



# VAJIRAM & RAVI

(Institute for Civil Service Examination)

*Current Affairs (October 2021)*

## *the* **RECITALS**

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- GHI Report 2021
- Anti-Defection Law
- MTP Rules 2021
- Improving Ties With Srilanka
- India Re-elected to UNHRC
- China- Taiwan Tussle
- Air India Privatisation
- Pandora Paper
- Credit Rating
- Glasgow COP 26
- Plastic Waste Management And EPR Rules 2021
- Targeted Killing of Minorities In J&K
- Jurisdiction of BSF



**COAL CRISIS**



**KUNMING  
DECLARATION**

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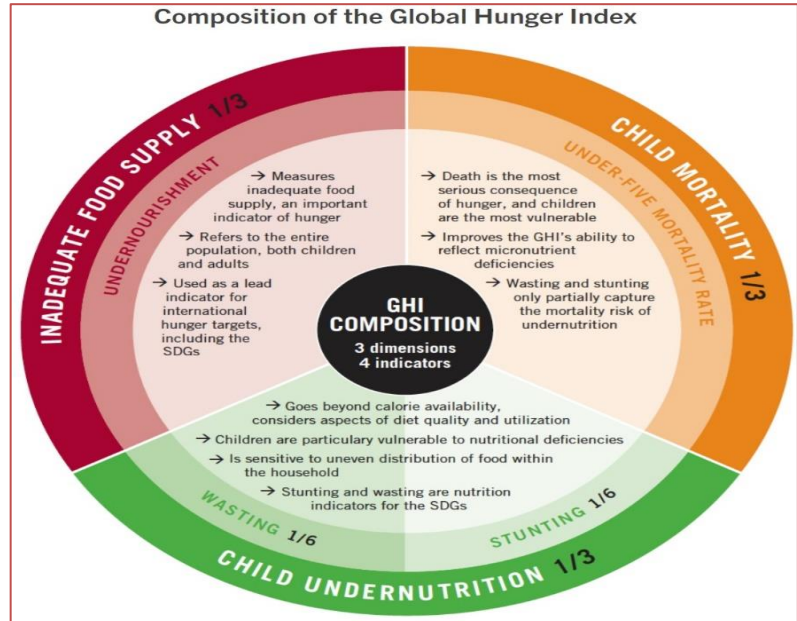
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# Global Hunger Index Report 2021

**Theme:** “Hunger and Food Systems in Conflict Settings”.

## About Global Hunger Index (GHI)

- It is a tool designed to measure and track hunger at **global, regional, and national levels**. It compares levels of hunger between countries and regions, and call attention to those areas where hunger levels are highest.
- It is prepared jointly by Irish aid agency **Concern Worldwide** and German organization **WeltHunger Hilfe**.
- For each country, it is calculated on **four indicators**-undernourishment, child wasting, child stunting, child mortality
- Index is a 100-point scale where 0 is the best score (no hunger) and 100 is worst.



Undernutrition manifests in four broad forms: wasting, stunting, underweight, and micronutrient deficiencies.

Wasting : Low weight-for-height

Stunting: Low height-for-age

Underweight: Low weight-for-age

Micronutrient deficiencies are a lack of vitamins and minerals that are essential for body functions. A child who is underweight may be stunted, wasted or both.

Key Summary Of The Report	Top Performers
47 countries have extremely alarming, alarming, or serious levels of hunger. 47 countries will fail to reach Zero Hunger by 2030.	18 countries have 2021 GHI scores of less than 5. Differences between their scores are minimal. These countries also include China, Kuwait and Brazil.

## Key Messages

- Fight against hunger is dangerously off track – Hunger situation is fuelled by toxic cocktail of -

Climate Crisis

COVID-19 Pandemic

Severe and Protracted Violent Conflicts

- Global prevalence of undernourishment - a component of the Global Hunger Index - is increasing.
- Africa South of the Sahara & South Asia are world regions where hunger levels are highest.
- Dozens of countries suffer from severe hunger with situation

Extremely alarming in Somalia

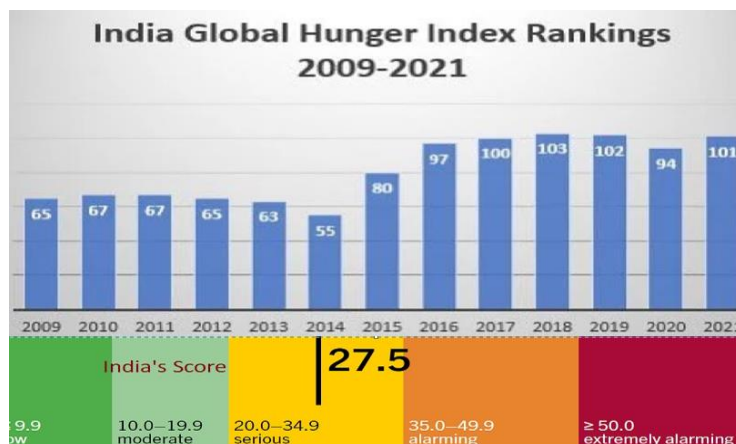
Alarming in 9 countries

Serious in 37 countries

- Inequality between regions, countries, districts & communities is pervasive; and if left unchecked, will keep the world from achieving Sustainable Development Goal (SDG) mandate to “leave no one behind.”

### India Specific Findings

- Slipped to 101<sup>st</sup> position among 116 countries from 2020 ranking (94), with **score of 27.5** (category serious).
- It is placed behind Pakistan (92), Bangladesh (76), Nepal (76), and Myanmar (71).
- India’s position on the first indicator, child mortality, has improved in 2021 compared with 2020. Position on two indicators, i.e., child wasting and child stunting, remained unchanged in 2021 compared with 2020.



- However, the report has lowered the rank of India on the basis of FAO’s estimate on proportion of undernourished population.

### India's Concerns With Methodology

A common continuing criticism is that it continues to suffer from worse child malnutrition. Analysts in India believe it is due to the faulty methodology adopted to calculate the index.

- ✓ The scientific measurement of undernourishment would require measurement of weight and height. However, this 4-question opinion poll was conducted telephonically by Gallup.
- ✓ Failed to take into account the other parameters like availability of food grains per capita.
- ✓ This methodology clubs the height and weight data about all children of the world together. On the basis of that ranking, it calls below average children wasted or stunted.
- ✓ Raises question about what determines height of child? Is it gene or nourishment?

As a result, an Indian child with healthy nourishment often ends up with less height or weight compared to her African counterpart. Thereby he/she is wrongly treated as wasted or stunted.

#### Hunger & Nutrition in India

Though India is concerned with the faulty methodology in calculation of GHI, it can’t be denied that **hunger and malnutrition** are its two biggest curses. According to global nutrition report, India is home to **194.6 million undernourished people** i.e., *three times the entire population of France*. Globally, country is home to over 1/4<sup>th</sup> of all undernourished people worldwide and **1/3<sup>rd</sup> of world’s stunted** (chronically malnourished) children. Over the past decade, the proportion of:

underweight children fell ~7% points to 36%

➤

stunted children declined ~10% points to 38%.

Despite the progress, these rates are still higher than those of many poorer countries in sub-Saharan Africa.

#### Why India’s Performance On This Front Is Poor?

Despite steady economic growth and self-sufficiency in food grains production, the country is gripping from hunger and malnutrition because of following reasons-

- **Poverty Trap** – Poverty ridden do not have enough money to buy or produce enough food. In turn, they tend to be weaker and get trapped into poverty hunger nexus.
- **Dietary Ignorance** –People often do not complement their children’s diet with sufficient **nutritional**

**components.** As a result, we see the incidents of child stunting, child wasting etc.

- **Socio Cultural Factors** - Hunger in India also has **age, gender and caste** dimensions. Compared to men, women more often forgo meals to feed their children. This is evident from the World Bank's report which says that 60% of those who are hungry are female. Caste and tribe are structural factors which predispose certain groups to long term poverty which ultimately gets translated into hunger and malnutrition.
- **Politics of Distribution** - According to *Amartya Sen*, hunger usually arises from food distribution problems, or from governmental policies in developing world, and not from the insufficiency of food production. Corruption, leakages, exclusion-inclusion error etc. makes PDS inefficient.
- **Food Wastage** – Be it cold storage of FCI or the extravaganza shown in marriages and rituals, these wastages distort the food availability making difficult for poor and vulnerable to buy food from market.
- **Natural Disaster** – Erratic monsoon, draughts, unseasonal rainfall, cyclones etc. affects food grain production and hence affects the food security in India.

