

- India is one of the 34 countries which have not criminalised marital rape yet.
- NFHS 2005-06: 93% women said that they had been sexually abused by their partners.
- NFHS 2015-16: The data shows no improvement in the situation as 99.1% sexual assault cases going unreported.

Arguments Against Criminalising Marital Rape

Chances of Misuse of law

- The statistics cited to argue against the criminalisation of marital rape are those of the misuse of 498A, the law that relates to dowry cases.
- A total of 1,11,549 cases were registered under 498A in 2020. Of these, 5,520 were closed by Police citing as false and overall 16,151 cases were closed by police either because they were false or there was a mistake of fact or law, Insufficient Evidence or it was a civil dispute etc.
- 18,967 cases were tried in courts of which 14,340 led to acquittal and 3,425 led to a conviction.
- Related cases pending trial at the end of 2020 are 651,404 with a pendency percentage of 96.2%.

Burden of proof

- If marital rape itself is criminalised, the question remains who would the burden of proof be on and what would that burden be.

Gender neutrality

- Even if the exception of IPC section 375 is removed or criminal provisions are added to the Domestic Violence act, husbands will not be able to use those

Government Stand on Marital Rape Exception

- The centre has initially defended the exception. Later, its council informed the court that 'wider deliberations are required on the issue' and MHA has set up a committee to review criminal laws in 2019.
- The NCT government of Delhi argued in favour of retaining the exception. It argued for protecting men from misuse of law by wives and protecting institution of marriage.

Judicial stand on Marital Rape Exception

- The Gujrat HC is also hearing a petition challenging marital rape exception on the grounds that it undermines the consent of a women based on marital status.
- The Karnataka HC has allowed framing of marital rape charges against a man despite exception in law.
- Kerala HC has held that Marital Rape is the good ground to claim for divorce.

What Happens After Split Verdict?

- The matter may be heard by a larger bench. The larger Bench to which a split verdict goes can be a three-judge Bench of the High Court, or an appeal can be preferred before the Supreme Court.
- The petitioners can also move to higher court, in this case SC, if they have been granted a certificate of appeal to move to higher court since the case involves substantial questions of law. The Delhi High Court has already granted a certificate of appeal to move the Supreme Court since the case involves substantial questions of law.

The removal of marital rape exception is essential to ensure right to equality, right to freedom and gender justice. The judicial pronouncements are instilling hope that marital rape will be criminalised to ensure justice and liberty. It has been rightly said that in taking away a women's right to say 'No,' we are also taking away her ability to say 'yes' joyfully to her husband.

{For more about Marital Rape, refer The Recitals - January 2022}

SC Ruling on GST Council

The Supreme Court ruled in the UOI vs M/S Mohit Minerals Case, 2022, that GST council's recommendations are **not binding** on Union and States and it has persuasive value only.

Background of The Case

- Mohit Minerals had approached to the Gujrat HC challenging the levying of Integrated Goods and Services Tax (IGST) on the ground that custom duty is already levied on the component of ocean freight. Thus, it is a case of double taxation.
 - **IGST**: It is generally charged on the inter-state transactions of services and goods and is applied on exports and imports. Both State and Centre governments share this revenue.
 - The value of imported goods includes the Cost, Insurance and Freight components and Customs Duty and GST are levied on that value.
- The Union government argued that it is not unconstitutional to have two taxes if they cover the two different aspects of the transaction viz. the **supply of services** and **import of goods**.
- The Gujrat HC ordered of quashing the levy of IGST on importers for Ocean freight by ruling in favour of Mohit Minerals.
- The revenue department of the Union government challenged the ruling of Gujrat HC. The SC dismissed the Union government special leave petition.

The Central Board of Indirect Taxes and Customs proposed levying GST at 5% on the value of imported products, with 10% of the value of imported goods regarded to be ocean freight.

- This meant a 0.5% GST on the value of imported products as services, in addition to Customs duty and GST, which is roughly 28% and charged as goods.

The Apex Court Ruling

- The Union and State legislatures have **equal, simultaneous and unique powers** to make laws on GST.

Article 246A

- Treats Union and States as equal units, conferring a **simultaneous power** (on Union and States) for enacting laws on GST
- However, the Parliament of India is given the **exclusive power to make laws with respect to inter-state supplies (IGST)**

Article 279A

- (Constituting the GST Council) envisions that neither the Centre nor the states are actually dependent on the other

The recommendations of GST Council are **product of a collaborative dialogue** involving Union and the States.

- They are **recommendatory in nature** and only have a persuasive value.
- To regard them as binding would **disrupt fiscal federalism**.
 - The decision also ended the government's long-running battle with companies to implement its IGST on ocean freight (cost of moving goods internationally to India) on a **reverse charge basis**.

- The importers had complained that the IGST was being levied on them twice on the very same transaction by segregating portions of it.
- **Giving relief to the importers**, the court held that since the Indian importer is liable to pay IGST on composite supply, a separate levy on Indian importers for the supply of services by the shipping line would be in violation of the Central GST Act.

Concerns About The Ruling Of The SC

- The GST council is a constitutional and federal body. Section 9 of the GST Act states that the tax rate decision of the GST council should be implemented by the states government.
- The non-implementation of the recommendations of GST council may pose several fiscal and federal challenges.

Art 246A gives simultaneous power to the **parliament** and **state legislatures** to make laws on 'GST' respectively imposed by each of them.

Article 269A - Levy and Collection of GST for Inter-State Supply

- While Article 246A gives the Parliament the exclusive power to make laws with respect to inter-state supplies, **the manner of distribution of revenue from such supplies** between the Centre and the State is covered in Article 269A.
- It allows the GST Council to frame rules in this regard.
- Import of goods or services will also be called inter-state supplies. This gives the Central Government the power to levy IGST on import transactions.

GST Council

- It is a constitutional body under **Art 279A** of the constitution. It was established through 101st Constitutional Amendment Act 2016.
- The GST Council is **an apex committee** to modify, reconcile or to make **recommendations** to the Union and the States on GST, like the goods and services that may be subjected or exempted from GST, model GST laws, etc.
- It is headed by the Finance Minister of the Union government. The finance/revenue ministers of the states/UTs are its members.
- The decisions are taken on the basis of majority votes not less than **3/4th** of weighted votes of members present and voting. The Union government has **1/3rd** weightage of total votes. The remaining **2/3rd** of the votes belongs to the state governments.

The SC judgement sets the stage for a fundamental revision of GST implementation and functioning of GST council from the perspective of cooperative federalism.

Parole and Furlough

It's bad news for 4,425 undertrials and convicts, who were released on **parole or furlough** in the wake of unprecedented surge in Covid-19 cases in May, 2020. They will have to return to the barracks within 15 days since the state government has withdrawn all the restrictions pertaining to Covid-19 on April 1, 2022.

Parole and Furlough are types of **conditional and temporary release of prisoners**. They are the privilege given to the prisoners to return to the society and socialize with families and friends. They require periodic reporting to the authorities for a set period of time.

Parole

- Parole is the release of a prisoner temporarily for a '**special purpose**' before the expiry of a sentence, on the promise of good behavior. **It can't be claimed as matter of right.**
- It is **granted for the short-term imprisonment.**

- Generally, it **lasts for a month** and it can be claimed for a number of times.
- The sentence is suspended for the period of regular parole. However, in case of, custody parole the time spent in parole is considered as time spent in prison.

Furlough

- Furlough is the release of prisoners temporarily with or without 'special purpose'. The right to be released on furlough is a **substantial and legal right of the prisoners**.
- It is given in cases of **long-term imprisonment**.
- Generally, it lasts for **14 days** and it can be claimed for a limited number of times.
- It is releasing a prisoner with remission of his sentence that means the sentence of convict goes along with the furlough period.

Statutory Provisions

Prison is the **state subject**. Both parole and furlough are covered under Section 59 of the Prisoners Act, 1894 where by power has been accorded to the state government to make rules relating to temporary release. They are regulated through Jail Manuals of respective states.

What Is Bail?

- Bail has separate legal implication than Parole/furlough. Bail is obtained by the under-trial prisoners from the police or judicial custody through the provisions of CRPC.
- The accused is set free as a result of granting bail by the competent court by submitting sureties with or without bonds to show up at the trial. Thus, the courts retain certain constructive authority over such persons.
- Bail is granted by the court of law. Parole/furlough is granted by executive authorities(decided by a committee of officers and behavioral exerts/psychologists).

MHA Guidelines Relating To Parole and Furlough

- There is a need to strike balance between ensuring rights of inmates and protecting the society from further harm.
- Cost-benefit analysis should be done before granting parole/furlough.
- Parole/furlough should be decided by a committee of officers and behavioral exerts/psychologists.

Way Forward

Parole and Furlough are instruments of the reformatory process of criminal justice system. They are quite relevant in humanizing the prison system. The need of hour is to ensure these instruments (Parole and Furlough) should be best utilized for reforming the convicted prisoners and re-integrating them with the society, and not to be misused or abused by habitual offenders and influential inmates in their favor.

SC Order In Gyanvapi Mosque Dispute

The SC ordered transferring the suit on the Gyanvapi Mosque dispute from the civil judge (senior division), Varanasi to the district judge, Varanasi.

Background

- The civil judge had ordered inspection, survey and videography of the mosque's complex to collect evidences about the alleged existence of evidences belonging to Hinduism while hearing the matter.
- The Committee of Management of Anjuman Intezamia Masjid, Varanasi has challenged in **Supreme Court** the videography survey ordered by a local court of the Maa Shringar Gauri Sthal in the Kashi Vishwanath temple-Gyanvapi mosque complex. The mosque management committee had approached to the SC against the order of the civil judge and sought stay relied under the Places of Worship Act, 1991.

- The SC didn't stop the judicial proceeding under the act of 1991, rather it ordered the transfer of the case to a more experienced bench.

Gyanvapi Mosque Dispute

- It is widely believed that Gyanvapi Mosque in Varanasi was built during the reign of Aurangzeb on the ruins of ancient Temple.
- The accounts of Mughal period historians such as Saquib Khan and British archaeologist James Prinsep endorsed this view.
- The matter is in the Civil Court of Varanasi since 1991.

What Is 'The Places Of Worship Act'?

- The act prohibits the conversion of any place of worship and provide for maintenance of religious character of any place of worship as it existed on the 15th August 1947.
- **Section 3** of the act bars the conversion, in full or part, of a place of worship of any 'religious denomination' into a place of worship of a different religious denomination — or even a different segment of the same religious denomination.
- **Section 4(1)** declares that the religious character of a place of worship shall continue to be the same as it existed on August 15th, 1947.
- **Section 4(2)** says that any suit or legal proceeding relating to conversion of religious character of any place of worship existing on August 15th, 1947, pending before any court shall be removed and no fresh suit/proceeding shall be instituted.
- **Section 4(3)** provides exception to the general rule in following cases:
 - a. If the place of worship is an archaeological site/historical monument or covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958 or any other such laws.
 - b. Any suit/proceeding relating to the conversion of place of worship settled/disposed of by any court or related authority before the commencement of the act.
 - c. Any dispute settled by parties among themselves before the commencement of the act.
 - d. Any conversion of such places by acquiescence, effected before the commencement of act.
 - e. Any conversion before the commencement of the act which is not liable to be challenged in any court of law due to limitation under any law.
- **Section 5** says that the Act doesn't apply to Ramjanambhoomi-Babri Masjid Case.

As per the Act, an "ancient monument" is "any structure, erection or monument, or any tumulus or place of interment, or any cave, rock-sculpture, inscription or monolith, which is of historical, archaeological or artistic interest and which has been in existence for not less than one hundred years."

Why The Act Was Enacted In 1991?

- The Act was brought when the Ram Temple Movement was on its peak. There were several incidences of violence due to rath yatra and mobilization of kar-sevaks.
- Moving the Bill, then Home Minister argued that the Act will effectively prevent any new controversies from arising relating to conversion of places of worship.
- The opposition BJP opposed the bill then stating that it will lead to preserving tension for future generation.

Contention Related To The Act

The petition challenging the constitutional validity of the Act is pending in the SC. A plea to revisit The Places of Worship Act, 1991, has been filed on the following grounds:

- **Arbitrariness:** The petitioners have challenged it on the ground that the Act bars '**judicial review**', a basic structure of the constitution by imposing an arbitrary, irrational and retrospective cut-off date.

- **No remedy:** The petitioners also argue that the Act abridges the right to religion of Hindus, Sikhs, Buddhists and Jains. The Act has barred the **remedies against illegal encroachment** on the places of worship and pilgrimages and now Hindus, Jains, Buddhists, Sikhs cannot file suit or approach Courts under Article 32 (Writ in Supreme Court) or Article 226 (Writ in High Court).
- **Beyond legislative jurisdiction:** The Act is “unconstitutional and beyond Parliament’s law making power” as it has “frustrated” the principle of law ‘ubi jus ibi remedium (where there is a right, there is a remedy)’, “thus violating the concept of justice and Rule of Law, which is core of Article 14”.
- **Impinge Fundamental Rights:** Article 13(2) also prohibits State from making any law which takes away or abridges fundamental rights conferred under **Part-III** of the Constitution and thus the petition has questioned how any law can **bar** the right to seek judicial review of a grievance.
- **Against religious right:** Act violates Article 25 of the Indian Constitution — Freedom of conscience and free profession, practice and propagation of religion.
- The SC has issued notice to the Union government. The government has not filed its reply yet.

SC Observations Of The Act In Ramjanambhoomi-Babri Masjid Title Suit Judgement, 2019

- The cut-off date of August 15th 1947 mentioned in the Act is significant. The parliament by enacting the Act determined that independence from colonial rule provides a constitutional basis for healing the injustices of the past by providing confidence to every religious community with regard to preservation of their place of worship.
- The state has enforced a constitutional commitment and obligation on itself through the Act to uphold the equality of all religions and secularism which is part of the basic structure of the constitution.
- The Act preserves non-retrogression of essential feature of Indian secular values.

SC Order On Sex Trade

SC has ordered that no criminal action should be taken against consenting **adult sex workers** as they are entitled to fundamental rights of dignity and equal protection of law.

- According to National Aids Control Organisation, a division of the Ministry of Health & Family Welfare, there are approximately 9 lakh sex workers in India.

Background

- In 2011, SC appointed a panel on rehabilitation of sex workers headed by Pardeep Ghosh while hearing a case of Budhadev Karmaskar vs State of West Bengal. The panel has given 10 recommendations broadly. The panel submitted its report in the year 2016.
- In 2013, Justice Verma committee acknowledged the difference between trafficked women exploited for sexual harassment and consenting adult women sexual workers.
- In 2020, NHRC recognised sex workers as informal worker.

Previous Judgements

- In Kajal Mukesh Singh vs State of Maharashtra (2021), the Bombay High Court said “Prostitution is not an offence, a woman has a right to choose her vocation”.
- In Manoj Shaw vs State of West Bengal (2003), the Calcutta High Court observed that sex workers should be treated as victims of crime rather than the accused.
- In Budhadev Karmaskar vs State of West Bengal (2011), the High Court observed that sex workers are also entitled to live a dignified life as guaranteed under **Article 21** of the Constitution.

Ujjawala Scheme

- The Ujjawala scheme was launched in **2007** by the **Ministry of Women and Child Development**, to put an

end to the trafficking of children and women.

- The objective of the scheme is to prevent, rescue, rehabilitate, reintegrate, and repatriate victims trafficked for commercial sexual exploitation.
- This scheme is helping the beneficiaries by making a change in their life.

Issues Related To Sex Workers

- Social stigmatisation due to criminalization of sex trade.
- Physical and psychological abuse from clients, members of law enforcement authorities and family members.
- Financial exploitation by middlemen, traffickers, police etc.
- Denial of access to public services such as free ration, voting right etc. due to lack of proof of residence and identity.
- Access to essential health services that include treatment for HIV/AIDS and sexually transmitted diseases are denied.
- Most of them do not have access to clean and safe housing, as they are refused outrightly by owners or the society.
- With most entering the trade due to lack of money, they set up shop in dingy places, and at times what they earn is also taken away from them by the police as a bribe or stolen from them.

Highlights Of The Judgement

SC exercise power under **Article 142 of the constitution** (it enables SC to pass orders necessary to do complete justice) to give direction to ensure that Centre/States must implement and act in strict compliance of certain recommendations made by the SC appointed panel. The direction of the SC will hold the ground till a legislation is made by the Centre.

Guidelines Issued

- Provision for immediate medical assistance to any sex workers who is victim of sexual assault.
- Direction to states to do a survey of all protective homes under **Immoral Trafficking (Prevention) Act** so that cases of adult women who are detained against their will can be reviewed and processed for release in a time-bound manner.
- Sensitizing police and other law enforcement agencies about the rights of sex workers so that they should be prevented from abuse and treated with dignity.
- Press council of India must issue an appropriate guideline for the media to take utmost care not to reveal the identities of sex workers. It stated that the offence of voyeurism under Section 354C of IPC should be enforced if media publishes the pictures of sex workers with their clients.
- Anything that is adopted as preventive measures by sex workers for their health and safety e.g., Condom, must neither be considered as an offence nor to be seen as evidence of commission of an offence.
- Educating sex workers with the help of State and district Legal Service Authority about their legal rights as sex workers to protect them from any form of harassment.
- A child of a sex worker should not be separated from the mother merely on the ground that she is in the sex trade. if a minor is found living in a brothel or with sex workers, it should not be presumed that the child was trafficked.
- In case the sex worker claims that he/she is her son/daughter, tests can be done to determine if the claim is correct and if so, the minor should not be forcibly separated
- The court ordered the police to not discriminate against sex workers who lodge a criminal complaint, especially if the offence committed against them is of a sexual nature.

- Recommendations of the panel which remain pending due to reservation from the central government. These recommendations are:
 - No criminal action against consenting adult sex workers.
 - Arresting brothel owner only and not the sex workers during raid on brothel.
 - Involving sex workers in decision making process.
 - Children of sex workers should not be separated merely on the ground that she is in sex trade.

It is high time that the Immoral trafficking (prevention) Act, 1956 should be amended to make a distinction between trafficked women exploited for sexual harassment and consenting adult women sexual workers. The sex trade should be recognized from laborer's perspective so that adequate protection and rehabilitation could be provided to sex workers.

Delay In Election Of Local Bodies

The polls are staggering for 23000 rural local bodies and 321 urban local bodies (ULBs) in Madhya Pradesh (MP) for years.

- The government of MP has argued in SC that the polls are on hold due to delimitation exercise (introduction of OBC reservation and the subsequent modification of number and extent of wards).
- The Honorable SC ordered MP election commission to announce election program for these local bodies.

Madhya Pradesh Government's Argument

- The state government contended that OBCs constitute around 50% of the population of the state and not granting them reservation in local bodies would be injustice to them.

About Order of SC

- The order noted that years of delay in conducting election in MP borders on the breakdown of rule of law.
- It also declared that state election commission across the country can't skip its constitutional obligation to conduct polls to local bodies every 5 years.
- The ongoing activity of delimitation or formation of wards/panchayats cannot be a legitimate ground for delaying polls.
- The court observed that as and when the formalities of "triple test" are completed, that can be reckoned for future elections to be held thereafter.
- However, elections which are already due cannot be delayed on that count in view of the constitutional mandate.
- The court directed the Madhya Pradesh State Election Commission to conduct pending local body polls in the State without any delay and as per the seat allotment in place prior to the ongoing delimitation exercise.

What is a "Triple Test"?

In a landmark judgement in the **K.Krishna Murthy & Ors. Vs. Union of India** (2010), the Supreme Court had laid down a triple test for reserving seats in local body polls.

The triple test includes –

- Setting up a **dedicated Commission** to conduct rigorous **empirical inquiry** into the nature of backwardness.
- Specifying the **proportion of reservation** to be provisioned so as to not fall foul of overbreadth.
- Such reservation **shall not exceed aggregate of 50% of total seats** reserved in favour of SC/ST/OBCs together.

A three-judge bench in **Vikas Kishanrao Gawali Vs. The State of Maharashtra and Others** in March 2021, upheld that the **triple test is a necessary precondition for reservation to OBCs in local bodies**

INTERNATIONAL RELATIONS

Financial Crisis in Pakistan

Saudi Arabia has agreed to provide Pakistan with a sizeable package of around **\$8 billion** to help revive its ailing economy.

Key Highlights Of The Financial Package

- The financial package includes:

doubling of the oil financing facility (the oil financing facility will enable the purchase of petroleum products on a deferred payment basis)

additional money either through deposits or Sukuks (a sukuk is an Islamic financial certificate, similar to a bond in Western finance)

rolling over of the existing \$4.2 billion facilities

Help Extended By Saudi Arabia To Pakistan In The Past

- In December 2021, Saudi Arabia provided **USD 3 billion** deposits to the State Bank of Pakistan.
- The Saudi oil facility was operationalized from March 2022, providing Pakistan with USD 100 million to procure oil.
- From 2013-18, Saudi Arabia had provided Pakistan with a USD 7.5 billion package.
- Under the regime headed by Imran Khan, Saudi Arabia provided
 - o Package of USD 4.2 billion, including USD 3 billion deposits and a USD 1.2 billion oil facility for one year and linked it with an IMF programme.

Ailing Economy of Pakistan

- Pakistan has been facing growing economic challenges, including **high inflation, sliding forex reserves, a widening current account deficit and a depreciating currency**.
- Its foreign exchange reserves have depleted by \$6 billion in the last six to seven weeks and nosedived to \$10.5 billion.
- The current account deficit stood at \$13.2 billion in the first nine months and there is a pressing requirement for external loan repayment.
 - o For this, Pakistan requires financial assistance of \$9-12 billion till June 2022 to avert further depletion of foreign currency reserves.

Reasons Of The Present Economic Crisis In Pakistan

Pakistan's Short-sighted Policy Decision

- The present crisis is primarily attributed to Pakistan's policy decision leading to extensive spending on non-developmental and economically unviable projects.
- The infrastructure projects like **Gwadar-Kashgar Railway line** were financed through long-term debt instruments.
- Pakistan relied massively on external borrowing rather than from domestic institutions which added to its troubles.

CPEC Projects

- Roll out of the China–Pakistan Economic Corridor (CPEC) increased the debt burden opening the doors of the ever-increasing external loans.
- Notably, CPEC created a Chinese debt of US\$ 64 billion on Pakistan which was originally valued at US\$47 billion during 2014.

Persistent Fall in the Pakistani Rupee Against the US Dollar

- This has further contributed to the ballooning external debt.

Role of International Institutions

- Low ranking by international rating agencies and **grey listing** of Pakistan in Financial Action Task Force (FATF) kept foreign investors away.
- The State Bank of Pakistan data suggests that in the past 10 years, FDI inflows into Pakistan never exceeded 1% of GDP.
- The vicious cycle of seeking fresh loans and repaying old ones has led Pakistan into the notorious ‘debt trap’.

Other Reasons

- Pakistan has been struggling with mounting trade deficit driven by its ever-increasing import bills and falling exports.
- In February 2022, ADB reported that Pakistan has one of the **lowest trade-to-GDP ratios** in the world.
- The outbreak of the Covid-19 pandemic further deteriorated the situation.
- Inflation in Pakistan touched its highest level in November 2021. This is primarily because of the global rise in crude oil prices.

Impact on India

On Trade volume

- Bilateral trade between these two countries had been abysmally low in the past. It was around \$2.3 billion in 2016-17.
- After the Pulwama terror attack (2019), India withdrew the **MFN status** to Pakistan. India also raised customs duties on goods being imported from Pakistan up to the bound level duty rates.
- **India’s exports to Pakistan dropped nearly 60% to USD 816.62 million, and its imports fell 97% to USD 13.97 million in 2019-20.**
- Hence, given the low trade volume between two countries, the present crisis will not have any noticeable impact on bilateral trade.

Increased presence of China

- The present crisis in Pakistan will give space to increased presence of China in the India’s neighbouring country

Threat to internal security

- The economic crisis in Pakistan will provide a fertile ground for terrorism and radicalism to flourish. It will also embolden the military of Pakistan.
- Relationship between New Delhi and Islamabad has particularly deteriorated after India abrogated Article 370. Hence, the present crisis might create challenges for India’s internal security.

EU Slaps Anti-Trust Charge Against Apple

EU stepped up its antitrust case against Apple by accusing the company of abusing its dominant position by *limiting access to technologies allowing contactless payment*.

Background

- European Union's executive arm, the **European Commission**, has been investigating Apple since 2020.
- Following this investigation, the European Commission has submitted its preliminary investigation report in which Apple has been charged with antitrust case.

Charges against Apple

Apple has abused its dominant position

- European Union regulators said that Apple had broken **antitrust laws** by **unfairly undercutting companies whose payment services compete with Apple Pay**.
- Apple has not allowed **PayPal** and others to access technology in the iPhone and Apple Watch that lets people make a purchase with a quick tap.

Apple restricts competition

- It claims that the firm is restricting competition by preventing **mobile wallet app developers** from accessing the necessary hardware and software on Apple devices.
- Mobile wallets rely on near-field communication (NFC), which uses a chip in the mobile device to **wirelessly communicate** with a merchant's payment terminal.
- Apple blocks rival services from accessing the hardware and software on its devices that enables NFC with merchant's payment terminal.

What Happens Now?

- Apple will now have a chance to respond before a final judgment is announced.
- The company could be fined up to 10% of its global revenue. It could also reach a settlement with regulators.

Antitrust Policy of EU

- EU Antitrust policy is developed from **Articles 101 and 102** of the **Treaty on the Functioning of the European Union (TFEU)**.
 - **Article 101** prohibits anti-competitive agreements between two or more independent market operators.
 - **Article 102** prohibits abusive behaviour by companies holding a dominant position on any given market.
- Under these articles, European Commission is empowered to start investigation on charges of companies abusing their dominant position to scuttle competition.

European Commission (EC)



- The European Commission is the **EU's politically independent executive arm**
- EC is known as the guardian of the treaties.
 - It is due to its responsibility to represent the European interest and enforce the **treaties and legislation** that provide the legal foundation for the EU.
- Its members consist of a team of **27 Commissioners (one from each EU country)** – led by the Commission President.
- It is located at Brussels (Belgium).

Functions

- It is alone responsible for **drawing up proposals for new European legislation**, and it implements the decisions of the European Parliament and the Council of the EU.
- It is also responsible for upholding EU treaties and managing the day-to-day business of the EU.
- It also has legislative functions and judicial functions.
 - **Legislative functions** - proposing new laws for the European Parliament,
 - **Judicial functions** - finding legal solutions to business and trade issues between countries within the EU.

Bangladesh Offers Chittagong Port For Use To India

Bangladesh PM Sheikh Hasina offered India the use of the **Chittagong Port**. This port would be of benefit to India's north-eastern States, particularly Assam and Tripura. Meghalaya and Mizoram could also benefit from access to the port.

What Does The Bangladesh PM's Offer Mean?

- Assam, Meghalaya, Tripura and Mizoram — share a 1,879 km border with Bangladesh. The Northeast has been the key to the increase in bilateral engagements between India and Bangladesh in recent years.
- With a special focus on railways and waterways, many of the pre-Partition trade routes are being revived.
- Most of these roads lead to Chittagong port, which has historically been the largest and the most convenient for trade and commerce for the region.
- Against this backdrop, the current offer of Bangladesh will help these states to flourish economically.



Activities On The Ground To Increase The Connectivity

- In March 2021, the Prime Ministers of the two countries **inaugurated the Maitri Setu**, a bridge built over the Feni River. This has reduced the distance between Sabroom in southern Tripura and the Chittagong port to just 111 km.
- The government is working on a **multi-modal transit hub at Sabroom** that can help goods reach the Chittagong port in a few hours.
- Road connectivity in Meghalaya's Dawki, southern Assam's Sutarkandi and Tripura's Akhaura linking eastern and south-eastern Bangladesh is also being improved.
- Apart from the **India-Bangladesh Protocol Route involving the Brahmaputra**, cargo ships from Bangladesh have reached Tripura through the Gomati River and Assam's Karimganj via the Kushiya River.

Mujib-The Making Of Nation

- The first trailer of the **feature film, 'Mujib- the Making of a Nation'**, was unveiled at the Cannes Film Festival.
- This year, India was the Country of Honour at the Marche du Film, or Cannes Market, which runs parallel to the Cannes Film Festival.
- The film is a biopic of the founder and first Prime Minister of Bangladesh, Bangabandhu Sheikh Mujibur Rahman.
- The feature film directed by Indian filmmaker Shyam Benegal is a co-production of India and Bangladesh.
- It is a tribute to the great leader on his birth centennial and to mark the 50 years of Bangladesh's formation.

Visit of PM Modi to Nepal

PM Modi paid an official visit to Lumbini on the occasion of Buddha Purnima. This was his **fifth visit to Nepal since 2014**.

Key Highlights Of The Visit

A. India International Centre for Buddhist Culture and Heritage

- PM Modi launched the construction of the **India International Centre for Buddhist Culture and Heritage** during a day-long visit to Lumbini in Nepal.

- The construction of the India International Centre for Buddhist Culture & Heritage is to be undertaken by the **International Buddhist Confederation (IBC), India**, with financial support from the Ministry of Culture.
 - The IBC is a grantee body under the Ministry of Culture and it was registered in November 2012.
 - It aims to propagate and preserve the teachings and heritage of the Buddha across the world, and especially in India's immediate neighbourhood.
- Most foreign nations, including US, China, Canada, France, Germany etc. have already built their centres in Lumbini as an instrument of promoting Buddhist philosophy.

B. MoUs Signed

- The Indian Council for Cultural Relations (ICCR) will sign two MOUs with authorities in Nepal:
 - One on setting up the Dr B R Ambedkar Chair for Studies on Buddhism at Lumbini University and
 - Another on a Chair Professor at Kathmandu University.

C. Sister City Relations Between Lumbini and Kushinagar

- The two sides agreed in principle to establish sister city relations between Lumbini and Kushinagar.

Trans-national Buddhist Tourist Circuit

- India's Ministry of Tourism has collaborated with Nepal to **build a trans-national Buddhist Tourist Circuit** to trace the footsteps of Buddha.
 - This circuit will be starting from *Lumbini* and concluding at *Kushinagar*.
 - An international airport was recently inaugurated at Kushinagar.
- This circuit will be in addition to the project to build the **Ramayana circuit** linking various sites in the two countries.