#### India's Effort

- **First five-year plan** focused on agriculture to increase food production. However, India had to depend on food aid like PL480 of USA. It was only after **Green Revolution**, India attained self-reliance and also surplus in food grain production.
- **Targeted public Distribution system** of India along with **AntodayaannaYojana** aims to provide access to food grains to the most vulnerable sections of our society.
- There are a number of food-for-work programmes and employment guarantee schemes, the largest of which is the **MGNREGA** which aims to increase income levels to provide access to food and nutrition.
- **Rashtriya Krishi Vikas Yojna and National Food Security Mission** to increase the agricultural productivity to feed the hungry millions of our country.
- **National Food Security Act, 2013**: To provide subsidized food grains to ~2/3<sup>rd</sup> of India's 1.2 billion people.
- **Midday Meal Scheme & Integrated Child Development Services (ICDS)**
- **Food fortification programs** and schemes like **Nutri Farms** and Livestock development programs are striving towards reducing malnutrition among the people.
- **National Nutrition Strategy** by NITI Aayog.
- **Pradhan Mantri Garib Kalyan Anna Yojna (PMGKAY)** and **Atma Nirbhar Bharat Scheme (ANBS)** announced recently as a covid relief measures.

#### Policy Recommendations

- Enhance resilience of food systems to simultaneously address the impacts of conflict and climate change and to ensure food and nutrition security.
- Base actions on a thorough understanding of the context, and strengthen inclusive, **locally led** initiatives.
- Commit to flexible, need-based, cross-sectoral, multiyear planning & financing.
- Address conflict on political level, strengthen international law & ensure accountability for rights violations. Lead the way to fundamentally change food systems

Malnutrition should not be viewed as an offshoot of poverty having adverse effects on health, development of individuals but as a national problem that results in loss of productivity & economic backwardness. Thus, series of convergent and well-coordinated actions in different sectors are required to be undertaken in the mission mode approach to address this big network problem of malnutrition

# Anti-Defection Law

Calcutta High Court has given West Bengal Assembly Speaker a **deadline of 3 months** to pass an order in the defection case involving an MLA. Anti-defection proceedings are also going on in other states like Jharkhand and Rajasthan.

## Important Features Of The Law

The **10th Schedule** to the Constitution, popularly referred to as the 'Anti-Defection Law,' was inserted by the **52nd Amendment in 1985**. Articles 102(2) and 191(2) deals with anti-defection. It was a response to the toppling of multiple state governments by party-hopping MLAs after the general elections of 1967. "**Aaya Ram, Gaya Ram**" slogan was coined against the background of continuous defections. Thus, the intention of the provision is to check the corruption/horse trading in Legislature.

- The Anti defection law applies to the following situations:

- When legislators elected on the ticket of one political party "**voluntarily give up**" membership of that party or vote against the party's wishes. A legislator's speech and conduct inside and outside the legislature can lead to deciding the voluntarily giving up membership.
- When an **independent MP/MLA** joins a party later.
- When any **nominated member** joins any political party after the expiry of **six months**. Before that, he is permitted to join any political party.

- It allows a group of MP/MLAs to join (i.e. **merge with**) another political party **without inviting the penalty** for defection.
  - ✓ Defection by **1/3<sup>rd</sup>** of the elected members of a political party was considered a 'merger'.
  - ✓ **91st Constitutional Amendment Act, 2003** changed this and now at least **2/3<sup>rd</sup>** of the members of a party have to be in favour of a "merger".
  - ✓ 91<sup>st</sup> amendment doesn't recognize 'split' in a legislature party & instead recognizes 'merger'.
- Decision on disqualification on ground of defection is referred to the **Chairman or the Speaker** of such House, which is subject to **Judicial review**.
  - ✓ To introduce a semblance of objectivity in the decision-making process, the Supreme Court in case of **Kihoto Hollohan vs Zachilhu and Others 1992**, struck down the condition laid down in 10th Schedule that the decision of Presiding Officer is not subject to judicial review; thereby allowing appeals against the Presiding Officer's decision in the High Court and Supreme Court
  - ✓ However, the law **does not provide a time-frame** within which the presiding officer has to decide a defection case.

## Judicial Interpretation of Law

- **Ravi Naik vs. UoI case (1994)**
  - ✓ The Supreme Court, in Ravi Naik vs. UoI case (1994), has interpreted the phrase 'voluntarily gives up his membership'. It says: "The words 'voluntarily gives up his membership' are not synonymous with 'resignation' and have a wider connotation.
  - ✓ Even in absence of a formal resignation from membership, an inference can be drawn from the conduct of a member that he has voluntarily given up his membership of the political party to which he belongs.

- ✓ The act of giving a letter requesting the Governor to call upon the leader of the other side to form a Government itself would amount to an act of voluntarily giving up membership of the party on whose ticket the said members had got elected. This was again reiterated by Supreme Court in **Rajendra Singh Rana vs. Swami Prasad Maurya case of 2007**.
- ✓ Even after expulsion from the party, an MP must abide by the party whip to prevent disqualification from the house.

- **Balchandra L. Jarkiholi Vs. B.S. Yeddyurappa 2010**

The Supreme Court in 2010 Karnataka case made it clear that independent MLAs joining the Ministry in a coalition govt., without joining the ruling party, will not sacrifice their independent identity. Hence joining Council of Ministers doesn't point to such eventuality.

### Benefits of ADL

The Anti defection provisions have been important in Indian polity due to following reasons:

- The main intent of the law was to combat the evil of political defections, and check corruption.
- The anti-defection provisions provide stability to the govt by preventing shifts of party allegiance.
- These provisions also ensure that candidates elected with party symbols and on the basis of party manifestos remain loyal to party policies; in a way retaining the faith of electors as well.

### Problem with Anti-defection Law

- The Anti defection law has often been criticized for **curtailing freedom of speech** of individual legislators. It undermines MP's capacity to be an effective legislator by expressing honest views on legislation rather than following the party line. In U.K, Australia and U.S, parliamentarians and senators often take positions contrary to their parties or vote against the party's view, yet continue within the same party.
- Anti-Defection goes against the spirit of a **representative democracy** in which the elected representative is expected to act in public interest and not party interest. Thus, anti-defection law breaks the link between the elected representative and his electors.
- There have been several instances when the Speaker has decided on Anti Defection in **partisan manner**. Speaker lacks expertise in deciding anti-defection matters which are quasi-judicial in nature. Also, there has been **no time frame** within which the Speaker has to decide on the issue of Anti defection. Thus, creating opportunity for its misuse.
- The current provisions do not apply to the **pre-poll alliance and merger of 2/3** of the party's legislators.
- Distinction made between nominated and elected candidates is illogical and irrational.

### Course Correction

#### A. Dinesh Goswami Committee on electoral reforms (1990)

- **Disqualification should be limited** to cases where (a) a member voluntarily gives up the membership of his political party, (b) a member abstains from voting, or votes contrary to the party whip in a motion of vote of confidence or motion of no-confidence.
- The **issue of disqualification should be decided by the President/ Governor** on the advice of the Election Commission.
- The law should **apply only to votes that determine the stability of the government** like the passage of the annual budget or no-confidence motion.

#### B. Halim Committee on Anti-defection Law (1998)



- The words 'voluntarily giving up membership of a political party' be comprehensively defined.
- Restrictions like prohibition on joining another party or holding offices in the government be imposed on expelled members.
- The term political party should be defined clearly.