Analysis Of This Visit

A. Use of soft power

- His brief visit to Lumbini was focused on **bringing soft power to the centre stage** of India-Nepal relations.
- This also marked **India's formal presence at the holy site** that's barely 10 km away from the border.

B. Countering China

- 'The PM's visit to Lumbini comes amidst China's evident interest in Lumbini.
- Almost a decade ago, China had offered to build Lumbini as a world peace centre at a cost of three billion dollars. China is also holding talks on bringing its railway right up to Lumbini.

{For more details, refer the topic "Visit of the Prime Minister of Nepal to India" from April 2022 Recitals}

PM Modi's Meeting With President of the USA

- On the sidelines of Quad summit, PM Modi met with President of the USA in Tokyo.
- The two Leaders welcomed the **signing of the Investment Incentive Agreement**.
 - This agreement enables the US Development Finance Corporation to continue providing investment support in India in sectors of shared priority such as healthcare, renewable energy, SMEs, infrastructure etc.
- Both sides launched an **India-U.S. Initiative on Critical and Emerging Technologies (iCET)** to facilitate outcome-oriented cooperation.
 - iCET would be co-led by the National Security Council Secretariat in India and the U.S. National Security Council.

- It would forge closer linkages between government, academia and industry of the two countries in areas such as AI, quantum computing, 5G/6G, biotech, space and semiconductors.
- India and USA extended the longstanding **Vaccine Action Programme (VAP) until 2027** to continue joint biomedical research which had resulted in development of vaccines and related technologies.

US Becomes India's Biggest Trading Partner

The US surpassed China to become India's top trading partner in 2021-22, reflecting strengthening economic ties between the two countries.

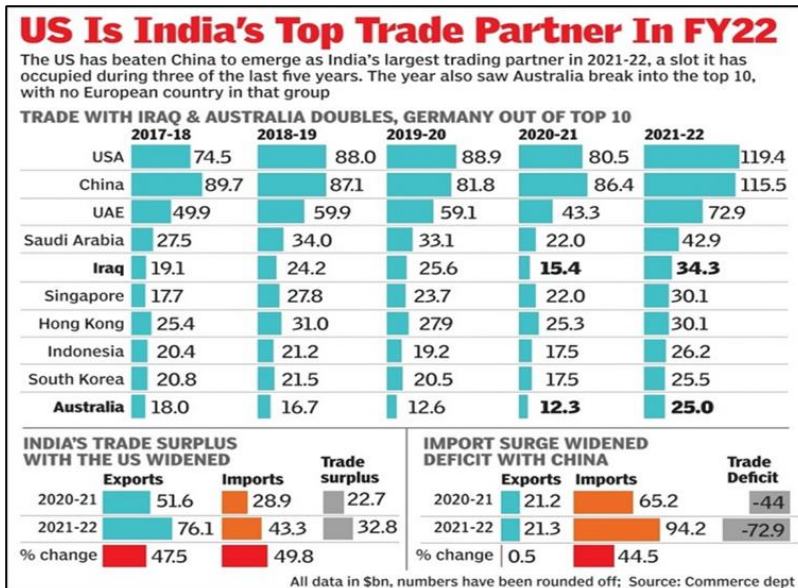
Key Highlights: Statistics

1. Bilateral Trade Between India and US in 2021-22

- According to the data of the Commerce Ministry, in 2021-22, the bilateral trade between the US and India **stood at \$119.42 billion**. It was \$80.51 billion in 2020-21.
- Exports to the US increased to \$76.11 billion in 2021-22 from \$51.62 billion in previous fiscal year. Imports from US rose to \$43.31 billion as compared to about \$29 billion in 2020-21.

- America is one of the few countries with which India has

a **trade surplus**. In 2021-22, India had a trade surplus of \$32.8 billion with the US.



2. Bilateral Trade With China

- During 2021-22, India's two-way commerce with China aggregated at \$115.42 billion as compared to \$86.4 billion in 2020-21.
- Exports to China marginally increased to \$21.25 billion last fiscal year from \$21.18 billion in 2020-21.
- On the other hand, imports from China jumped to \$94.16 billion from about \$65.21 billion in 2020-21.
- Trade gap rose to \$72.91 billion in 2021-22 from \$44 billion in previous fiscal year.

3. Trade With Other Countries

- In 2021-22, the UAE with \$72.9 billion, was the third largest trading partner of India.
- It was followed by Saudi Arabia (\$42.85 billion), Iraq (\$34.33 billion) and Singapore (\$30 billion).

SUMMITS AND ORGANISATIONS

2nd India-Nordic Summit

- PM Modi participated in the **second India-Nordic summit** in Copenhagen, hosted by Denmark, along with the Prime Ministers of Denmark, Iceland, Finland, Sweden and Norway.
 - The first India-Nordic summit took place in Stockholm, Sweden, in **2018**.
- The summit provided a unique opportunity for India to expand cooperation with the Nordic nations.

Significance of Nordic Countries for India

- The Nordic nations of Denmark, Sweden, Norway and Finland are believed to be some of the *most advanced economies in Europe*.
- It can play a crucial role in India's quest for **clean energy, sustainability, digitisation and innovation**.
- At present, India's trade with the Nordic countries is more than **\$5 billion** (2020-21). Cumulative FDI stood at over \$3 billion between April 2000 and March 2021.
- India-Nordic cooperation holds immense significance for **India's Arctic Policy**. This will provide opportunities for increased co-operation in the Arctic on polar research, climate and environmental issues.

Bilateral Meeting On The Sidelines Of India-Nordic Summit

PM Modi held a series of bilateral meetings with his counterparts from Nordic countries which includes Norway, Sweden, Iceland and Finland

Meeting Norwegian counterpart Jonas Gahr Store

- This was the first meeting between the two leaders since the assumption of office by Prime Minister Store in October 2021.
- PM Modi highlighted that Norway's skills and India's scope provided natural complementarities.
- Both leaders discussed the potential for deepening engagement in areas like Blue Economy, renewable energy, green hydrogen etc.

Meeting with Prime Minister of Sweden, Magdalena Andersson

- During this meeting, the two leaders expressed satisfaction at the progress made by the Lead IT initiative.
 - This was an India-Sweden joint global initiative to set up a **Leadership Group on Industry Transition (LeadIT)** in September 2019.
 - It was set up at the UN Climate Action Summit to help guide the world's heaviest greenhouse gas (GHG) emitting industries towards the low-carbon economy.
- Technology, Investment and R&D collaborations provide the bedrock of the current relationship between these two countries.
- During the 2018 visit of PM Modi to Sweden, the two sides had adopted a wide-ranging Joint Action Plan and signed a Joint Innovation Partnership.
 - In 2018, PM Modi visited Sweden on the occasion of the 1st India-Nordic Summit.

Meeting with Prime Minister of Iceland, Katrin Jakobsdottir

- This year both countries are **celebrating the 50th anniversary of establishment** of diplomatic relations.
- Both leaders discussed ways to further strengthen economic cooperation especially in the sectors of

geothermal energy, Blue Economy, Arctic, etc.

- Geothermal energy, in particular, is an area where Iceland has special expertise.
- In this regard, both sides stressed on collaboration between universities of both countries in this sector.
- Discussions also took place on expediting the India – EFTA (European Free Trade Association) trade negotiations.

Meeting with Prime Minister of Finland, Sanna Marin

- This was the first in-person meeting between the two leaders.
- Both leaders noted that areas like sustainability, digitalization and cooperation in science and education were important pillars of the bilateral partnership.
- They discussed opportunities to expand cooperation in the fields of new and emerging technologies like AI, quantum computing, future mobile technologies, clean technologies and smart grids.

India Elected As Chair Of The Association of Asian Election Authorities

- India has been unanimously elected as the new Chair of the **Association of Asian Election Authorities (AAEA)** for **2022-2024**.
- It was elected at the recently held meeting of the Executive board and General Assembly at **Manila** (current chair of AAEA), Philippines.

About AAEA

- AAEA was conceived to promote and institutionalize open and transparent elections, independent and impartial election authorities, professionalization of Asian election authorities.
- This important process to establish AAEA began with the January **1997** Symposium in Manila.
- In pursuance of the resolution passed by participants of the Symposium, the Association of Asian Election Authorities (AAEA) was finally established in **1998**.
- Election Commission of India is a **founder member** of the AAEA and also served on the Executive Board of the AAEA as the Vice Chair during 2011-13 and Chair during 2014-16.
- Currently, 20 Asian Election Monitoring Bodies are members of AAEA.
- AAEA is an **Associate Member** of 118 members **Association of World Election Bodies (A-WEB)**.
- The **mission** of the AAEA is



To provide a non-partisan forum in the Asian region for sharing experiences and best practices among election authorities

To act upon ways to promote open and transparent elections with the objective of supporting good governance and democracy

'Hindi @ UN' Project

- India has contributed USD 800,000 to the United Nations as part of the initiative to enhance public outreach of the organisation in Hindi.
- The Govt of India has been making continuous efforts to expand the use of Hindi in the United Nations.
- As part of these efforts, '**Hindi @ UN**' project, in collaboration with the **UN Department of Public Information**, was launched in **2018**.

- This project was launched with an objective:
 - To enhance the public outreach of the United Nations in Hindi language, and
 - To spread greater awareness about global issues among millions of Hindi-speaking people around the world.
- India has been partnering with the **UN Department of Global Communications (DGC)** since 2018 by providing an **extra-budgetary contribution** to mainstream and consolidate news and multimedia content of DGC in Hindi.
 - Since 2018, the UN News in Hindi is disseminated through the UN's website and social media handles and a UN Facebook Hindi page.
 - A UN News-Hindi audio bulletin (UN Radio) is released every week.

Extra Mile

- **Official languages of the UN:** Arabic, Chinese, English, French, Russian and Spanish. These 6 languages are used in UN meetings and in these 6 languages all official UN documents are written.
 - India is making efforts to get Hindi recognized as the official United Nations language.
- **Working languages of the UN Secretariat:** English and French are the two working languages.
- **Process to recognize a language as the official language of the UN:** A resolution should be adopted by the UN General Assembly (UNGA) with at least a two-thirds majority.

75th World Health Assembly

- The Seventy-fifth World Health Assembly was held in **Geneva, Switzerland**. It was the *first in-person* Health Assembly since the start of the COVID-19 pandemic.
- Theme of this year's Health Assembly was: **Health for peace, peace for health**.
- Union Health Secretary Rajesh Bhushan has been appointed as the chairperson of the Committee B at the summit.
 - The Assembly functions through two committees -- A and B.
 - The Committee A meet to debate technical and health matters.
 - Committee B primarily discusses administrative and financial matters of the WHO.

Key Outcome

- At the 75th World Health Assembly, Member States adopted a landmark decision to **improve the WHO's financing model**.
- WHO's current financing model has been identified by many experts as **posing a risk to the integrity and independence of its work**.
 - WHO's over-reliance on *voluntary contributions*, with a large proportion earmarked for specific areas of work, results in an ongoing misalignment between organizational priorities and the ability to finance them.

About the World Health Assembly

- The World Health Assembly is the **decision-making body of WHO**. It focuses on a specific health agenda prepared by the Executive Board.
- The main functions of the World Health Assembly are to:
 - determine the policies of the Organization, appoint the Director-General, supervise financial policies, and review and approve the proposed programme budget.
- The Health Assembly is held annually in Geneva, Switzerland.

International Migration Review Forum

- The **first International Migration Review Forum (IMRF)** took place at the United Nations Headquarters in New York. It was **hosted by the President of the UN General Assembly**.
- The Forum serves as the primary intergovernmental global platform for Member States to assess and deliberate on implementation of the Global Compact for Safe, Orderly and Regular Migration.

Global Compact for Migration

- In December 2018, UN General Assembly adopted the historic **Global Compact for Migration**.
- It is considered as a blueprint for helping millions of migrants worldwide achieve a life of safety and dignity.
- It is a **non-binding agreement**, which aims to better manage migration at *local, national, regional and global levels*, including reducing the risks and vulnerabilities the migrants or refugees face at different stages of their journey.

India Hosts SCO-RATS Meet

- India hosted a three-day meeting under the framework of the **SCO's** (Shanghai Cooperation Organisation's) **Regional Anti-Terrorist Structure (RATS)**.
- India assumed the chairmanship of the Council of RATS in Oct' 2021 for a period of one year.
- A major focus of the discussions was to be on the situation in Afghanistan, especially in dealing with the threat from terror groups active in the Taliban-ruled country.
 - India has not recognised the Taliban regime in Afghanistan.
 - It has been pitching for the formation of a truly inclusive government in Kabul.
 - It is also insisting that Afghan soil must not be used for any terrorist activities against any country.

For more on SCO, refer The Recitals – September 2021.

WEF Annual Meeting 2022

The World Economic Forum Annual Meeting was held at Davos, Switzerland.

Theme of this year's summit was - '**Working Together, Restoring Trust**'.

Key Highlights

Global Digital FDI Flows Launched

- The summit saw launching of a new initiative to boost flows of digital foreign direct investments globally.
- It is a joint initiative of the **Digital Cooperation Organization (DCO)** and the **WEF**.
 - The DCO focuses on digital economy initiatives supporting youth, startup entrepreneurs and women.
 - It has nine member states with a combined GDP of nearly USD 2 trillion and a population of nearly 600 million.
- The agreement will see the DCO and WEF work together to identify methods to increase digital adoption, investment in new digital activities, and investment in digital infrastructure.
- Under the initiative, DCO and WEF will launch Digital FDI Enabling Projects in countries around the world.

Defining and Building the Metaverse

- The Forum announced a new initiative, **Defining and Building the Metaverse**.
 - The metaverse refers to a **virtual world** where people can live, work and play via an avatar.

- It doesn't actually exist yet, but tech companies are investing billions of dollars into developing the technology.
- This initiative brings together key stakeholders to build an economically viable, interoperable, safe, and inclusive metaverse.
- Research suggests that the metaverse is expected to grow into an \$800 billion market by 2024.

India at Davos 2022

1. Launch of Indian CEO Alliance

- The Forum launched the India chapter of the Alliance of CEO Climate Action Leaders to supercharge India's climate action and decarbonization efforts.
- Part of the WEF's Climate Action Platform, the Alliance will continue efforts to achieve the vision of **Mission 2070: A Green New Deal for a Net Zero India**, on India's low-carbon transition by 2070.

2. India Leading The Transition To Green Energy

- The participating Indian leaders highlighted the fact that:
 - 60 million people go to fill up their tanks every day in India; 5 million barrels a day is the Indian consumption.
 - The aim of a 20% ethanol blend has been pushed **ahead** from 2030 to **2025**.
 - Green hydrogen, biofuel discovery, and production from alternate sources are being prioritised.

3. New \$15 Million Investment To Tackle Freshwater Crisis

- With record-breaking heatwaves and droughts affecting the country, the meeting took some substantive action on *freshwater conservation and management*.
- Global conglomerate HCL announced a partnership with **UpLink**, the open innovation platform of the WEF.
- Through a \$15 million investment over five years, HCL will accelerate the innovation agenda for water.
- It will create a first-of-its-kind innovation ecosystem for the global freshwater sector on UpLink.

4. Maharashtra Joins WEF in the Fight Against Plastic Pollution

- Maharashtra, India's largest state in terms of GDP, has joined the World Economic Forum's Global Plastic Action Partnership (GPAP).
- It has joined the platform to drive localized solutions for the circular economy.

WORLD ECONOMIC FORUM

Davos meet

- Annually, the WEF organizes a meeting at the end of January in Davos, a mountain resort in Graubünden, in the eastern Alps region of Switzerland.
- The Annual Meeting, also known as the Davos Agenda, has the objective of orienting global leaders on the imperatives of the year ahead.

Reports published

- WEF also produces a series of annual reports such as – Global Competitiveness Report, Global Information Technology Report, Global Gender Gap Report, Global Risks Report, Global Travel and Tourism Report etc.

- It is the international non-governmental organization for Public-Private Cooperation.
 - It was founded in January 1971 by German engineer and economist **Klaus Schwab**.
- The Forum engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas
 - It has no independent decision-making power.
- **HQ:** Cologny-Geneva, Switzerland.

Tour of Duty Scheme

- The Army is finalising the finer details of the **Tour of Duty plan**, which is planned to replace the existing structure of joining the force. The final structure of the programme could be ready as early as by May end.
- Once the Army approves the plan, it will be up to the government to announce and implement it.
- Defence officials are hopeful that the government will give a go ahead soon as no new recruitment has taken place for two years.

Tour of Duty Scheme

- Under this scheme, the Defence Ministry is starting a new recruitment process for the armed forces that will be for a **short span of three-years**.
- It will allow civilians of the country to join the Indian Army for three years and serve the country as an army soldier.
- The Indian Army will be the first of the three-armed forces to recruit some soldiers for a fixed period of three years.

Key Features

A. Selection

- The selected candidates will get a chance to serve the nation as officers and/or other ranks in Army.
- Initially, the number of vacancies in Indian Army would be around **100** which could be expanded later.
- The draft of the scheme states that all soldiers in Army would eventually be recruited under the model.

B. Time Period

- While initially planned as a three-year Tour of Duty, the final structure could make it for 4-5 years.
 - One-year training and two-year service after that was too short a time period.
 - At the moment jawans retire after 17 years of service.
- As per the reports, around 25% of them would serve in the Army for three years and 25% troops would serve for five years.
- The remaining 50% would continue to serve in the Army for the full term till they reach their retirement age.

C. Perks & Benefits

- Proposal states that 50% of soldiers released at the end of three and five years will be included in National Pension Scheme.
- Such soldiers will be given certain medical benefits, applicable to Armed Forces veterans, for a fixed period.
- A Tour of Duty Army officer will be earning somewhere around Rs 80,000 to Rs 90,000 per month salary.

D. Current Structure Overhauled

- Under the current structure, soldiers are inducted into the regiments based on their caste and the region where they come from.
 - This structure is an inheritance of the days of the British empire.
- However, the new structure will make it pan-India and independent of the caste.

Significance	Challenges
<p>1. <u>Foundation Stone for New India</u></p> <p>The scheme will ensure that a trained, disciplined, confident, and committed workforce is available for government jobs and to the corporate world.</p> <p>2. <u>Reduction in Defence Expenditure</u></p> <ul style="list-style-type: none"> The scheme is also expected to reduce the Army's <i>pension burden</i>, as the country has a large population of retired servicemen. For the current fiscal, the government has allocated nearly Rs 1.2 lakh crore for pensions for the Defence Ministry and the armed forces. This is about a <u>quarter of the total defence budget and larger than the capital acquisition allocation</u>. <p>3. <u>Address The Issue Of Shortage In Army</u></p> <p>There is a vacancy of more than 1 lakh Junior Commissioned Officers of Other Ranks in the Army at the moment. It will make up for the shortage of officers in the Army.</p> <p>4. <u>Increased Nationalism and Patriotism</u></p> <p>At a time, when India is grappling with various secessionist tendencies, this scheme will imbibe a nationalistic feeling among youths. This will be helpful in promoting unity and integrity of India.</p>	<p>1. <u>Might Erode Operational Readiness</u></p> <ul style="list-style-type: none"> Due to timing constraint, a Tour of Duty Officer is unlikely to be given more than 3-6 months pre-commission training. Also, they might not get any post-commission training. <p>2. <u>Commitment Will Not Be The Same As That Of A Normal Officer</u></p> <p>A tour of duty officer will consider himself in transit. He will be more concerned about what happens after three years than about his role in the army.</p> <p>3. <u>Neither Here Nor There</u></p> <ul style="list-style-type: none"> A minimum of five years is necessary to enable the individuals to earn <i>gratuity</i> as per government policy. Besides the experience and salary during the term of services, the candidate will gain nothing. <p>4. <u>Similar Schemes Already Exist</u></p> <ul style="list-style-type: none"> India has a well-established <i>Territorial Army</i> which has performed creditably in war and counter-insurgency. To give military experience even to the youth, we have the National Cadet Corps (NCC).

Conclusion

- An attractive short-term scheme, which **strikes a balance** between the standards of training and operational requirements of the armed forces and needs of the individual, is the **most cost-effective method of managing military budgets**.
- Israel has successfully implemented a mandatory three-year military service for its youths. This has helped in the nation-building process of Israel.
- However, we must keep in mind that Israel model is conscripted mandatory in national service and is not driven by patriotism per se.
- Focusing only on **neo-nationalism as the sole motivator** to join the scheme will only end up creating potential political militias.

Army's First Woman Combat Pilot

- Captain Abhilasha Barak** became the **first woman combat aviator** in the Indian Army.
- Captain Barak has been assigned to the second flight of the 2072 Army Aviation Squadron that operates the *Dhruv Advanced Light Helicopter*.
- Women officers in the Indian Air Force and the Indian Navy have been flying helicopters for long.
- However, the **Indian Army paved the way for women pilots in 2021** by starting the 'Army Aviation course'. Till recently, women were only part of ground duty in the Indian Army.

- The Supreme Court opened the doors of the academy to women in an order in October 2021 along with making them eligible for permanent commission too.

Strategic Partnership (SP) Model

- The **P-75I** phase envisages the construction of six conventional submarines with better sensors and weapons and the Air Independent Propulsion System (AIP).
- India has **16 conventional diesel-electric submarines**. After the last two Kalvari Class subs are commissioned under P-75, this number will go up to 18.
- India also has **two nuclear ballistic submarines**.
- Defence Acquisition Council cleared the project in 2019 **under the strategic partnership model**.
 - As per the plan, an Indian shipyard was selected by the government, which would nominate the foreign original equipment manufacturer (OEM).
 - After much deliberation, it was decided that state-run Mazgaon Dockyard Limited and Larsen and Toubro would be the chosen '**Selected Partner**'.
 - Besides the Naval Group, there were four companies, who were part of the bidding, including Russia's Rosoboronexport, Germany's Thyssenkrupp, Spain's Navantia and South Korea's Daewoo.

Strategic Partnership (SP) Model

- The model seeks to identify a **few Indian private companies as Strategic Partners** who would initially tie up with a few shortlisted foreign OEMs to manufacture big-ticket military platforms.
- In the initial phase, the selection of Strategic Partners would be confined to four segments - *Fighter Aircraft, Helicopters, Submarines, and Armoured Fighting Vehicles/Main Battle Tanks*.
- In each segment, only one Strategic Partner would generally be selected.

Background

- The Ministry of Defence (MoD) announced in 2017 the much-anticipated SP model for the Indian private sector. This was announced to promote Make in India in defence manufacturing.
- The model, which was first **proposed by the Dhirendra Singh Committee** (in its 2015 report), was included in the Defence Procurement Procedure 2016 (DPP 2016).

Potential Benefits

- From the private sector's point of view, the biggest benefit would be the opportunity to participate in some big-ticket contracts.
- This will also help in exploiting the private sector's dynamism, competitiveness, profit orientation, efficient utilisation of the technology, manpower and infrastructure.
- The model would help in bridging the long-standing trust gap between Indian private sector and MoD.
- Furthermore, because future orders are not guaranteed beyond the initial contract, it is in the best interests of Strategic Partners to consistently increase their competitiveness and core expertise.
- This would contribute to the establishment of a strong and credible foundation for India's military industrial complex.

Concerns

- **Lack of institutional capacity and ability:** In the past, several promising measures, especially those connected with the 'Make' and 'Buy and Make (Indian)' procedures, have failed to yield the desired results because of these shortcomings.
- **Lack of reforms:** Lack of reforms in the structures and decision-making processes surrounding

procurement and production that have inhibited the development of a strong defence industry.

- **Concern regarding the long-term viability of Strategic Partners:** This is largely due to the privileged position enjoyed by public sector entities.
- **Slow execution:** All of the SP model projects are stalled, casting doubt on the entire policy.

Advanced Towed Artillery Gun System (ATAGS)

- The **Advanced Towed Artillery Gun System (ATAGS)** successfully completed the validation trials towards meeting the specifications of the Army. It is a 155 mm, 52-calibre heavy artillery gun.
- **Indigenously developed by the DRDO jointly with the private industry.**
- It set a world record (for 155mm family) for the longest unassisted projectile range of 48 kilometres.
- It is capable of the shortest minimum range at high angle and fast mobility in desert and mountain terrain in addition to autonomous mode firing capability and wireless communication.

AIP Technology

The French company Naval Group announced that it is unable to participate in India's **P-75I project** due to conditions mentioned in the request for proposal (RFP) related to **Air Independent Propulsion (AIP)** system.

About AIP Technology

- Submarines are essential of two types: Conventional and Nuclear.

Conventional submarine

- Uses a diesel-electric engine and must surface **almost** daily for oxygen for fuel combustion

Nuclear submarine

- It is powered by a nuclear reactor. This make it completely independent of air, frees the submarine from the need to surface frequently.

- AIP is any marine propulsion technology that allows a non-nuclear submarine to **operate without access to atmospheric oxygen**. Thus, it can **augment or replace the diesel-electric propulsion system** of non-nuclear vessels.

Advantages of AIP	Disadvantages of AIP
<ul style="list-style-type: none"> • It has a force multiplier effect on lethality of a diesel electric submarine as it enhances the submerged endurance of the boat. • It enables conventional submarines to stay submerged for far longer than diesel-electric submarines. 	<ul style="list-style-type: none"> • Installing AIP increases the length and weight of the boats, requiring pressurised liquid oxygen (LOX) storage on-board. • Currently AIP technology does not produce <u>enough energy for higher speeds</u>. • Most AIP submarine also comes with noisy diesel engine as backup.

About Project 75 (I) India

- It is follow-on of the **Project 75** Kalvari-class submarine for the Indian Navy.
 - In June 1999, the Cabinet Committee on Security approved a 30-year plan for the Navy to indigenously build and induct 24 submarines by 2030.
 - In the first phase, two lines of production were to be established — the first, P-75; the second, P-75I. Each line was to produce six submarines.
 - While six P-75 submarines are **diesel-electric**, they can be fitted with AIP technology later in their lives.

- Under **Project 75 (I)**, the Indian Navy intends to acquire six diesel-electric submarines, which will also feature air-independent propulsion systems.

India's Fuel Cell-Based AIP

- India uses a **fuel-based AIP system** which is unique as **hydrogen** is generated onboard from this type of system.
- In a fuel cell-based AIP, an electrolytic fuel cell releases energy by combining **hydrogen and oxygen**, with only water as the waste product ensuring less marine pollution.
- The cells are highly efficient, and do not have moving parts, thus ensuring that the submarine has a low acoustic emission of sound.
- This technology is being successfully developed with the support of industry partners L&T and Thermax.

{For more about Project 75, refer The Recitals - November 2021}

INS Surat and INS Udaygiri

The Defence Minister launched Indian Navy destroyer warship INS Surat and frigate INS Udaygiri in Mumbai.

About INS Surat

- It is the **4th ship of Project 15B destroyers** which marks the beginning of a significant overhaul of the P15A (Kolkata class) destroyers
- The only physical distinction between the P-15A (Kolkata class) destroyer warships and the P-15B (Visakhapatnam class) destroyer warships is the bridge layout; the bridge of the P-15B warships is vastly different from that of the P-15A. It was designed to minimise radar cross-section (RCS) and enhance resilience.
- The **1st ship was Visakhapatnam** (commissioned in 2021), the **2nd Mormugao** and **3rd Imphal**.
 - Mormugao and Imphal ships have been launched and are at different stages of outfitting/ trials.
 - Mormugao is set to be commissioned in 2023 while the other two INS Imphal and INS Surat are planned to be inducted by 2025.
- The ship Surat has been built using the *Block construction methodology*.
- This methodology includes hull construction at two different geographical locations and has been joined together at MDL, Mumbai.

About INS Udaygiri

- It is the **3rd ship of Project 17A** frigates.
- The ship Udaygiri is named after a mountain range in the state of Andhra Pradesh.
- It will be **more advanced than the P17 Shivalik Class Frigates** with advanced weapons, improved stealth features, sensors and platform management system.

Project 17A

- It is follow-on of the **P17 Frigates (Shivalik Class)** with *improved stealth features, advanced weapons and sensors and platform management systems*.
- Total of **seven ships** are under construction under this project.
- The main advanced stealth features of P-17A pertain to the *smaller Radar cross-section* of the ship achieved through the use of a special super structure shape which reduces radar wave reflections.
- These have **low acoustic noise** emanating from propellers, operating machinery like Diesel Generators etc., which prevents sonars to detect its presence.

{For more about Project 15B, refer The Recitals - November 2021}

GEOGRAPHY AND ENVIRONMENT

Carbon Sequestration

- **Oil India Limited (OIL)** signed an MoU with **Assam Forest Department** for a project on Carbon Sequestration and Restoration of Degraded Forest Land in Upper **Dihing Reserved Forest**.
- The initiative has been undertaken under **OIL's CSR project Vasundhara**.
- Under the project, reforestation, and afforestation in 100 hectare of degraded forest area is planned to be undertaken through plantation of 2,50,000 saplings by March 2025.

About Carbon Sequestration

- It is the process of **capturing, securing, and storing of carbon dioxide** from the atmosphere.
- The idea is to stabilize carbon in solid and dissolved forms so that it does not cause the atmosphere to warm.
- The process shows tremendous promise for reducing the **human carbon footprint**.

Types of Carbon Sequestration

- **Biological Carbon Sequestration** - It is the storage of carbon dioxide in vegetation such as grasslands or forests, as well as in soils and oceans.



- It **absorbs 25% of carbon dioxide** annually.
- Carbon goes in both directions in the ocean. When CO₂ is released from the ocean into the atmosphere, it is called a **positive atmospheric flow**.
- A **negative flux** refers to the ocean absorbing carbon dioxide.
- Colder and nutrient rich parts of the ocean can absorb more carbon dioxide than warmer parts. Therefore, the polar regions typically serve as carbon sinks.



- Carbon is sequestered in soil by plants through photosynthesis and can be stored as soil organic carbon (SOC).
- Soil can also store carbon as carbonates.



- About 25% of global carbon emissions are captured by plant-rich landscapes such as forests, grasslands, and rangelands



- Grasslands and rangelands are more reliable than forests in modern-day because they do not get hit as hard as forests by droughts and wildfires.