#### C. Law Commission (170th Report, 1999)

- Provisions which exempt splits and mergers from disqualification to be deleted.
- Pre-poll electoral fronts should be treated as political parties under anti-defection law.
- Political parties should limit issuance of whips to instances only when the government is in danger, i.e., only at instances of confidence and no confidence motion. As in the UK, the MPs should be free to vote on legislation as they desire and should not be controlled by whips issued by parties.

#### D. Miscellaneous Suggestions

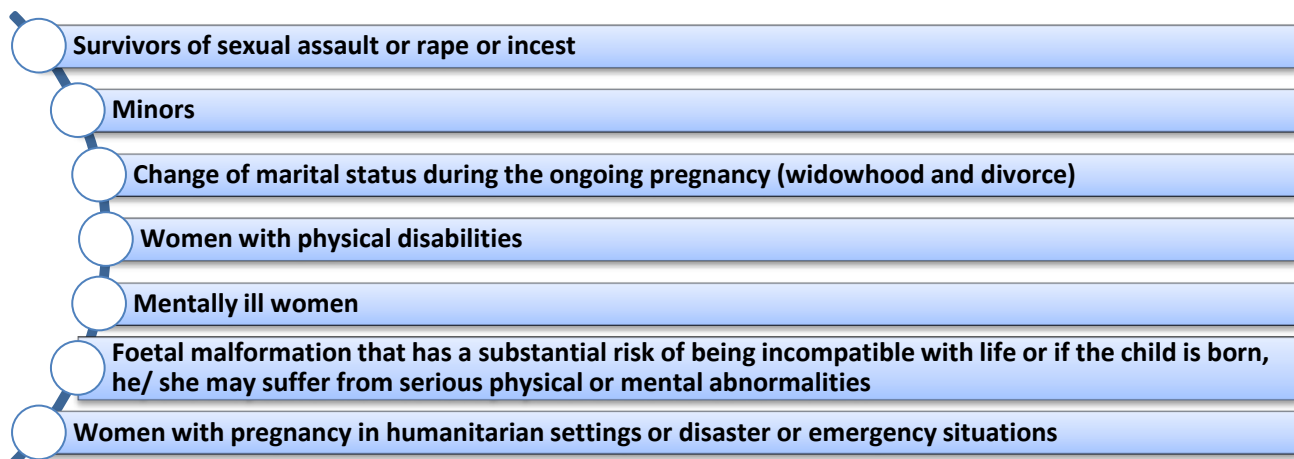
- Election Commission has suggested that the decisions under 10<sup>th</sup> Schedule should be made by the President/ Governor on the **binding advice of the Election Commission**.
- Supreme Court said Parliament should set up an **independent tribunal** headed by a retired judge of the higher judiciary to decide defection cases swiftly and impartially.
- Some commentators have said the law has failed and recommended its removal. Former Vice President Hamid Ansari has suggested that it applies only to save governments in no-confidence motions.



## MTP Rules Notified

### What Is The News

- Government has **notified new rules** under which the gestational limit for medical termination of pregnancy has been **increased from 20 to 24 weeks for certain categories** of women.
- The new rules come under the Medical Termination of Pregnancy (Amendment) Act, 2021 passed by Parliament earlier this year.
- Under the new rules, **seven specific categories** will be eligible for termination of pregnancy up to 24 weeks:



- Medical Board will decide if a pregnancy may be terminated **after 24 weeks** due to **substantial foetal abnormalities**. All state and UT's will constitute a Medical Board consisting of a gynaecologist, paediatrician, radiologist/sonologist, and other members notified by the state government.
- **New Rules Regarding Medical board**
  - ✓ The medical boards are to either accept or reject the proposal for medical termination of pregnancy within three days of receiving the request.
  - ✓ The abortion procedure has to be done with five days of the board receiving the request for the same.

	<b>MTP ACT 1971</b>	<b>MTP Amendment ACT 2021</b>
Failure of contraceptive (Methods/Device)	Upto 20 weeks only by a married woman	Unmarried women also covered
Upto 12 weeks	Advice of 1 registered medical practitioner(RMP)	Advice of 1 RMP
12 to 20 weeks	Advice of 2 RMP	Advice of 1 RMP
20 to 24 weeks	Not allowed	2 doctors for some categories of pregnant women
<b>More than 24 weeks</b>	Not allowed	<b>State Level Medical Board In Case Of Substantial Foetal Abnormality</b>
<b>Breach of confidentiality</b>	Fine upto 1000 Rs	Imprisonment up to a year, or fine, or both
<b>Any time</b>	1 RMP, if immediately necessary to save pregnant woman's life, opinion formed in good faith.	

#### **Significance OF MTP (Amendment) Act 2021**

- Despite a sustained government push over years, contraceptive use in India is not very popular. Data from the National Family Health Survey 4 show that just 47.8% of couples in the country use modern contraceptive methods and only 53% use any method at all.
- According to a 2018 study by the Guttmacher Institute, 50% of pregnancies in six of the larger Indian states — Assam, Bihar, Gujarat, Madhya Pradesh, Tamil Nadu and Uttar Pradesh — are unintended.
- Estimation of unintended pregnancies is important because many of them result in abortions and the availability of cheap and safe abortion services is one of the indicators of a robust health system.
- Several petitions have been filed in the Courts seeking permission for aborting pregnancies at a gestational age beyond the present permissible limit on grounds of foetal abnormalities or pregnancies due to sexual violence faced by women.
- Current changes are a step towards safety & well-being of women who will be benefited by comprehensive abortion care, under strict conditions, without compromising service & quality of safe abortion.
- The amendments will increase the ambit and access of women to safe abortion services and will ensure dignity, autonomy, confidentiality and justice for women who need to terminate pregnancy.

#### **Issues Still Unaddressed**

- Formation of a state medical board raises additional concerns of their access, particularly to women from rural areas.

- The Act requires abortion to be performed only by doctors with specialisation in gynaecology or obstetrics. There is a 75% shortage of such doctors in community health centres in rural areas.
- National Health and Family Survey (2015-16): Only 53% of abortions are performed by a **registered medical doctor** and the balance are conducted by a nurse, auxiliary nurse midwife, family member, or self.
- No clarity regarding transgender persons whether they will be covered or not.



## Improving Ties With Sri Lanka

### Context

- The state-owned **Sri Lanka Ports Authority inked a deal with India's Adani Group** to develop and run the strategic **Colombo Port's West Container Terminal**.
- Indian foreign secretary also visited Sri Lanka to discuss ways to further advance the comprehensive bilateral partnership at all levels.

### Significance of West Container Terminal Deal

#### East Container Terminal (ECT) Controversy

- In February 2021, Sri Lanka **renege on 2019 deal** with India and Japan to operate the East Container Terminal.
- Many experts believed that the **China had played a role** in instigating port union's protest against India's interest which ultimately led to cancellation of the project.
- Hence, current deal to develop West Container Terminal assumes significance.

#### Greater Indian Stake

- Indian side will have **85% stake** in the West Container Terminal.
- In East Container Terminal deal, India and Japan together held **49% stake**.
- This would give India a much-needed strategic presence at Colombo port, where almost 70% of operations involve shipments bound for India.

### Significance Of The Visit Of Foreign Secretary

- This visit is being seen as an opportunity to get bilateral ties back on track after recent problems such as the scrapping of the MoU on the East Container Terminal.
- It was also aimed at assessing Sri Lanka's development assistance requirements.
- Foreign secretary dedicated 1,235 houses as part of the **Indian Housing Project** in the central hill country.
- He also inaugurated a
  - ✓ 'Model Housing Village' in the northern Vavuniya district,
  - ✓ School building at Vadamarachchi in Jaffna, and
  - ✓ Saraswathy Central College building in Pussellawa in Kandy.

These projects employ local companies and invariably use Sri Lankan material and labour in their execution.

## India-Sri Lanka Bilateral Relations

### Political

- In Sept' 2020, PM Modi hosted a Virtual Bilateral Summit with Sri Lankan PM Mahinda Rajapaksa, first such engagement by Sri Lankan PM after the Parliamentary elections of August 2020.
- It was also the first virtual summit held by India with a neighbouring country.