- **Geological Carbon Sequestration** - It is the process of storing carbon dioxide in underground geologic formations, or rocks, also in mature oil and natural gas reservoirs, uneconomic coalbeds, deep aquifers saturated with brackish water or brine (saline), salt caverns

Benefits of Carbon Sequestration

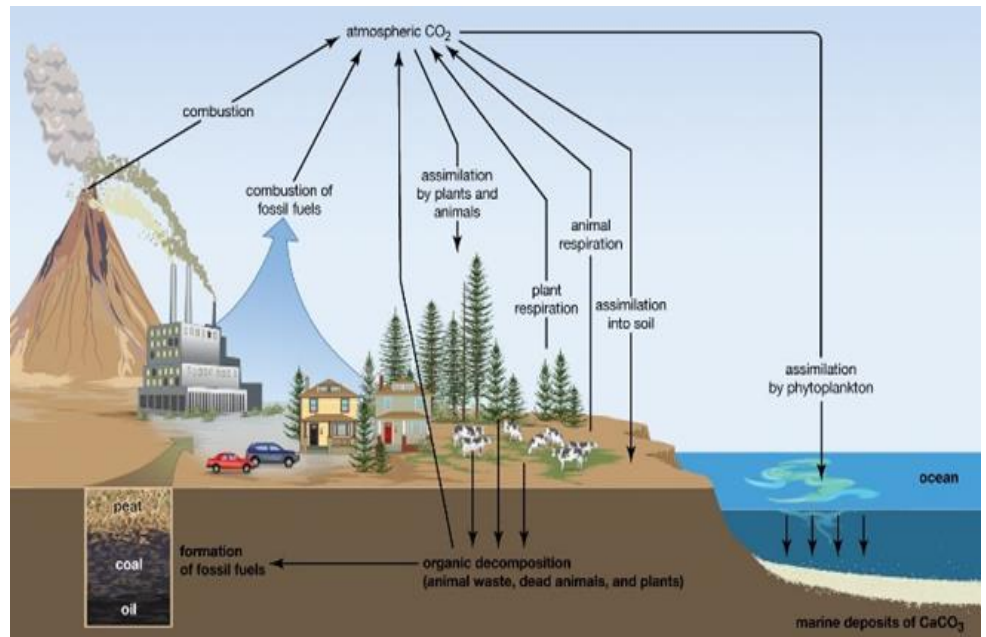
- It can be helpful in achieving **Net Zero Emission by 2050 (IPCC report)**.
- Planting trees and managing their development is a proven way to reduce the number of harmful particulates in the air.
- Less carbon in atmosphere will reduce the greenhouse gas effect and lessen the impacts of climate change.

Way forward

- The Kyoto Protocol under UNFCCC allows countries to receive credits for their carbon-sequestration activities in land use, land-use change, and forestry (LULUCF) as part of their obligations under the protocol.

- New technologies of carbon sequestration which include a geoengineering proposal called carbon capture and storage (CCS).

- In CCS processes, carbon dioxide is first separated from other gases contained in industrial emissions.
- It is then compressed and transported to a location that is isolated from the atmosphere for long-term storage.



State of The World's Forests 2022

The 2022 edition of State of the World's Forests (SOFO) released on day one of the World Forestry Congress.

About The Report

- It is the flagship publication of the **Food and Agriculture Organization (FAO) of the United Nations**, published every **two years**.
- It presents an analysis of the interaction between forests and people, with a focus on a specific pertinent topic. It explains the importance of forests to the global economy and biodiversity.

Key Findings Of This Report

- **Forest Loss**

- Forests cover 4.06 billion ha of the earth's geographical area. More than 700 million hectares (mha) of forest (18% of total forest area) is in legally established protected areas.
- The world has **lost 420 mha**, approximately 10% of its total forest area in last 30 years.
- Although the rate of deforestation was declining, 10 mha of forests were lost every year between 2015 and 2020.
- Some **47 mha of primary forests were lost** between 2000 and 2020.
- An estimated 289 mha of forests would be deforested between 2016 and 2050 in the tropics alone resulting in the emission of 169 Gt CO₂ if additional action is not taken.

- **Increase In Infectious Diseases**

- 15% of 250 emerging **infectious diseases have been linked to forests** and 30% of new diseases, reported since 1960.
- Particularly the tropic's deforestation has been associated with an increase in infectious diseases such as dengue fever and malaria.

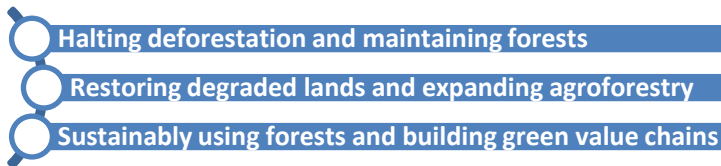
- **Increase in Global Consumption**

- Annual global consumption of natural resources is likely to **increase to 190 billion tonnes (BT)** in 2060 from 92 billion tonnes in 2017.
- Annual **biomass extraction** was expected to reach 44 BT by 2060, from 24 BT in 2017. Demand for forest-based biomass is expected to rise further, mainly due to construction and packaging

- Around a billion people in sub-Saharan Africa will keep relying on polluting fuels like charcoal and fuelwood till 2025.
- **GDP Dependence on Forests**
 - It is estimated that more than half of world GDP (USD 84.4 trillion in 2020) depends moderately or highly on ecosystem services, including those provided by forests.
 - The wealth represented by certain forest ecosystem services is estimated at \$7.5 trillion, which is 21% of the total wealth in land assets and about 9% of world GDP
 - Ecosystem services: Providing nutritious food and clean water, regulating disease and climate, supporting the pollination of crops and soil formation, and providing recreational, cultural and spiritual benefits

Suggestions Given in the Report

The report suggested **3 interrelated pathways** to achieve green recovery & tackle environmental crises



Way Forward

- We need to act now to keep global temperature increase **below 1.5°C** and conserve planet's biodiversity.
- More than 140 countries have pledged, through the **Glasgow Leaders' Declaration** on Forests and Land Use, to eliminate forest loss by 2030 and to support restoration and sustainable forestry.
- Better and more responsible land-use planning to address the underlying drivers of disease emergence.

World Forestry Congress (WFC)

- It is the **largest and most important gathering in the world's forestry sector.**
- It is held approximately **every six years** since 1926 under the aegis of the FAO, organized by the government of the host country.
- It is not an intergovernmental meeting; it has neither formal constituencies nor country delegations. It is a forum for the sharing of knowledge and experience regarding the conservation, management, and use of the world's forests.
- The objective of the WFC is to contribute to shaping international action in silvicultural aspects and to encourage global competence.

State of the World's Birds

Recently the State of the World's Birds, an annual review of environmental resources, was published.

Major Findings of This Report

- About **48%** of the existing bird species worldwide were known or suspected to be undergoing population decline.
- While 39% of the species had stable trends, about 7% species had increasing population trends.
- Humans eat 14% of the world's surviving species of birds.
- Also, humans use 37% of the surviving bird species as common or exotic pets.
- The threat has been attributed to almost half of the 10,994 recognised extant species of birds to the expanding human footprint on the natural world and climate change.
- The study reviewed changes in avian biodiversity using data from the **IUCN Red List** to reveal the changes in fortunes of all the global bird species.

India's Data

- Recent annual trends have been calculated for 146 species. Of these, nearly 80% are declining in numbers, and almost 50% plummeting strongly.
- Just over 6% of the species studied show stable populations and 14% show increasing population trends.

Reasons For The Decline

- **Degradation and loss of natural habitats** as well as direct **overexploitation** of many species are the key threats to avian biodiversity.
- Apart from tropical forests, the **threat of natural grasslands** has been particularly worrying for North America, Europe and India.

Recommendations

- The governments and research groups must **prioritise ecosystems like grasslands** because it can retain their diverse birdlife.
- **Stop purchasing birds illegally** because endangered bird species are numerous and they all attract soaring prices on the black market due to their rarity.
- **Plant native trees** because these provide proper food, nest sites, and cover for birds.
- **Reduce our carbon footprint** and **prevents pollution** of bird habitats.

Climate Change and Food Systems

International Food Policy Research Institute (IFPRI) has released **Global Food Policy Report: Climate Change & Food Systems**.

Major Highlights of The Report

1. Temperature and Heat Waves

- The average temperature across India is projected to **rise by between 2.4°C and 4.4°C by 2100**.
- **Summer heat waves are projected to triple by 2100 in India**.

2. Food Production

- **India's food production could drop 16%** and the number of those at **risk for hunger could increase 23% by 2030 due to climate change**.
- The number of **Indians at risk from hunger in 2030 is expected to be 73.9 million**.
- Baseline projections indicate that global food production will grow by about 60% over 2010 levels by 2050 in the context of climate change.
- **Production of fruit and vegetables is projected to grow** more than double in most regions by 2050.
- **Meat production is projected to double in South Asia and West and Central Africa by 2030**.

3. Calorie Consumption

- **Climate change will not impact the average calorie consumption of Indians**.
- It remains the same at 2,600 kcal per capita per day by 2030 even in a climate change scenario.

4. Change in Diet

- **Diets are also shifting toward higher-value foods**, including more fruits and vegetables, processed foods, and animal-source foods, outside of high-income countries.

5. Per Capita Consumption Level

- Despite this growth, per capita consumption levels in developing countries will remain less than half of those in developed countries.

- By 2050, **average dietary energy consumption is projected to increase by about 10%** globally to more than 3,000 kcal per capita per day.

6. Regional Differences

- Regional differences in access to food mean that nearly 500 million people are projected to remain at risk of going hungry.
- Globally **about 70 million more people will be at risk from hunger because of climate change**, including more than 28 million in East and Southern Africa.

IFPRI

It was **established in 1975**, which **provides research-based policy solutions to sustainably reduce poverty and end hunger and malnutrition in developing countries.**

Pantanal Is At Risk Of Collapse

According to a team of scientists the Pantanal in South America, is at the risk of collapse due to a series of local and minor decisions.

About Pantanal

- It is the **world's largest wetland and the world's largest flooded grasslands.**
- It is located mostly within **Brazil** and extends to some portions of Bolivia and Paraguay.
- It is fed through the Paraguay River and tributaries.
- It was **designated a Ramsar Site** of International Importance in May, 1993.
- Keystone Species: The apple snail is a keystone species in Pantanal's ecosystem.

Why Pantanal is Collapsing?

- Approximately **99% of the land in Pantanal is privately owned** for the purpose of agriculture and ranching.
- **Uncontrolled tourism, overuse of natural resources** and the **pollution from gold mining** operations and agro-industry is another reason for collapsing.
- **Pollution from sewage systems and pesticides** leach into the soil or run-off to flood plains of the Pantanal.
- **Infrastructure development** is also a particular concern and it affects the hydrology of the region, and therefore impact the ecosystem.
- **Forest Fires** is also a major concern. In late 2020, a quarter of the wetland was destroyed by an unprecedented fire.
- It is also **threatened by climate change**, current predictive climate models indicate a progressive increase in the frequency of extreme events like extreme rainfalls and extended drought.

{For more about wetland, refer The Recitals - December 2021}

UNCCD Conference of Parties (COP15)

The Union Minister for Environment, Forest and Climate Change addressed the 15th session of the **COP15 of the United Nation Convention to Combat Desertification (UNCCD) in Cote d'Ivoire (Western Africa).** The **Drought in Numbers, 2022** report was released at the **CoP15.**

About COP15 of UNCCD

- It is a key moment in the **fight against desertification, land degradation and drought.**
- Drought, land restoration, and related enablers such as land rights, gender equality and youth empowerment are among the top items on the Conference agenda.

- It aims to move from commitments to action, placing land degradation neutrality (LDN) front and centre.
- It will build on the findings of the 2nd edition of the **Global Land Outlook** and offer a concrete response to the interlinked challenges of climate change and biodiversity loss.
 - The Global Land Outlook (GLO), the UNCCD flagship publication, underscores land system challenges, showcases transformative policies and practices, and points to cost-effective pathways to scale up sustainable land and water management.

Significance of COP15

- It will bring together leaders from governments, the private sector, civil society, and other key stakeholders from around the world.
- It is expected to galvanize sustainable solutions for land restoration and drought resilience, with a strong focus on future-proofing land use.

Findings of Drought in Numbers Report

Global Assessment

- **Slow-onset disaster:** Droughts account for 15% of natural disasters but resulted in the highest human toll, with approximately 650,000 deaths. More than a billion people around the world were affected by drought in 2000-19, making it the second worst disaster after flooding.
- **Alarming increase:** There has been a 29% increase in the frequency and duration of droughts worldwide since 2000.
- **Geographical spread:** Africa was the worst hit, with 134 droughts, of which 70 occurred in East Africa. The largest increase in drought losses is projected in the Mediterranean and the Atlantic regions of Europe.
- **Worrisome future:** If predictions of global warming reaching 3°C by 2100 are true, drought losses could be five times higher than today's levels.
- **Water Scarcity:** Almost 3.6 billion people are living in water scarce regions as of today.
- **Climate Change and Population:** UNCCD assessment recognized that within the next few decades, 129 countries will experience an increase in drought exposure primarily due to climate change alone (IPCC also noted same), 23 primarily due to population growth and 38 primarily due to the interaction between climate change and population growth.
- **Additional Factors:** Water scarcity, declining crop productivity, rise in sea levels, and overpopulation could aggravate the impact of droughts.
- **UNCCD Forecast:** UNCCD's second Global Land Outlook, released recently estimates about 16 million square kilometres of land (the size of South America) will be degraded if current trends continue. According to this estimate, up to 40% of all ice-free land has already been degraded.
- **WHO findings:** Globally, approximately 55 million people are directly affected by droughts annually, making it the most serious hazard to livestock and crops.
- **WMO estimates:** It reveals that weather, climate and water hazards have accounted for 50% of all disasters and 45% of all reported deaths since 1970.

India Specific Findings

- **Increase in area:** India's drought-prone area has increased by **57%** since 1997. Drought affected nearly two-thirds of the country from 2020 to 2022.
- **Increase in intensity:** Over the last decade, one-third of India's districts have experienced more than four droughts, and drought affects 50 million people each year.
- **Comparison with Africa:** Drought vulnerability in India is comparable to that of Sub-Saharan Africa.

- **ISRO evaluation:** According to the Desertification and Land Degradation Atlas of India, released in 2021 by the Space Applications Centre of ISRO, 97.85 million hectares i.e., nearly 30% of the country's land was degraded during 2018-19.
- **Flash Droughts:** According to the paper published recently in Nature Communications, India is a hotspot for flash droughts and this could have major implications on the country's crop production.
 - Flash droughts have been defined in two ways, either as a **short-lived yet severe event** where soil moisture completely depletes or a **multi-week period** of rapid intensification toward drought.



About UNCCD

- **Established in 1994**, it is the **sole legally binding international agreement linking environment and development to sustainable land management**.
- The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands.

UNCCD and India

- **India ratified the UNCCD Convention in December 1996.**
- In 2019, India hosted the COP 14 by taking over the COP presidency from China for the next two years till 2021.
- COP 14 was the first time that India hosted an edition of the UNCCD COP.

{For more about desertification, refer The Recitals - December 2021}

Deemed Forest

- Karnataka Chief Minister has signed cabinet decision to release 6.5 lakh hectares from the **deemed forest** classification. It will declassify close to 67% of the land in Karnataka that was otherwise classified as deemed forests
- According to the current Karnataka Government, some of the statutory forests were wrongly classified as deemed forest.

About Deemed Forest

- The concept of deemed forests has **not been clearly defined in any law** including the **Forest Conservation Act of 1980**.
- The Supreme Court in 1996 in T N Godavarman Thirumulpad v. Union of India and Others (**Godavarman case**) **conceptualised deemed forests, as areas that have not been notified under the law, but are recorded as forests in government records**.
 - The Court ordered the setting up of expert committees in each state to identify deemed forests to remove any ambiguities
- These are lands that have **characteristics of forests, irrespective of ownership**.
- The deemed forests comprise **1% of forest land in India**.