### Commercial

- In 2000, both sides signed India-Sri Lanka **Free Trade Agreement**.
- In 2020, India was **Sri Lanka's 2nd largest trading partner** with the bilateral merchandise trade amounting to about USD \$ 3.6 billion.
- India is also one of the largest contributors to **FDI in Sri Lanka**. FDI from India amounted to about US\$ 1.7 billion during the period 2005 to 2019.

### Development Cooperation

- With grants alone amounting to around USD 570 million, the overall commitment by GOI is more than USD 3.5 billion.
- Under **Indian Housing Project**, India has so far committed to construct 62,500 houses in *war affected areas* and estate workers in the plantation areas.
- The country-wide 1990 Emergency Ambulance Service, launched in 2016. At a total cost of more than USD 22.5 million, close to 300 ambulances were provided by GOI under this project.
- There are another 20 ongoing grant projects across diverse spheres including iconic **Jaffna Cultural Center**

### Projects under Lines of Credit (LOC)

- 11 LOC extended to Sri Lanka by the Export Import Bank of India in last 15 years.
- Important sectors in which Projects have been executed or are under execution under these LOCs include: Railway, transport, connectivity, defence, solar.
- Some important Projects completed are: supply of defence equipments; upgradation of railway line from Colombo to Matara etc.
- US\$ 100 million LoC for undertaking solar projects in Sri Lanka in June 2021.

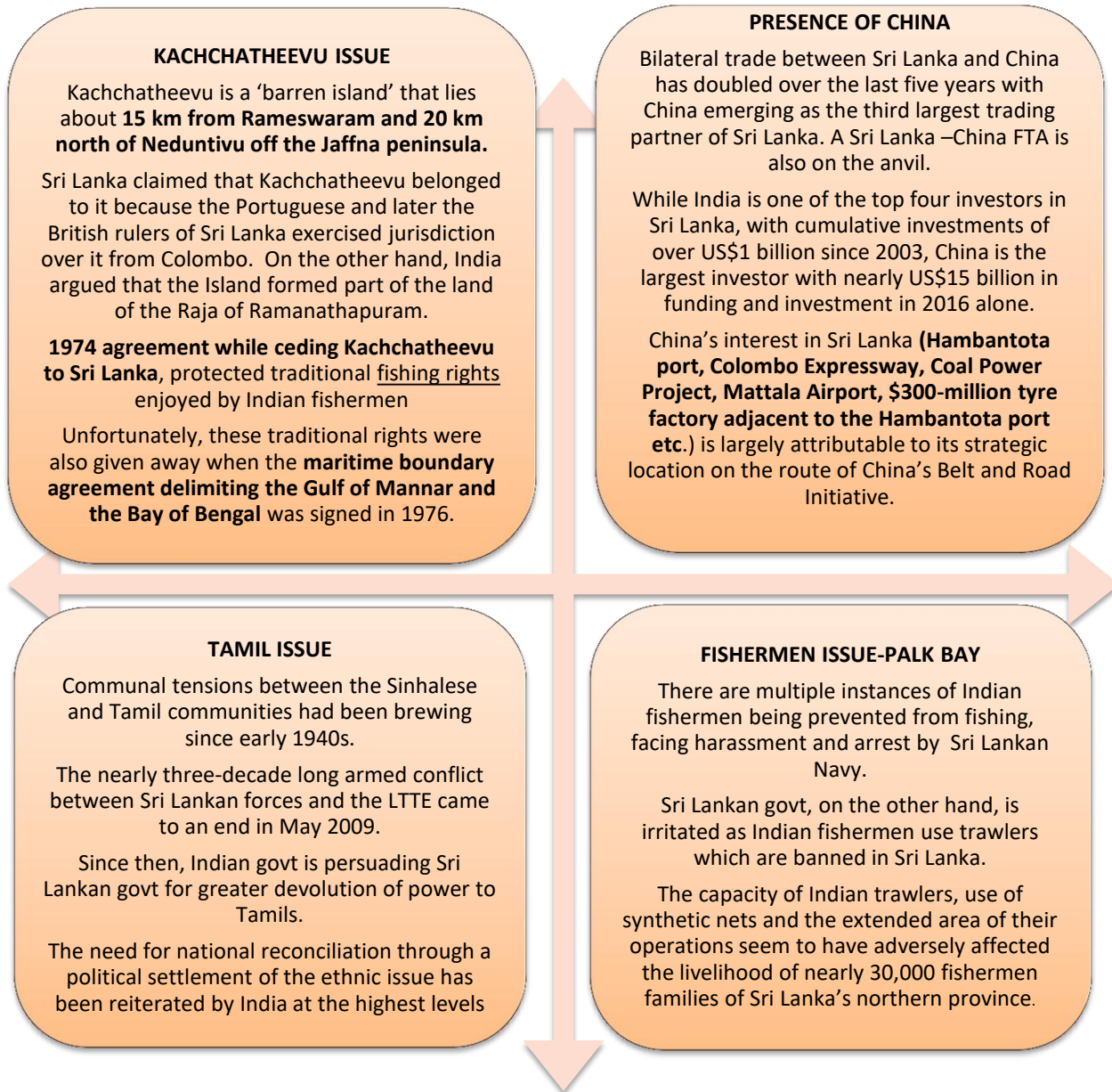
### Indian Assistance during COVID-19 Pandemic

- In January 2021, Sri Lanka received 5,00,000 doses of free Made in India COVID-19 vaccines.
- India also provided PPE kits and other medical equipments to Sri Lanka.
- India, in July 2020, had signed an agreement for extending a \$400-million currency swap facility to Sri Lanka. This was done to boost the foreign reserves and ensure financial stability of the country, which is badly hit by COVID-19 pandemic.

### Cultural relations

- Cultural Cooperation Agreement, signed in 1977 forms the basis of periodic Cultural Exchange Programmes between the two countries.
- **Buddhism** is one of the strongest pillars connecting the two nations.
- In September 2020,, India announced USD 15 million grant assistance to Sri Lanka for the promotion of Buddhist ties between the two countries.

## Irritants Between India-Sri Lanka Relations



## Way Forward

- Institutional Framework for fisherman issue should be developed. This should include the fishermen's cooperatives of both countries.
- Increase economic engagements – as deeper economic involvement with Sri Lanka has become an imperative for India to counter Chinese presence and influence in Sri Lanka. Also, the two sides should focus on finalising Comprehensive Economic Partnership Agreement (CEPA) negotiations.
- Resettlement, tourism, cultural exchange, and trade are few areas which can be used to increase better ties with Sri Lanka.
- Engage more through regional groupings such as SAARC, BIMSTEC.

# China-Taiwan Tussle

Recently, Taiwan reported that 38 Chinese military jets flew into its defence air zone, claiming it as one of the biggest incursions by Beijing.

## China-Taiwan Dispute

### Background

The island seems to have first appeared in Chinese records in AD239, when an emperor sent an expeditionary force to explore the area

This evidence is used by Beijing to back its territorial claim.

Taiwan was administered by China's Qing dynasty from 1683 to 1895.

In 1895, Japan won the First Sino-Japanese War, and the Qing government had to cede Taiwan to Japan.

After World War II, Japan surrendered and relinquished control of territory.