Challenges with Deemed Forest

- The States have full liberty in defining the deemed forest and **sometimes the statutory forests had been wrongly classified as deemed forest**.
- **Once forests are deemed, they cannot be de-reserved or utilized for non-forest purposes** without prior approval of the Centre.
- Due to the random classification, **farmers suffered** in some areas, they lost their agricultural land.
- There is also a **commercial demand for mining** in some areas which are designated as deemed forests.

Way forward

- The state government **should constitute the committees** in compliance with the Supreme Court's decision. The state level committees **should take care of the regional forest diversity**.
- The classification should be in such a way that does not affect the rights of the forest dwellers.

Seoul Forest Declaration

The **Seoul Declaration** was adopted at the **15th World Forestry Congress**, held in Seoul, South Korea.

About Seoul Forest Declaration

- It focuses on how forests can help combat the multiple crises humanity faces, including climate change, biodiversity loss, land degradation, hunger and poverty.
- The Declaration is **signed by 141 participant countries**.
- It sends a powerful message that forests, forestry and forest stakeholders offer major solutions to the challenges the world currently faces, but action is needed now.
- The Declaration **also stressed on international cooperation**.



Major Highlights of The Seoul Forest Declaration

- The declaration urges that **responsibility** for forests should be **shared and integrated** across *institutions, sectors and stakeholders*.
- Vast areas of degraded land across the globe require restoration. For this, the **investment in forest and landscape restoration globally must be tripled by 2030**.
- It also urged the **use of innovative technology and mechanisms** to enable *evidence-based* forest and landscape decision-making and effective forest communication.
- Importance of moving towards a **circular bio-economy** and climate neutrality. The Declaration called for **innovative green financing mechanisms**
- It pointed out that the **health of forests and humans was closely related** and forest degradation can have serious negative impacts on human health and well-being.
- It stated that **forests must be maintained in a healthy and productive state to reduce the risk of future pandemics**.

Way forward

- We must now **scale up political will and increase financial and technical investments**.
- **Forest-based solutions must be inclusive** of the perspectives of family farmers, forest communities, indigenous peoples and respectful of their rights.
- The **solutions must empower common people** to participate equitably in decision-making and sustainable forest value chains.

Urban Heat Island

- Several parts of the country are experiencing severe heat waves.
- Cities, especially, are a lot hotter than rural areas. This is due to a phenomenon called an urban heat island.

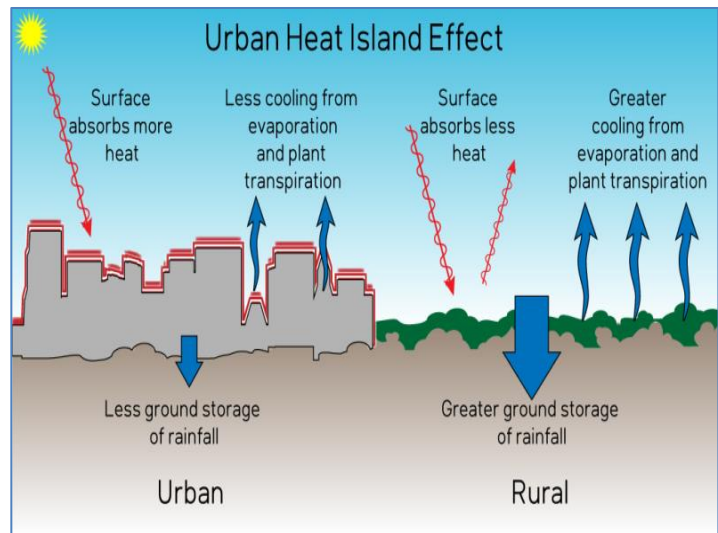
About Urban Heat Islands

- It is a **local and temporary phenomenon** experienced when certain pockets within a city experience higher heat load than surrounding or neighbouring areas on the same day.

- It is basically induced due to trapped heat between establishments made up of concrete.
- The temperature variation can range between 3 to 5 degrees Celsius.

Causes of Heat Islands

- **Reduced Natural Landscapes in Urban Areas** - Trees, vegetation, and water bodies tend to cool the air by providing shade, transpiring water from plant leaves, and evaporating surface water, respectively.
- **Hard, dry surfaces in urban areas** - such as roofs, sidewalks, roads, buildings, and parking lots - provide less shade and moisture than natural landscapes and therefore contribute to higher temperatures.
- **Urban Material Properties** - Conventional human-made materials used in urban environments such as pavements or roofing tend to reflect less solar energy, and absorb and emit more of the sun's heat compared to trees, vegetation, and other natural surfaces.
- **Urban Geometry** - The dimensions and spacing of buildings within a city influence wind flow and urban materials' ability to absorb and release solar energy. In heavily developed areas, surfaces and structures obstructed by neighboring buildings become large thermal masses that cannot release their heat readily.
- **Heat Generated from Human Activities** - Vehicles, air-conditioning units, buildings, and industrial facilities all emit heat into the urban environment. These sources of human-generated, or anthropogenic, waste heat can contribute to heat island effects.
- **Weather and Geography** - Calm and clear weather conditions result in more severe heat islands by maximizing the amount of solar energy reaching urban surfaces .



Effects of Urban Heat Island

- **Increased Energy Consumption** - Increased temperatures during summer in cities amplify energy demand for air conditioning which can overload systems, leading to power outages and blackouts.
- **Elevated Greenhouse Gas Emissions and Air Pollution** - Due to high electricity demand, power plants have to supply the needed extra energy. Since they rely on fossil fuel for energy production, thereby increasing greenhouse gas emissions and air pollutants.
- **Poses Danger to Aquatic Systems** - The surface temperatures can heat stormwater runoff into drainage systems and raises water temperatures as it is discharged into ponds, streams, rivers, lakes and oceans, resulting in thermal pollution.
- **Discomfort and Danger to Human Health** – It can seriously affect the health of sensitive and vulnerable populations such as older adults, children, and those with weather-responsive health conditions.
- **Impacts on Weather and Climate** – It can bring forth secondary effects on the local weather and climate. This includes changes in local wind patterns, the formation of fog and clouds, precipitation rates and humidity.
- **Impacts on Animals** - Most species need optimum temperatures to colonize, utilize and thrive in their ecosystems and due to high temperature, harsh and cruel ecological surrounding is created which limits the essential activities of the organisms.
- **Food security** - Adverse heat can also significantly reduce the availability of food, shelter, and water.

How can Urban Heat Islands be Reduced?

- **Increase Area Under Green Cover** - Plantation and effort to increase the area under green cover are the primary requirement to cut heat load within urban areas.
- **Passive Cooling to Reduce Urban Heat Islands** - Passive cooling technology, a widely-used strategy to create naturally ventilated buildings, can be a vital alternative to address the urban heat island for residential and commercial buildings.
- **Build Green Roofs** - Green roofs are an ideal heat island reduction strategy, providing both direct and ambient cooling effects. In addition, green roofs improve air quality by reducing the heat island effect and absorbing pollutants.
- **Painting Roofs White** – Darker colours absorb more heat, so increasing the reflectivity of buildings can reduce heat.

Sinkhole

A cave exploration team has discovered an **ancient forest** at the bottom of a giant karst sinkhole in **Leye** County in south China's Guangxi Zhuang Autonomous Region.

About Sinkhole

- It is **depressions formed in the ground when layers of the Earth's surface start collapsing into caverns**.
- They can occur suddenly and without warning, because the land under the surface of the Earth can stay intact for a period of time until the spaces get too big.
- Typically, **sinkholes form in areas of "karst" terrains**, where the rock below the surface of the Earth can be easily dissolved by groundwater.
 - As per NASA, **karst geology covers about 13% of eastern and southeastern Asia**.
- It can also be formed due to human activity, this can happen due to broken land drains, water mains and sewerage pipes and diverted surface water etc.

Phytoremediation

Scientists have planned to use hyper-accumulator plants to remove toxic metals from soil using the phytoremediation process.

About Phytoremediation

- It is a **plant-based approach**, which involves the use of plants **to extract and remove elemental pollutants** or lower their bioavailability in soil.
- Plants have the abilities to absorb **ionic compounds** in the soil even at low concentrations through their root system.

Advantages of Phytoremediation

- **Economically Feasible** - It is far less expensive than any other remediation processes like solidification, vitrification, washing, leaching, particle size separation, dredging, or excavation.
- **Phyto mining** - Companies specialize in phytomining, they cultivate the plant to harvest its store of metals or nutrients.
- **Least Invasive Procedure** - This method is the least disruptive tactic. It is unique because many other methods of remediation destroy the soil structure and inhibit future plant and microbe growth.





Disadvantages of Phytoremediation







- **Slow Rate of Remediation** - It takes time and plant mass to remove the contaminants. It requires several years or even decades to halve the levels of most contamination; this is especially seen when dealing with heavy metals.
- **Limited Remediation Depth** - Remediation is only achieved as far as the roots of the plant can reach.
- **Threatens the Food Chain** - Toxic heavy metals are absorbed by food crops, eventually make their way into our food chain, directly affecting the food security and human life.
- **Impact on environment** - If the plants are not properly regulated, they have the potential to negatively impact the surrounding environment.

About Hyperaccumulator plants

- These are unusual plants that **accumulate specific metals or metalloids in their living tissues** to levels that can be **hundreds or thousands of times higher than normal for most plants**.
- However, they **cannot remove organic pollutants** from the ground **due to metabolic breakdown**.
- They can **remove metals such as silver, cadmium, cobalt, chromium, copper, mercury, nickel, lead, zinc, arsenic**, etc. Some **radionuclides** and **non-metallic components such as boron**.

Species In The News

<p>Tuna</p> 	<ul style="list-style-type: none">• It is a saltwater fish which is found in warm seas.• It is commercially fished extensively as a food fish, and is popular as a blue-water game fish.• This fish species has a high level of Vitamin B12, Omega 3, minerals, and proteins.• To raise awareness about the fish World Tuna Day is observed annually on 2nd of May.
<p>Grey Slender Loris</p> 	<ul style="list-style-type: none">• It is a species of primate, which is a nocturnal and a slow-moving animal.• It is native to India and Sri Lanka and inhabits subtropical and tropical dry forests and subtropical or tropical moist lowland forests.• It is threatened by habitat loss.• It is listed as Near Threatened in the IUCN Red List and Schedule I in the Wildlife Protection Act of India 1972.
<p>Maip Macrothorax</p> 	<ul style="list-style-type: none">• The remains of the largest dinosaur named Maip macrothorax ever recorded have been found in Patagonia.• It was around 9-10 meters long.• It had an agile skeleton, a long tail, a long neck and an elongated skull with over 60 small teeth.
<p>Emperor Penguin</p> 	<ul style="list-style-type: none">• It is the tallest and heaviest of all living penguin species and is endemic to Antarctica.• They are the world's deepest-diving birds. They are capable of diving to depths of approximately 550 metres (1,800 feet).• There population is decreasing due to the climatic changes associated with global warming.• It is listed as Near Threatened in the IUCN Red List.

<p>Madtsoiidae</p> 	<ul style="list-style-type: none"> • Scientists have reported spotting of the fossil of a Madtsoiidae snake from the Ladakh Himalaya for the first time. • It is an extinct group of medium-sized to gigantic snakes, firstly appeared during the late Cretaceous. • It is mostly distributed in the Gondwanan landmasses. • The whole group disappeared in the mid-Paleogene across most Gondwanan continents except for Australia where it survived with its last known taxon Wonambi till late Pleistocene.
<p>Trimeresurus mayaae</p> 	<ul style="list-style-type: none"> • A new species of snake has been discovered at Umroi Military Station in the Meghalaya. • Locally it is known as U Thlen. • It looked very similar to Pope's Pit Viper but the colour of the eyes was different. • This new species was relatively common in Meghalaya, Mizoram and even in Guwahati.
<p>Money Spider</p> 	<ul style="list-style-type: none"> • It has been reported for the 1st time in the India from the Muthanga range of the Wayanad Wildlife Sanctuary. • It is commonly found in European meadows. • It belongs to the family of dwarf spiders under the genus Prosoponoides. • Both sexes are dark brown and have irregular silver patches and black spots on the elliptical abdomen.
<p>Ant-mimicking Spiders</p> 	<ul style="list-style-type: none"> • The ant-mimicking spider has been named <i>Toxeus alboclavus</i>. • The male and the female spiders of this species grow up to 4 mm and 6 mm long respectively. • The forward-projecting fangs have a characteristic shape of an antler.
<p>Wild Boar</p> 	<ul style="list-style-type: none"> • It is the largest of the wild pigs. • It is native to forests ranging from western and northern Europe and North Africa to India and China. • It is listed as Least Concern in the IUCN Red list and under Schedule III in the Indian Wildlife Protection Act 1972.
<p>Sela Macaque</p> 	<ul style="list-style-type: none"> • A new species of old-world monkey recorded from Arunachal Pradesh has been named after Sela Pass, as Sela Macaque. • They are genetically closer to the Arunachal macaque and both species have many similar physical characteristics such as heavy built and long dorsal body hair. • This species is a major cause of crop damage in West Kameng district.

SOFIA

NASA announced the end of operations of its observatory **Stratospheric Observatory for Infrared Astronomy (SOFIA)** mission.

About SOFIA

- It is a 2.7-meter infrared telescope sitting inside a **Boeing 747SP airplane**, flying at an altitude of 38,000-45,000 feet above the surface.
- It is a joint program between **NASA and the German Aerospace Centre (DLR)**.
- SOFIA had started its operation in 2014.
- It was designed to observe **cosmic objects in far-infrared wavelengths**.

Achievements of SOFIA

- It discovered **helium hydride** the first molecule formed in the Universe almost 14 billion years ago in 2019.
- It discovered water molecules (H₂O) on the sun-facing side of the **Moon** in 2020.
- It identified **atmospheric circulation** patterns in Jupiter.
- It also mapped the magnetic field within G47, one of the Milky Way's spiral arms.

Another Project with name SOPHIA

- **Sophia** is a social humanoid robot developed by the Hong Kong-based company Hanson Robotics.
- Sophia was also given citizenship status by Saudi Arabia.

Portable Device that Turns Seawater into Drinking Water

Massachusetts Institute of Technology (MIT) researchers have developed a portable desalination unit, that can remove particles and salts to generate drinking water.

About Device

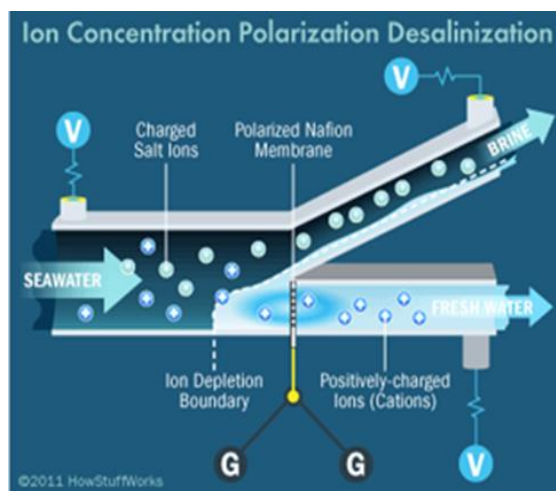
- The **suitcase-sized device** requires less power to operate than a cell phone charger.
- It can also be driven by a small, portable **solar panel**.
- The device automatically generates drinking water that exceeds WHO quality standards.