### Civil War

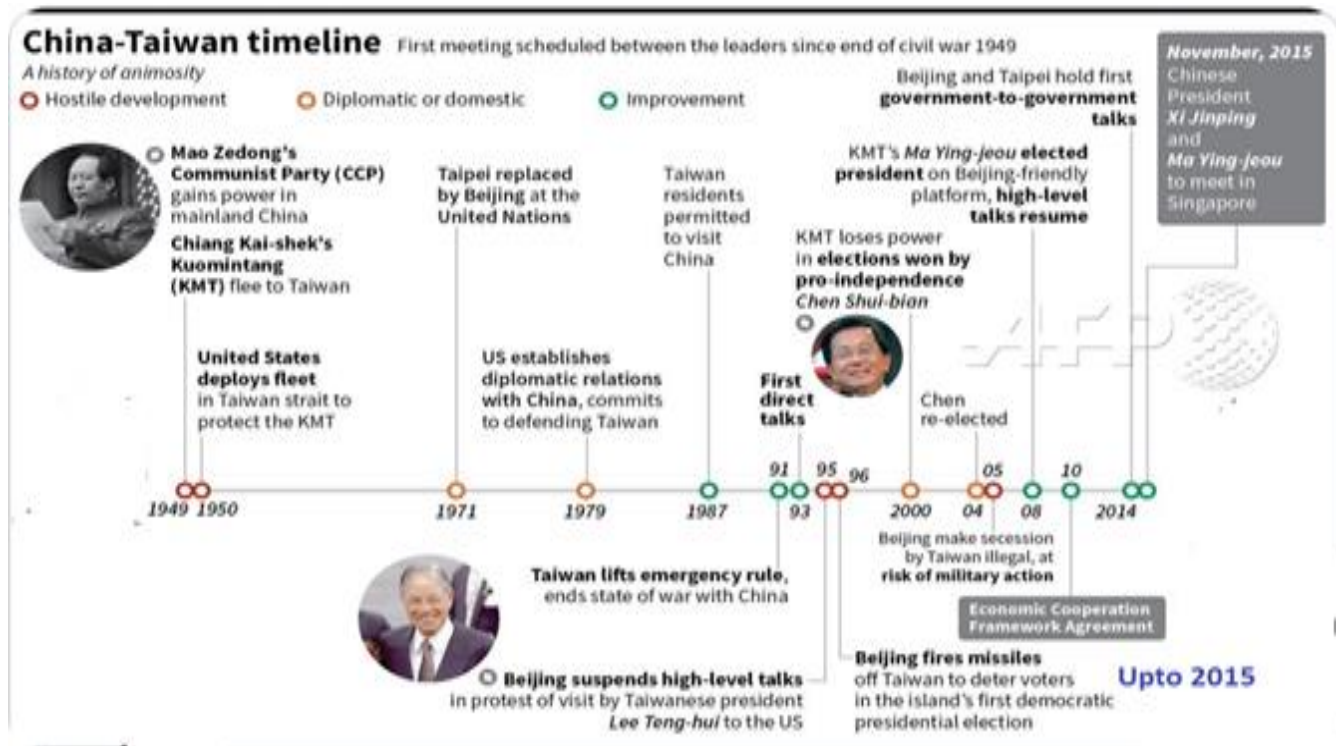
When Japan surrendered, Chinese Nationalist Party (also known as the Kuomintang) began ruling Taiwan with the consent of its allies, the US and UK.

Chiang Kai-shek was the ruler of this party.

However, almost immediately following Japan's surrender, the Chinese Civil War broke out between the KMT and the Chinese Communist Party (CPC).

Chiang and the remnants of his Kuomintang government fled to Taiwan in 1949.

## China-Taiwan Timeline (1949 Onwards)



## Disagreement and Confusion About Taiwan

- China regards Taiwan as a breakaway province which it has vowed to retake, by force if necessary.
- China has repeatedly insisted that **Taiwan should be called "Chinese Taipei"** in efforts to prevent international recognition of Taiwan as a country.
- But Taiwan's leaders argue that it is a **sovereign state**. Taiwan continues to participate in international events and dialogues separately.
- It has its own constitution, democratically-elected leaders, and about 300,000 active troops in its armed forces.

## Who Recognises Taiwan?

- Chiang Kai-shek's Republic of China (ROC) government held China's seat on the United Nations Security Council.
- It was recognised by many Western nations as the only Chinese government.
- However, in 1971 the UN switched diplomatic recognition to Beijing and the ROC government was forced out.
- Since then, the number of countries that recognise the ROC government diplomatically has fallen drastically to about 15.


### India-Taiwan Relations

India does not have formal diplomatic ties with Taiwan. Like most countries, it maintains commercial ties with Taiwan.

In 1995, New Delhi set up the India-Taipei Association (ITA) in Taipei to promote interactions between the two sides.

- o The aim of ITA was to facilitate business, tourism, and cultural exchanges.
- o ITA has also been authorized to provide all consular and passport services.

In the same year, Taiwan too established the Taipei Economic and Cultural Centre in Delhi



### Recent Relation Between India and Taiwan

In 2018 India and Taiwan signed an updated bilateral investment agreement to expand economic ties.

In 2019, India - Taiwan trade volume was US\$7.2 billion.

- o Major Indian exports to Taiwan include waste oil, naphtha, cereals, cotton, organic chemicals, copper, aluminum and food residues.
- o Major Taiwanese exports to India include integrated circuits, machinery and other electronic products.

In May 2020, two members of the Indian Parliament virtually attended the newly re-elected President Tsai's swearing ceremony.

In October 2020, India gave approval to firms including Taiwan's Foxconn Technology Group, Wistron Corp. and Pegatron Corp. to invest in India. The idea is to attract investment worth more than 10.5 trillion rupees (\$143 billion) for smartphone production over five years.



## India Re-elected to UNHRC

India was re-elected to the **UN Human Rights Council (UNHRC) for the 2022-24 term** with an overwhelming majority in the General Assembly. India's current term was set to end on December 31 2021.

### Key Highlights

- 76<sup>th</sup> UN General Assembly held elections for **18 new members** of the UNHRC who will serve for a period of **3 years**, starting in January 2022.
- India got 184 votes in the 193-member assembly. The required vote for majority was 97.
- Apart from India, **17 countries - including USA** - were elected to the council. In June 2018, United States, during the tenure of former President Donald Trump, had quit the Human Rights Council after accusing it of political bias.

## India's Tryst with UNHRC

- India has been re-elected to the Council for a **sixth term**. India was elected to the council for the term from 2019 to 2021 as well. It had served two tenures earlier between 2011 and 2017.
- Recent overwhelming support for India in the election to the Council is a robust **endorsement of its strong roots in democracy, pluralism and the respect for Fundamental Rights**.
- However, the relationship between India and the UNHRC **touched its lowest point** when the United Nations Commissioner for Human Rights moved to Indian Supreme Court (in March 2020) over the contentious Citizenship Amendment Act.
  - ✓ The UNHRC wanted to be made a **party** in the existing pleas filed against the CAA in the SC.
  - ✓ This had irked India as it maintained that the **CAA is an internal matter and concerns the sovereign right of the Indian Parliament to make laws**.
- Also, India is **criticized for its inconsistent voting pattern** at the council, especially wrt Sri Lanka and Israel.
  - ✓ In March 2021, India abstained from voting on a resolution on Sri Lanka. This was the second time since 2014 that India had abstained.
  - ✓ India had voted twice in favour of resolutions that have been critical of Sri Lanka in 2012 and 2013.
  - ✓ Hence, experts criticize **India for not taking a stand based on the merits of resolutions**. Rather, its voting behaviour is guided by domestic coalition politics and international geopolitics.

## About UNHRC

- Between 1946 and 2006, the UN Commission on Human Rights (UNCHR), created as a subsidiary body of Economic and Social Council (ECOSOC), served as the UN's central policy organ in the human rights field.
- The UNHRC was established by the United Nations General Assembly in 2006, to replace the United Nations Commission on Human Rights (UNCHR).
- Based in **Geneva**, the Human Rights Council is an inter-governmental body **within the United Nations system**.
- High Commissioner for Human Rights is the principal human rights official of UN.
- Members meet around three times a year to debate human rights issues and pass **non-binding resolutions** and recommendations by majority vote.
- It responds to human rights emergencies and is responsible for investigating alleged human rights violations.



## Membership In UNHRC

- 47 Member States are elected directly and individually by secret ballot by majority of the members of General Assembly.
- Human Rights Council candidates are elected in geographical groups to ensure even representation. Seats are distributed among Regional Groups of:

African States (13)

Asia-Pacific States (13)

Latin American and  
Caribbean States (8)

Western European  
and other States (7)



- The members of the Council shall **serve for a period of three years** and shall not be eligible for immediate re-election after two consecutive terms.

### Analysis of Working of UNHRC

- The main criticism against UNHRC is that it is **made up of states not known for their human rights records** and some of them are even frequent violators of human rights.
- It has also been criticised as a **mere debate forum** with no impact on the actual ground scenario. However, it is important to note that accountability for human rights start by exposing these problems.
- In this regard, UNHRC’s work demonstrates a much more determined and systematic attempt by the international community to monitor human rights violations.
- Furthermore, the **Universal Periodic Review** has added another layer of transparency and accountability for upholding international human rights norms.
- Nonetheless, *greater documentation of violations* does not translate into real accountability. Resources to do the field work are scarce and need to be replenished.
- Thus, a **special implementation fund** should be created to provide both governmental and non-governmental bodies the tools they need to implement the hundreds of important and useful recommendations of the UNHRC.



## Pandora Papers

- Recently, the Pandora Papers based on documents leaked to **International Consortium of Investigative Journalism (ICIJ)** exposed **financial secrets** of current and former world leaders, public officials, businessmen, including at least 380 persons of Indian nationality.
- Pandora Papers are the latest in a series of mass ICIJ leaks of financial documents viz. **Lux Leaks (2014), Panama Papers (2016), Paradise Papers (2017) and FinCen files (2020).**
- ICIJ which involves 150 media outlets obtained 11.9 million confidential files from **14 offshore services firms** from around the world to find these secret financial dealings. These firms have set up about **29,000 off-shelf companies & private trusts** for worldwide clients.
- Pandora Papers reveal how the rich, the powerful and the famous set up **complex multi-layered trust structures** for estate planning, in jurisdictions which are loosely regulated for tax purposes, but have strong secrecy laws.
- These documents relate to the **ultimate ownership of assets** ‘settled’ (or placed) in private offshore trusts and the investments including cash, shareholding, and real estate properties, held by the offshore entities.

Pandora Papers	Paradise & Panama Papers
It reveals how <b>trusts are used as a vehicle</b> in conjunction with <b>offshore companies</b> set up for the sole purpose of <u>holding investments and other assets</u> by business families and ultra-rich individuals	These papers dealt largely with <b>offshore entities</b> set up by individuals and corporations. It had a <b>narrow approach</b> regarding modus operandi

## Trusts

- A trust can be described as a **fiduciary arrangement** where a third party, referred to as the trustee, holds assets on behalf of individuals or organisations that are to benefit from it.
- A trust comprises **three** key parties:

Settlor	•Who sets up, creates or authors a trust
Trustee	•Who holds the assets for the benefit of a set of people named by the settlor
Beneficiaries	•To whom the benefits of the assets are passed on

- At times, the settlor appoints a **protector**, who has the powers to supervise the trustee, and even **remove the trustee and appoint a new one**.

A trust is not a separate legal entity, but its legal nature comes from the trustee. **Indian Trusts Act, 1882**, gives legal basis to the concept of trusts. India also recognizes offshore trusts i.e., trusts set up in other tax jurisdictions

## Reasons For Setting Up Trusts

- A trust is generally used for **estate planning purposes** and succession planning. It helps large business families to consolidate their assets— financial investments, shareholding, and real estate property.
  - E.g. While allotting shares in the company to 3 siblings, Father set conditions that a sibling can get **dividend and claim ownership of the shares**. But they **can't sell it** without offering **first right of refusal** to the other Two siblings.
- But trusts are also used for **illegitimate activities**, as overseas trusts offer high secrecy because of stringent privacy laws in the jurisdiction they operate in. Thus, a lot depends on the intention behind setting up an offshore trust.
- These trusts can be set up in known **tax havens** such *Samoa, Belize, Panama, and the British Virgin Islands, or in Singapore* and New Zealand which offer **relative tax advantages**, or even South Dakota in the US, the biggest economy.

A tax haven is any country or jurisdiction that offers minimal tax liability to foreign individuals and businesses. Tax havens do not require businesses to operate out of their country or the individuals to reside in their country to receive tax benefits.

## Reasons For Setting Up Opaque Overseas Trusts

- **Maintain A Degree Of Separation:** Businesspersons set up private offshore trusts to create a degree of separation from their personal assets. A 'settlor' no longer owns the assets he places or 'settles' in the trust. In this way, he/she insulates these assets from creditors.
- **Enhanced Secrecy:** Offshore trusts offer enhanced secrecy to businesspersons, due to their complex structures. The Income Tax Department in India can get to the ultimate beneficial owners only by requesting information with the financial investigation agency or international tax authority in offshore jurisdictions. However, exchange of information can take a long time.
- **Avoid Tax In The Name Of Planning:** Businesspersons prevent their NRI children from being taxed on income from their assets by transferring all the assets to a trust. The ownership of the assets is with the trust, and since the child is only a beneficiary, he/she is not liable to any tax on income from the trust.

- **Protection From A Possible Estate Duty:** There is a fear that estate duty, which was abolished back in 1985, will likely be re-introduced soon. Thus, setting up trusts in advance, business families can protect next generation from paying death/ inheritance tax, which was as high as 85% under The Estate Duty Act, 1953. Although India does not have a wealth tax now, most developed countries including the US, UK, France, Canada, and Japan have such an inheritance tax.
- **Flexibility In a Capital-Controlled Economy:** India is a capital-controlled economy. Individuals can invest only \$250,000 a year under the Reserve Bank of India's Liberalised Remittance Scheme (LRS). To overcome this, businesspersons have **turned NRIs** and under Foreign Exchange Management Act, NRIs can remit \$1 million a year in addition to their current annual income outside India.
- Further, the tax rates in overseas jurisdictions are much lower than the 30% personal income tax rate in India.

#### Status Of Offshore Trusts For Tax Purposes

- There are certain grey areas of taxation where IncomeTax Department is in disputes with offshore trusts.
- After **Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015** came into existence, resident Indians — if they are settlors, trustees, or beneficiaries — have to report their foreign financial interests and assets. However, **NRIs are not required** to do so.
- I-T Department **may** consider an offshore trust to be a resident of India for taxation purposes if the trustee is an Indian resident.
- In cases where the trustee is an offshore entity or an NRI, if the tax department establishes the trustee is taking instructions from a resident Indian, even then the trust may be considered a resident of India for taxation purposes.

#### Impact

When rich use such tools, most of it is generally legal, which creates a larger problem- the **delegitimization of wealth** in a society.

- Ordinary individuals who pay their share of taxes **would not want to do so**, after knowing that the rich, with access to expert advice, use the loopholes, and exploit the system.
- It also **deprives the government of tax revenues**, critical for funding of public services in a developing economy like India.
- Moreover, in times of economic distress, it further **widens the gap between rich and poor**. This may increase resentment against the rich and threaten the fabric of society.

#### Way Ahead

Such investigations highlight the need for comprehensive, all-encompassing reform. Gaps in tax systems must be addressed, and information must be shared by countries more freely.

- Governments must also expand the kind of disclosures required to monitor such transactions, and enforce them strictly.
- Several development institutions have also called for immediately abolishing tax havens after the leak of 'Pandora Papers', as tax havens cost governments around the world USD 427 billion each year and developing countries are the hardest hit, proportionately.
- Abolishing tax havens can go a long way to ensure that government actually have the access to tax revenue they need to fund quality public expenditure and reduce inequity in society.

# Air India Sale

After several failed attempts, Tata Sons subsidiary Talace Pvt. Ltd., recently won the bid for national carrier Air India. This marks the first major outright privatisation of a public sector company in almost two decades.

## Timeline

**Air India (AI) was started by the Tata Group in 1932, but in 1947, as India gained Independence, the Government bought 49% stake in AI**

**In 1953, the Government bought the remaining stake, and AI was nationalised.**

For the next few decades, the national carrier dominated Indian aviation. However, with **economic liberalisation** and the growing presence of private players, this dominance came under serious threat.