How It Works?

- The unit relies on a technique called **ion concentration polarization**.
- Rather than filtering water, the process applies an electrical field that **causes positively or negatively charged particles** including salt molecules, bacteria, viruses to be **repelled** as they flow past.
- The charged particles are funnelled into a second stream of water that is eventually discharged.
- The process removes solids, allowing clean water to pass through the channel.

Significance

- Eliminating the need for **replacement filters** reduces the long-term maintenance requirements.



- This could enable the unit to be deployed in remote and severely resource-limited areas.
- It could also be used to aid refugees fleeing natural disasters or by soldiers carrying out long-term military operations.

Shukrayaan Mission

ISRO plans to launch India's first Venus Mission 'Shukrayaan-I' in December 2024.

About The Mission

- The mission is a planned **orbiter to Venus** to study the planet's surface and atmosphere.
- The satellite is planned to be launched onboard the **GSLV Mk II rocket**.
- Objective of this mission is to investigation of the surface processes and shallow subsurface stratigraphy; solar wind interaction with Venusian Ionosphere, and studying the structure, composition & dynamics of the atmosphere.

Significance Of This Mission	Challenges In This Mission
<ul style="list-style-type: none"> • By studying Venus, scientists learn how Earth-like planets evolved and what conditions exist on Earth-sized exoplanets. • It also helps scientists model Earth's climate, and serves as a cautionary tale about how dramatically a planet's climate can change. 	<ul style="list-style-type: none"> • The air pressure on the surface of Venus is extreme at about 90 times higher than the pressure at sea level on Earth. • Temperature in Venus can reach a scorching 870 degrees Fahrenheit. Because its atmosphere is made of carbon dioxide, an extreme greenhouse effect, warming the surface. • Unlike Mars, Venus has a thick atmosphere. Visual imagining payloads will not help in understanding the sub-surface topologies.

Other Upcoming Venus Missions

- **NASA's DAVINCI mission** will launch between 2028 and 2030. It consists of an orbiter and an atmospheric descent probe.
- **NASA's VERITAS orbiter** will launch between 2028 and 2030.
- The **European Space Agency's EnVision mission** will launch no earlier than 2031. The orbiter will provide a comprehensive view of Venus, from the core all the way to its upper atmosphere.

About Venus

- It is the 2nd planet from the Sun and is the **closest planetary** neighbour to the Earth. It is one of the four inner, terrestrial (or rocky) planets
- It is often called as **Earth's twin** as it is similar in size and density.
- It has **no moons**.
- It is the **hottest planet** in our solar system, even though Mercury is closer to the Sun.
- It rotates on its **axis backward**, compared to most of the other planets in the solar system.

Monkeypox

The **United Kingdom** health authorities have confirmed a case of monkeypox.

About Monkeypox

- It is a rare viral infection like smallpox. It can be distinguished from smallpox because the lymph gland gets enlarged.
- It is a zoonotic disease which means it is a disease that is transmitted from infected animals to humans.

- The natural host of the virus remains undefined. The virus infection has been detected in squirrels, Gambian poached rats, dormice, and some species of monkeys.
- The infection was first discovered in 1958 and the first human case was recorded in 1970 in the Democratic Republic of the Congo (DRC).

Treatment

- There is no safe, proven treatment for monkey-pox yet.
- The WHO recommends supportive treatment depending on the symptoms.

Lupus

- It is a long-term **autoimmune disease** in which the body's immune system becomes **hyperactive and attacks healthy tissue**.
- The symptoms can range from mild to severe which include inflammation in the joints, skin, kidneys, blood cells, brain, heart, and lungs.
- The **exact cause of this disease's occurrence is yet unknown** but it has been suspected that it is due to certain factors like genes, hormones, and the environment.
- It can be difficult to diagnose because its signs and symptoms often mimic those of other ailments.
- The **World Lupus Day is observed on 10th May** with the aim of generating awareness about this disease.

Tissue Culture Plants

- The **Agricultural and Processed Food Products Export Development Authority (APEDA)** conducted an online seminar on "Export Promotion of Tissue Culture Plants such as Foliage, Live Plants, Cut Flowers, and Planting Material."
- The online seminar is held with Department of Biotechnology (DBT).
 - **DBT accredited tissue culture laboratories** spread across India were the participants
- Objective of this online seminar is to find ways to boost exports of tissue culture plants.

About Tissue Culture Plants

- It is the **in-vitro aseptic culture of cells, tissues, organs or whole plant under controlled nutritional and environmental conditions** often to produce the clones of plants.
- This technology is being widely used for large scale plant multiplication.
- This technique has in recent years, become of major industrial importance in plant propagation, disease elimination, plant improvement and production of secondary metabolites.

Applications Plant Tissue Culture

- **Basic research** - It covers the concepts in understanding the physiology considering the molecular pathways in plant cells
- **Environmental issues** - It covers conservation strategies to preserve the elite germplasms for a longer time.
- **Commercial applications** - Current research in plant tissue culture is highly focused on commercial applications such as crop improvement, secondary metabolite production, and various strategies for inducing genetic interference.
- The most important application of plant tissue cultures is the production of pharmaceutical, medicinal and other industrially important compounds.

Significance of Plant Tissue Culture

- A **single explant can be multiplied into several thousand plants** in relatively short time period and space under controlled conditions, irrespective of the season and weather on a year-round basis.
- Endangered, threatened, and **rare species have successfully been grown and conserved** by micro propagation because of high coefficient of multiplication and small demands on number of initial plants and space.

Challenges in Plant Tissue Culture

- The power costs are increasing.
- Low efficiency levels of the skilled workforce in the laboratories.
- Contamination issues in the laboratories.
- Cost of transportation of micro-propagated planting material.
- Lack of harmonisation in the **Harmonised System (HS) code** of Indian planting material with other nations.
- Objections raised by the forest and quarantine departments which were posing challenges in the export of live planting material.

Plant Tissue Culture In India

- GoI established the “National Certification System for Tissue Culture Raised Plants (NCS-TCP)” for ensuring *production and distribution* of quality tissue culture planting materials.
 - NCS-TCP is being implemented by DBT since year 2006, as per the Gazette of India Notification under the Seeds Act. 1966.
 - So far, more than 80 million tissue culture plants have been certified through this system.
- APEDA is running a Financial Assistance Scheme (FAS) to help laboratories upgrade themselves so as to produce export quality tissue culture planting material.

Potential in India

- India is bestowed with knowledge, biotech experts with vast tissue culture experience as well as with a low-cost labour force to help produce **export-oriented** quality planting material.
- All these factors make India a potential global supplier of an extended and diversified range of quality flora to the international market and, in turn, earn foreign exchange.
- The top ten countries like Netherlands, USA, Italy, Australia, Canada, Japan, Kenya, Senegal, Ethiopia and Nepal are importing tissue culture plants from India.
- **In 2020-2021, India’s exports of tissue culture plants stood at US\$17.17 million**, with the Netherlands accounting for around 50% of the shipments.

Tomato Flu

Tamil Nadu has ramped up surveillance at its borders in the wake of tomato flu cases being detected in Kerala.

About Tomato Flu

- The flu gets its name because of the **red blister** it causes. It **affects children below five years** of age.
- On catching the flu, children experience **undiagnosed and unidentified fever**.
- There is no confirmation yet on whether it is a viral fever or is an after-effect of chikungunya or dengue fever.
- Children might also experience fever, abdominal cramps, body aches, fatigue, nausea, vomiting, or diarrhoea. In certain cases, discolouration of hands and knees has also been observed.

Treatment

- This **flu is a self-limiting one** and there is no specific drug for this. This means that the symptoms will resolve overtime on their own if supportive care is given.
- Children are **advised to be kept hydrated**.

Marsquake

NASA's InSight Mars lander has detected the **largest quake** on Mars ever observed on another planet.

About Marsquakes

- On Earth, quakes are caused by shifts in tectonic plates.
- **Mars, however, does not have tectonic plates**, and its crust is a giant plate.
- Therefore, **in Mars marsquakes are caused due to stresses that cause rock fractures or faults in its crust**.
- The InSight rover first landed on Mars in November 2018, and has since heard 1,313 quakes. The largest previously recorded "marsquake" was detected in August 2021. This Marsquake is estimated to have hit magnitude 5 on the scale used on Earth.

Significance of Marsquakes

- The detection & analysis of marsquakes could be informative for investigating internal structure of Mars.
- It may also be helpful in identifying whether any of the many volcanoes on Mars are volcanically active.

InSight Mission

- **It is part of NASA's Discovery Program.**
- It is the **1st mission to study deep beneath the surface of Mars**, measuring its heat production and listening for marsquakes to study the planet's interior.
- With InSight, scientists hope to compare Earth and Mars, and better understand how a planet's starting material makes it more or less likely to support life.

Present Status

- InSight has now run into some technical difficulties. With the onset of Martian winter & increased levels of dust in air, the lander is struggling to get enough sunlight on the solar panels.
- As a result, the machine has put itself into safe mode (hibernation) for the time being.
- **Other missions to Mars:** UAE's Hope; China's Tianwen-1; **NASA's Perseverance**

{For more about Perseverance Rover, refer The Recitals - April 2022}

SgrA Black hole in Milky Way

Scientists from the Event Horizon Telescope (EHT) facility revealed the **first image of the black hole at the centre of the Milky Way**. This image of the black hole is referred to as **Sagittarius A* (SgrA*)**.

About SgrA

- It is 27,000 light years from us.
- It has a mass equal to about **4 million suns**.

Significance Of This Image

- The image provides overwhelming evidence that the object is indeed a black hole and yields valuable clues about the workings of such giants, which are thought to reside at the centre of most galaxies.

About Black Hole

- It is a place in space where gravitational force is so high that even light cannot get out.
- Because no light can get out, they are invisible.
- High configuration space telescopes can help find black holes.
- The gasses swirling around actually help in getting their images.
- Black holes have three layers, the outer and inner event horizon, and the core singularity.

How Do Black Holes Form?

- Stars with a **mass at least three times greater than that of our Sun** can undergo extreme **gravitational collapse** once their fuel depletes.
- With so much mass in a confined volume, the collective force of gravity overcomes the rule that usually keeps the building blocks of atoms from occupying the same space. All this density creates a black hole.

Types of Black Hole

There **three types of black holes**: stellar black holes, supermassive black holes, and intermediate black holes.

STELLAR BLACK HOLE

- When a star burns through the last of its fuel, the object may **collapse, or fall into itself**. When this happens, it causes a **supernova**.
 - A supernova is an exploding star that blasts part of the star into space.
- For smaller stars (up to about **3 times the sun's mass**) collapse, the new core will become a **neutron star or a white dwarf**.
- But when a larger star collapses, it continues to compress and creates a **stellar black hole**. Its mass can be up to **5-60 times** more than the mass of the sun.

SUPERMASSIVE BLACK HOLES

- These enormous black holes are millions or even billions of times as massive as the sun but are about the same size in diameter.
- Such black holes are thought to lie at the centre of every galaxy, including the Milky Way.
- Once these giants have formed, they gather mass from the dust and gas around them, material that is plentiful in the centre of galaxies, allowing them to grow to even more enormous sizes.

INTERMEDIATE BLACK HOLES

- These are also called midsize or intermediate black holes (IMBHs).
- Such bodies could form when stars in a cluster collide in a chain reaction.
- Several of these IMBHs forming in the same region could then eventually fall together in the centre of a galaxy and create a supermassive black hole.

Event Horizon Telescope

- It is a large telescope array consisting of a **global network** of radio telescopes.
- It has been designed for imaging of black holes. It offers scientists to research new frontiers of the Universe.
- It uses a technique called **very-long-baseline interferometry (VLBI)** to capture the images of black holes.
- **In 2019, the EHT had made history by releasing the first ever image of a black hole M87*** – the black hole at the centre of a galaxy Messier 87.

Sudden Infant Death Syndrome (SIDS)

- According to recent study, **infants who die from SIDS have significantly less amount of BChE** (butrylcholinesterase) shortly after birth than those that survive.

- **BChE is an enzyme responsible for waking** or arousing the brain from sleep in case there is a threat to life, like obstructed breathing.
- The enzyme is an important part of the **autonomic nervous system** of the body and controls unconscious and involuntary functions.

About SIDS

- It is the unexplained death of a healthy infant less than one year of age, during a period of sleep.
- It is also known as 'cot death'.
- Babies who die of SIDS seem to be healthy before being put to sleep. These **babies do not show any signs of struggle.**
- Babies between 1 and 4 months of age are at higher risk of dying due to SIDS.
- As per reports, over 80% SIDS related deaths occur before the babies reach six months of age.
- The infant mortality rate for India in 2021 was 28.7 deaths per 1000 live births, a 3.61% decline from 2020.

Endosulfan

The Supreme Court has slammed the Kerala government for doing virtually nothing for **endosulfan pesticide exposure victims**. The apex court in its 2017 order in a PIL had directed that Rs 5 lakh be paid to all victims for Rehabilitation of Endosulfan Victims.

About Endosulfan

- It is an **off-patent organochlorine** pesticide developed in **1954**. It was used widely on crops like cashew, cotton, tea, paddy, fruits and others until 2011.
 - In 2011, the Supreme Court banned its production and distribution.
- This pesticide is a known carcinogen, neurotoxin and genotoxin (damages DNA).
- The health effects of the chemical include late sexual maturity, physical deformities, poisoning etc.
- People, especially new-borns, have suffered deformities, health complications and loss of family members due to exposure to the agrochemical.
- It became a highly **controversial agrichemical due to its acute toxicity**, potential for bioaccumulation, and role as an endocrine disruptor.
- A **global ban on the manufacture and use of endosulfan** was negotiated under the Stockholm Convention in April 2011.
- It is **still used extensively in India and China** despite laws against its use.

Biomaterial From Fungal Extract Helps Heal Wounds

Scientists have developed a **new biomaterial that can be used to disinfect wounds** and hasten the process of healing.

About the New Biomaterial

- It is **derived from the polymer pullulan** which is secreted by the fungus *Aureobasidium pullulans*.
- It is an **exopolysaccharide**, that is, **this polymer is secreted by the fungus itself** into the medium in which it is growing.
- Pullulan as a biomaterial is already successful and widely used commercially.
- It is exploited in the food, cosmetics, and pharmaceutical industry because of its non-toxic, non-mutagenic, and non-immunogenic properties.

Efficacy of the Biomaterial

- The efficacy of the material was tested by applying it directly to a full-thickness wound on mice.
- The wounds got disinfected and the healing was faster.
- The **material could cause a 100% closure of wounds within 12 days**, while in the absence of application of the material, closure was only 60%.

Respiratory Syncytial Virus (RSV)

According to a new estimate published in the Lancet, **Respiratory Syncytial Virus (RSV)** was responsible for more than 1,00,000 deaths in children under five worldwide in 2019

About RSV

- It is a common **respiratory virus** that usually causes acute lower respiratory infection.
- It is also called human respiratory syncytial virus (hRSV) and human orthopneumovirus.
- Most people recover in a week or two, but it can be serious, especially for infants and older adults.
- Globally, only 26% RSV-associated deaths occur in a hospital. This is particularly apparent in low- and middle-income countries.
- The annual incidence rate in India is 53 per 1,000 children (5.3%), with an estimated 61,86,500 cases of RSV in children under the age of five.
- It is spread through contaminated air droplets and can cause outbreaks.