**Ideologically too, the Government running an airline did not align with the principle of liberalisation.**

**By 2007, AI (which flew international flights) was merged with the domestic carrier, Indian Airlines, to reduce losses.** However, it was so poorly run that it has never made a profit since 2007.

In fact, since 2009-10, the government has spent over Rs 1.1 lakh crore to either directly make up the losses or raise loans to do so.

**As of August 2021, AI's debt was Rs 61,562 crore. Moreover, every additional day that AI remains operational, the government suffers a loss of Rs 20 crore — or Rs 7,300 crore per year.**

The **first attempt** to reduce the government's stake — disinvestment — was made in **2001** but that attempt — **to sell 40% stake** — failed. In **2012, UPA govt** approves turnaround plan and decided to infuse Rs 30,000 crore till 2021. Again in **2018**, the government made another attempt to **sell 76% government stake** but it **did not receive any response** from the market.

## Why Strategic Disinvestment Was Approved in 2018

- The Comptroller and Auditor General of India (CAG), in its 2018 audit of the Turnaround Plan and Financial Restructuring Plan (TPFRP) of the airline, found that the airline has **failed to achieve many of the objectives** in various functional areas which were mandated under the TPFRP which provided for an equity infusion of Rs 30,231 crore till FY21.
- This failure resulted in less revenue generation for the airline leading to requirement of **more short-term loans** for the airline & also eroded the benefit of financial restructuring plan.

### Disinvestment Vs Privatisation

- Disinvestment means sale of assets by the government, usually Central and state public sector enterprises, projects, or other fixed assets.
- The government undertakes disinvestment to reduce its fiscal burden or to raise money for meeting specific needs, such as to address the revenue shortfall from other regular sources.
- In some cases, disinvestment may be done to privatize assets. **However, not all disinvestment is privatisation.**
- Privatisation occurs when a government-owned business, operation, or property becomes owned by a private, non-government party. That is the private party owns more than 50% stake.

- Some of the findings of CAG were -
  - ✓ It pointed that Air India is generating **less revenue over passengers compared to other airlines.**
  - ✓ There has been a mismatch in demand and availability of airline (i.e., **non-availability of proper aircraft**)
  - ✓ It also pointed out that **mismanagement in granting bilateral agreements with foreign countries** (i.e., granting more than required number of bilateral seats to carriers of foreign countries) has been hurting Air India's prospects.
  - ✓ **Mismanagement of manpower:** Disguised unemployment is more prevalent in Air India.
- **14th Finance Commission** has elaborated to consider the opportunity cost while investing in PSU's and suggested that the government should not be in the business of providing goods and services where the private sector has a vibrant presence. In Air India case, the cost is much higher as it is making losses consistently and is dependent on the government for its survival.
- Divesting the loss-making Air India will send **a strong signal to investors that India is serious about reforms** and is no longer willing to throw good money after bad and also set an example and pave the way for disinvestment of other loss-making companies, such as Bharat Sanchar Nigam Ltd (BSNL) and Mahanagar Telephone Nigam Ltd (MTNL).

### Hurdles In The Earlier Attempts

- In the previous two attempts (2001 and 2018), the Government **tried to retain a partial stake**, due to which private investors were not interested. The idea of government ownership, even if it was as little as 24%, might have reduced the operational freedom of the buyers.
- To address it, this time the **government put 100% of its stake on sale.** The NITI Aayog has suggested complete privatization.
- In the current attempt, the Government also announced that bids for Air India would be accepted on the basis of the **carrier's enterprise value instead of equity value** of a firm.

#### Enterprise value

• Includes the **equity value, debt as well as cash.**

#### Equity value

• Measures the value of a **company's shares.** Under equity route, the government expected the bidders to pick up a **certain amount of the debt**, which may end up being understated or overstated depending on market conditions. This could have made the entire **process unviable.**

- Under the **enterprise value** route, the government let the bidders decide the amount of debt they wanted to pick up. These factors made the difference this time.

### Current Sale Terms

- The deal with the Tatas will be executed at an **enterprise value** of Rs 18,000 crore, against a reserve price of Rs 12,906 crore. Of this, Tata will pay Rs 2,700 crore in cash, while Rs 15,300 crore of the airline's debt will be retained by it. The remaining debt will be transferred to a special purpose vehicle  
The **reserve price** is the benchmark price, below which the government would not have accepted bids.
- As per both the original and revised construct, all **non-core assets** (land, buildings, etc.), valued at Rs 14,718 crore, are to be transferred to **Air India Assets Holding Limited (AIAHL)** and are therefore not a part of transaction.

## Significance

- The current deal underlines the government's commitment to **reduce the government's role in the economy**. It is a message from the government to the markets and global investors that *reforms will be given utmost importance*.
- The sale **relieves the government from a high-cost industry** that most governments around the world have left in the hands of private carriers.
- Now, the government will no longer need to constantly **put in cash in the loss-making enterprise**, as it has in the past. This will free up scarce resources, and the *money can be spent more meaningfully in social and strategic sectors*.
- Given the historical difficulties in AI's disinvestment, or any disinvestment at all, this is a significant achievement. The success of the AI deal is bound to **make private sector bidders confident** and give a boost to other disinvestment procedures which have been moving very slowly.

## Issues

- However, purely in terms of money, the deal does not result in a very big step towards achieving the **government's disinvestment target** of Rs 1,75,000 crore in the current year.
- Moreover, of the total AI debt of Rs 61,562 crore, the Tatas will only take care of Rs 15,300 crore. That leaves Rs 43,562 crore of debt. The assets left with the government, such as buildings, etc., will likely generate Rs 14,718 crore. But that will **still leave the government with a debt of Rs 28,844 crore** to pay back.
- So, it can be argued that if the government had run AI well, it could have made profits and paid off the debts — instead of selling the airline and still be left with a lot of debt.
- To protect the interests of more than 13,000 staff of the airline, the deal ensures that there should be no job cuts for at least one year. However, the **assimilation of these employees** can be challenging. For instance, the integration between Air India and Indian Airlines is still an unfinished task after so many years.
- At the same time, to turn around Air India at a time of increasing fuel costs and COVID-hit air travel, will be a difficult task.



## Credit Ratings

- Moody's Investors Service has recently changed its outlook on India's sovereign ratings from **negative to stable**. However, it has retained India's rating of **Baa3**.
- Last year, it had downgraded India's sovereign rating to Baa3 — lowest investment grade and had kept outlook at negative due to the uncertainty surrounding pandemic.
- Rating scale is as follows, from excellent to poor: AAA, AA+, AA, AA-, A+, A, A-, BBB+, BBB, BBB-, BB+, BB, BB-, B+, B, B-, CCC+, CCC, CCC-, CC, C, D. Anything lower than a BBB- rating is considered risky.

## Credit Rating Agencies (CRA)

- A CRA is a company that assigns credit ratings, which rate a debtor's ability to pay back debt. Credit rating is a highly concentrated industry, with the Big Three credit rating agencies controlling approximately 95% of the ratings business. The Big Three include Moody's Investors Service, Standard & Poor's (S&P) and Fitch Ratings.

- In India, there are 6 credit rating agencies registered under Securities and Exchange Board of India (SEBI) namely, CRISIL, ICRA, CARE, SMERA, Fitch India and Brickwork Ratings.

### Sovereign Credit Rating (SCR)

- A sovereign credit rating is an independent assessment of the creditworthiness of a country or sovereign entity.
- Several key factors are used in deciding how risky it might be to invest in a particular country or region. They include its **debt service ratio, growth in its domestic money supply, per capital income, inflation, import ratio and the changes in export revenue.**
- Sovereign credit ratings can give investors insights into the level of risk associated with investing in the debt of a particular country, including any *political risk*. Thus, obtaining a good sovereign credit rating is usually essential for developing countries that want access to funding in **international bond markets**.
- In addition to issuing bonds in external debt markets, another common motivation for countries to obtain a sovereign credit rating is to attract **foreign direct investment (FDI)**.