Closeby Habitable Exoplanet Survey (CHES)

Chinese scientists have proposed a space project named Closeby Habitable Exoplanet Survey (CHES).

About the Project

- The **objective** of this project is to survey the sky through *space-borne telescopes* to **hunt for habitable Earth-like planets outside the solar system**.
- It will be the **1st space mission specially designed to search for habitable terrestrial planets around nearby Sun-like stars**.
- It will observe about 100 Sun-like stars 32 light-years away on a long-term survey to find Earth-like planets.

Retinoblastoma

- It is the **most common cancer in the eye** (malignant tumor) **in small children**.
- It can occur in one or both eyes and may be *hereditary or sporadic*.
- It can be **life-threatening** as well as take away vision if not treated timely.
- It is **detected by seeing White Reflex (WR) in the eyes**. Pupil that looks white or yellow instead of red when light hits it.
- Nearly 1,500-2,000 children are diagnosed with retinoblastoma every year in India.
- For **treatment chemotherapy** can be delivered intravenously or intra-arterial.

Poliovirus

Mozambique has confirmed the 1st wild poliovirus case in 30 years.

About Poliovirus

- It is a **crippling and potentially deadly viral infectious disease** that **affects the nervous system**.
- The **virus lives in the faeces of an infected person**.
- People infected with the disease can spread it to others when they do not wash their hands well after defecating.
- People can also be infected if they drink water or eat food contaminated with infected faeces.
- There is no cure for this virus, but it is **easily preventable by a vaccine**.

Symptoms

- **Most people with polio do not feel sick**.
- Some people have only minor symptoms, such as fever, tiredness, nausea, headache, nasal congestion, sore throat, cough and pain in the arms and legs etc.
- In rare cases, **polio infection causes permanent loss of muscle function** (paralysis).
- Polio **may be fatal if the muscles used for breathing are paralysed** or if there is an infection of the brain.

Polio in India

- India **launched the Pulse Polio immunisation programme in 1995**, after a resolution for a global initiative of polio eradication was adopted by the World Health Assembly in 1988.
- India was **declared polio-free in January 2014**, after three years of zero cases.
- India reported its last polio case from district Howrah, West Bengal in January, 2011.

BioRRAP Portal

Recently a Single National Portal named **Biological Research Regulatory Approval Portal (BioRRAP)** for Biotech researchers and Start-Ups was launched.

About BioRRAP Portal

- It is developed by the **Department of Biotechnology, Ministry of Science and Technology**.
- This portal **provides a single route to direct the applicant to regulatory agencies providing requisite approval relevant to the biological research**.
- This portal is ***dedicated only for research related activities and not for product development***.
- The Portal will **also allow stakeholders to see the approvals accorded against a particular application through a unique BioRRAP ID**.

Why We Need This Portal?

- Over **2,700 biotech start-ups** and **more than 2,500 biotech companies** working at present in the country.
- Further, Indian regulators such as the Department of Biotechnology, Indian Council of Medical Research or Central Drugs Standard Control Organization worked tirelessly to streamline the regulatory processes and reduce the timelines for approvals.
- India is among **the top 12 destinations for biotechnology globally** and the **3rd largest biotechnology destination in the Asia Pacific region**.
- **By 2025**, the contribution of the Indian biotechnology industry in the global biotechnology **market is expected to grow to 19%** from a mere **3% in 2017**.
- **Bio Economy's contribution to the national GDP** has also grown steadily in the past years to **2.7%** in 2020 from **1.7%** in 2017.

Significance of The Portal

- It is a step towards **Ease of Doing Science and Scientific research and Ease of Start-ups in India.**
- This will **provide more credibility and recognition to such biological research.**
- It will **bring accountability, transparency and efficacy** in the functioning of agencies regulating various aspects of biological research and issuing permits.
- This portal will **strengthen interdepartmental synergies** and **increase efficacy** in functioning of agencies regulating various aspects of biological research.

Artificial Intelligence (AI) Chips

Nvidia's rival Intel launched new AI chips to provide customers with deep learning compute choices for training and inferencing in data centres.

About AI Chips

- It is **built with specific architecture** and **have integrated AI acceleration to support deep learning-based applications.**
- These chips, with their hardware architectures and complementary packaging, memory, storage and interconnect technologies, **make it possible to pour AI into a broad spectrum of applications, helping to convert data into information and then into knowledge.**
- There are different types of AI chips such as application-specific integrated circuits (ASICs), field-programmable gate arrays (FPGAs), central processing units (CPUs) and graphics processing unit (GPUs).
- The Worldwide **AI chip industry accounted for \$8.02 billion in 2020** and is expected to reach **\$194.9 billion by 2030.**

What Are Their Applications?

- Semiconductor firms have developed various specialised AI chips **for a multitude of smart machines and devices, including ones that are said to deliver the performance of a data centre-class computer to edge devices.**
- Some of these chips **support in-vehicle computers** to run state-of-the-art AI applications more efficiently.
- It is **also powering applications of computational imaging in wearable electronics, drones, and robots.**
- The **use of AI chips for natural language processing (NLP) applications has increased** due to the rise in demand for chatbots and online channels such as Messenger, Slack, and others.

Deep Learning

- More commonly **known as active neural network (ANN)** or deep neural network (DNN).
- It is a **subset of machine learning** and comes under the broader umbrella of AI.
- It **combines a series of computer commands or algorithms that stimulate activity and brain structure**

Near Field Communication (NFC)

- It the technology that **enables communication and data-sharing between wireless-enabled devices in close proximity.**
- It **powers contactless payments via mobile wallets** like Apple Pay, Google Pay, as well as contactless cards.
- It is similar to radio-frequency identification (RFID) technology, but is limited to sharing data with other devices that are within about four inches.
- It is also similar to Bluetooth technology, but differs in that it doesn't require device discovery or manual syncing like Bluetooth.

How Do NFC Mobile Payments Work?

- It uses an NFC-enabled reader.
- When this reader is initiated through a point-of-sale (POS) system, it sends out a signal that searches for an NFC-enabled payment device.
- When the reader detects the antenna of an NFC-enabled device, such as a phone or NFC-enabled credit card, the payment device communicates the payment info to the reader, and the payment is processed.

Advantage of NFC	Disadvantage of NFC
<ul style="list-style-type: none">• Convenient for businesses and customers - Customers can use many different devices for payment, and employees don't have to handle the device.• Appropriate for a wide range of businesses - It can be used across a range of applications by businesses in many different industries.• Facilitate seamless payments - Payment's fund within 24 hours and often transfer to your business's checking account the following day.	<ul style="list-style-type: none">• Expensive, especially for large businesses - Businesses processing credit card or NFC payments pay several cents per transaction, plus a percentage of the total transaction value.• Susceptible to security issues - Like other credit card transactions, payments processed using NFC can be hacked.• Higher potential for fraud - Employees don't typically handle customer devices when initiating NFC payments, they aren't checking identification or otherwise verifying customers' identities.

True Random Number Generator (TRNG) Device

Researchers at Indian Institute of Science (IISc) have developed a True Random Number Generator (TRNG) Device.

About TRNG Device

- Everything a person does on the internet is encrypted for security. The **strength of this encryption depends on the quality of random number generation**.
- **Encrypted information can be decoded only by authorised users** who have access to a cryptographic key. But **the key needs to be unpredictable** and, therefore, randomly generated to resist hacking.
- **Cryptographic keys are usually generated in computers using pseudo-random number generators**, which rely on mathematical formulas or pre-programmed tables that appear random but are not.
- In contrast, a **TRNG device naturally extracts random numbers from random physical processes**.
- It **improves data encryption and provide improved security** for sensitive digital data such as credit card details, passwords, and other personal information.

PARAM PORUL Supercomputer

- **PARAM PORUL is a state-of-the-art supercomputer** set up at NIT Tiruchirappalli.
- It is **established under Phase 2 of the National Supercomputing Mission (NSM)**.
- Majority of the components have been manufactured and assembled within the country.
- The **system is based on Direct Contact Liquid Cooling technology to obtain a high-power usage effectiveness** and thereby reducing the operational cost.
- The system is equipped with a mix of CPU nodes, GPU nodes, high memory nodes, high throughput storage and high-performance Infiniband interconnect.

{For more about National Supercomputer Mission (NSM), refer The Recitals - February 2022}

CULTURE

Anang Tal Lake

- The Ministry of Culture recently asked the Delhi Development Authority (DDA), to restore the historic Anang Tal lake in Mehrauli in South Delhi. It is believed to have been created by Tomar King, **Anangpal II**, in **1,060 AD**.
- Moreover, the proposal to declare Anang Tal as a national monument is also under consideration.

Anangpal II

- Anangpal II, popularly known as Anangpal Tomar, belonged to the **Tomar dynasty** that ruled parts of present-day Delhi and Haryana between the **8th and 12th centuries**.
- The most reliable evidence about the early history of Delhi is inscribed on the **iron pillar of Masjid Quwaatul Islam**, adjacent to the Qutab Minar.
- According to this inscription, Anangpal of the Tomar Rajputs founded Delhi between 1053 and 1109 AD.
- Anangpal II built Lal Kot fort (also known as Qila Rai Pithora) and Anang Tal Baoli.
- Anangpal Tomar II was succeeded by his grandson Prithviraj Chauhan.
- The Delhi Sultanate was established in 1192 after Prithviraj Chauhan's defeat in the Battle of Tarain (present-day Haryana) by the Ghurid forces.

Kanheri Caves

- The Ministry of Culture recently inaugurated various amenities at the Kanheri Caves on the occasion of Buddha Purnima.
- The Kanheri caves comprise more than 110 different rock-cut monolithic excavations and is one of the largest single excavations in the country.
- The name Kanheri is derived from **Kanhagiri** in Prakrit (which means **black mountain**) and occurs in the Nasik inscription of the Satavahana ruler Vasisthiputra Pulumavi.
- Named after its **black basaltic stone**, it is located in the forests of **Sanjay Gandhi National Park** in Mumbai.
- The earliest reference of Kanheri is ascribed to **Fa-Hein** who visited India during 399-411 CE.
- Kanheri consists of excavations primarily undertaken during the Hinayana phase but also has several examples of the Mahayana stylistic architecture as well as few printings of the Vajrayana order.
- It is the only centre where a continuous progression of Buddhist faith and architecture is observed from 2nd century CE to 9th century CE.
- Kanheri flourished under the patronage of **Satavahana, Traikutakas, Vakatakas and Silaharas** and through donations made by the wealthy merchants of the region.
- Kanheri thrived for nearly a millennium due to its proximity to the ancient port towns of Sopara (Nalasopara – known for its trading ties with Mesopotamia and Egypt), Kalyan, Thane and Bassein (Vasai).
- The scale and extent of excavations, with its numerous water cisterns, epigraphs, one of the oldest dams, a stupa burial gallery and excellent rainwater harvesting system, indicate its popularity as a monastic and pilgrim centre.
- The architectural and engineering excellence of heritage sites like Kanheri caves signifies the knowledge about art, engineering, management and construction back then.

Raja Ram Mohan Roy

- The Ministry of Culture recently held the inaugural ceremony to commemorate the year-long celebration of the *250th birth anniversary* of Raja Ram Mohan Roy.
- Raja Ram Mohan Roy is considered as the **Father of modern Indian Renaissance** for the remarkable reforms he brought in the 18th and 19th century India. He was given the title of 'Raja' by Mughal Emperor Akbar II in 1831.
- Among his efforts, abolition of the inhuman practice of Sati was the most prominent. His efforts were also instrumental in eradicating the purdah system and child marriage. He also demanded property inheritance rights for women.

Contributions in the field of Education

- He was a great scholar of Sanskrit, Persian and English languages and also knew Arabic, Latin and Greek.
- He advocated the introduction of an English Education System in the country teaching scientific subjects like Mathematics, Physics, Chemistry and even Botany.
- He paved the way for revolutionizing education system in India by establishing Hindu College in 1817 along with **David Hare**, which later went on to become one of the best educational institutions in the country.
- In order to combine theological doctrines along with modern rational lessons he established the Anglo-Vedic School in 1822 followed by the Vedanta College in 1826.

Religious Contributions

- Ram Mohan Roy was against unnecessary ceremonialism and the idolatry advocate by priests.
- He had studied religious scriptures of different religions and advocated that Hindu Scriptures like Upanishads upheld the concept of monotheism.
- He founded the Atmiya Sabha in 1928, which later reorganized itself into the Brahma Sabha, a precursor organisation of the Brahma Samaj. It propagated monotheism, independence from the scriptures and renouncing the caste system.
- With time, the Brahma Samaj became a strong progressive force to drive social reforms in Bengal, especially women education.

Journalistic Contributions

- Ram Mohan Roy was a strong supporter of free speech and expression. He fought for the rights of vernacular press.
- He also brought out a newspaper in Persian called **Mirat-ul- Akhbar** (the Mirror of News) and a Bengali weekly called **Sambad Kaumudi** (the Moon of Intelligence).
- In those days, items of news and articles had to be approved by the Government before being published. Ram Mohan protested against this control by arguing that newspapers should be free and that the truth should not be suppressed.
- His '*Gaudiya Byakaran*' in Bengali is one of his best prose works.

Iron Excavations From Tamil Nadu

- Carbon dating of deposits found during archaeological excavations in Tamil Nadu has pushed the evidence of iron being used in India to 4,200 years ago.
- The excavations are from **Mayiladumparai near Krishnagiri** in Tamil Nadu, about 100 km south of Bengaluru.

- Before this, the earliest evidence of iron use was from 1900-2000 BCE for the country (Malhar near Varanasi and Brahmagiri in North Karnataka), and from 1500 BCE for Tamil Nadu. The latest evidence dates the findings from Tamil Nadu to **2172 BCE**.
- Among other important findings is evidence that the late Neolithic phase in Tamil Nadu has been identified to have begun before 2200 BCE.
- Archaeologists also found that black and red ware pottery was introduced in the late Neolithic phase itself, rather than the widely held belief that this occurred in the Iron Age.

Significance

- Iron is not known to have been used in the Indus Valley, from where the use of copper in India is said to have originated (1500 BCE). But non-availability of copper for technological and mass exploitation forced other regions to remain in the Stone Age.
- When **iron technology** was invented, it led to the production of agricultural tools and weapons, leading to production required for a civilisation ahead of economic and cultural progress.
- While useful tools were made out of copper, these were brittle and not as strong as iron tools would be.
- As it would have been difficult to use copper tools to clear dense forests and bring land under agriculture, it is inferred that deforestation took place only after humans began using iron.
- With the latest evidence tracing the country's Iron Age to 2000 BCE, it can be assumed that the India's cultural seeds were laid in 2000 BCE.
- The benefit of socio-economic changes and massive production triggered by the iron technology gave its first fruit around 600 BCE — the **Tamil Brahmi scripts**.
- The Tamil Brahmi scripts were once believed to have originated around 300 BCE, until a landmark finding in 2019 pushed the date back to 600 BCE.
- This dating narrowed the gap between the Indus Valley civilisation and Tamilagam/South India's Sangam Age.