SOVEREIGN RATINGS FOR INDIA			
Agency	Rating	Meaning	Outlook
Moody's	Baa3	Lowest investment	Stable
S&P	BBB-	Lowest investment	Stable
Fitch	BBB-	Lowest investment	Negative

Source: Respective agencies

RATIONALE FOR CHANGE
<ul style="list-style-type: none"> <li>▪ Receding financial risks to allow growth to support debt stabilisation</li> <li>▪ An economic recovery is underway</li> <li>▪ Downside risks to growth from subsequent coronavirus infection waves mitigated by rising vaccination rates</li> <li>▪ Selective use of restrictions on economic activity, as seen during the second wave</li> </ul>

Rating Methodology	Impact Of Ratings
<ul style="list-style-type: none"> <li>• Credit rating agencies <b>rate the financials and business models of companies</b>, as well as <b>economic management by sovereign governments</b>. They analyse official and other data and interact with government officials, business leaders, and economists, while doing so.</li> <li>• The agencies then <b>rate instruments</b> such as bonds, debentures, commercial papers, deposits, and other debt offerings of companies or governments.</li> <li>• Agencies do this on a continuous basis, either upgrading or downgrading the instrument based on performance, prospects, or events likely to have an impact on the balance sheet or the fiscal position.</li> </ul>	<ul style="list-style-type: none"> <li>• From a company's or a government's perspective, a better rating helps to <b>raise funds at a cheaper rate</b>. It has an impact on companies planning to borrow overseas through bonds or foreign loans, as investors or banks abroad may seek higher interest rates because of weak prospects.</li> <li>• A rating downgrade means <u>bonds issued by a government become riskier</u> than before, because weaker economic growth and worsening fiscal health negatively impact a government's ability to pay back.</li> <li>• It can also <u>put pressure on the rupee and impact investor sentiment</u>.</li> </ul>

### India's Engagement with CRAs

- In the run-up to India's **balance-of-payments crisis in 1991**, agencies downgraded India's sovereign rating. This reduced the country's ability to raise money abroad through public sector oil companies or banks for short periods to buy oil or to pay for imports.
- In 1998, when India announced that it had carried out **nuclear tests in Pokhran**, the agencies were quick to react again, impacting borrowings.
- For a long time, the Indian government **did not engage much with CRAs to change perceptions** and has complained that *countries with higher levels of debt and a weak fiscal have managed to get better ratings*.
- CRAs were also **criticized globally after the global financial crisis of 2008**, when they were exposed after the collapse of highly rated banks and other institutions.

- They also had to **face a probe by central investigating agencies** after they had assigned top ratings to borrowings by firms that were part of the *IL&FS group* in India.

### Economic Survey's Stance on SCRs

- India has consistently been rated below expectation as compared to its performance on various parameters during the period 2000-2020.
- India remained a clear outlier on several parameters such as GDP growth rate, inflation, general government debt, political stability, rule of law, control of corruption, investor protection, ease of doing business, sovereign default history, etc.

### Future Outlook

- Moody's recent change in India's outlook is based on the view that the **risks in India's real economy and the financial system are reducing**. Moreover, with higher capital stock and greater liquidity, the risk from banks and non-bank financial institutions has also reduced.
- An upgrade in the ratings outlook, while positive, should not lead to complacency. At the end of 2021-22, the Indian economy will be only marginally stronger than its pre-pandemic level.
- Moreover, parts of the economy, especially the informal sector, are unlikely to have recovered fully by then.
- Both **private consumption and investment are likely to remain low**, while **government spending will continue to be low** due to high debt levels.
- India's general **government debt has risen sharply** to around 89% of GDP in 2020, up from 74% in 2019.
- A lot depends on how the economy exits this phase. If growth remains low in medium term, it would worsen the debt dynamics, which could weaken India's fiscal strength further and lead to a negative rating action.



## Glasgow Climate Change Conference (COP 26)

Conference of Parties 26, UN Climate Change Conference, hosted by UK in partnership with Italy from 31 October to 12 November 2021 in Glasgow, UK. This COP also marks **five years** of COP21 when a landmark Paris climate agreement was signed in 2015, in which countries pledged to work hard to keep warming below 1.5°C.

### COP26 Goals

According to UNFCCC, COP26 will work towards four goals:

<p><b>Secure global net-zero by 2050 and keep 1.5 degrees within reach</b></p> <ul style="list-style-type: none"> <li>• Countries are being asked to come forward with ambitious 2030 emissions reductions targets that align with <b>reaching net zero</b> by middle of the century</li> </ul>	<p><b>Adapt to protect communities and natural habitats</b></p> <ul style="list-style-type: none"> <li>• Countries will work together to protect and restore ecosystems and build defences, warning systems and resilient infrastructure and agriculture to avoid loss of homes, livelihoods and even lives.</li> </ul>	<p><b>Mobilise Finance</b></p> <ul style="list-style-type: none"> <li>• Developed countries must make good on their promise to mobilise at least <b>USD100 Bn</b> in climate finance per year.</li> </ul>	<p><b>Work Together to Deliver</b></p> <ul style="list-style-type: none"> <li>• Work together to frame a list of <b>detailed rules</b> that will help fulfill Paris Agreement.</li> </ul>
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## What Does The UK - Host Of Conference - Want From COP26?

It described aims for this COP as “**coal, cars, cash and trees.**”

- All countries should be committed in such a way that effort should be made to eliminate the most polluting fossil fuel.
- All countries should move to electric power engines by phasing out the international combustion engines.
- All countries should raise cash so that they can reduce the damage caused by climate change in developing countries as well as help in the energy transition.
- All countries should stop deforestation, along with this we should also find out rules for pricing and trading of carbon at the global level.

## Challenge Ahead To Meet COP 26 Goals

- Even today coal is used on a large scale in the world because it is cheap, which is a big reason for climate change. But due to economic reasons, countries are still afraid to adopt new alternatives to coal.
- India is the 3<sup>rd</sup> largest emitter of greenhouse gas (GHG), but still India is objecting to a net-zero target, because India is on the path of development and due to this emission is going to increase further in the upcoming two-three decades.
- **Talanoa dialogue** was launched in COP23, a process designed to help countries implement and increase their Nationally Determined Contributions (NDCs) by 2020 but many countries failed to do so before the deadline. INDCs includes information about a country's emissions reduction plans, the time frame to achieve the reduction, the extent and coverage of the reduction and the methodology used to measure emissions reduction measures globally.
- The carbon market, which was established under the Paris Agreement, for which no rules have yet been set, developing countries has several million unsold carbon credits. The rules and verification process that have been created is not very strong.
- Multilateralism is necessary to deal with climate change where there is cooperation between many countries in pursuit of a common goal but nowadays countries are focusing more on their own development, due to which somewhere climate change is being ignored.

## Why Are We So Focused On Climate Change?

- UN Intergovernmental Panel on Climate Change's (IPCC) latest report, released in August 2021, warns in its strongest word those human activities that have clearly warmed the planet and that climate change is now widespread, rapid and intensifying.
- Scientists explain how climate change is fueling extreme weather events like flooding, severe heat waves, droughts, loss and extinction of species, melting of ice sheets & rising of sea levels.
- There are already enough GHG emissions in the atmosphere and they remain there long enough. Even if countries reduce their emissions, the world will experience rising temperatures through at least mid-century.

## Are Countries On Track To Meet International Climate Goals?

- UN warned in September 2021 that countries' revised targets were too weak and would leave the world on pace to warm 2.7 C by the end of the century.
- China the world's largest emitter has not submitted its NDCs. Major fossil fuel producers such as Saudi Arabia, Russia, and Australia seem unwilling to strengthen their commitments.
- Brazil has increased deforestation of the Amazon, the world's largest rainforest and crucial for biodiversity and removing carbon dioxide from the atmosphere.

## Steps Taken By India To Meet International Climate Goals

- India has reduced **emissions intensity of GDP by 21%** and is on track to achieve the **goal of 35% emissions reduction** as promised in Paris agreement.
- India announced 175 GW targets for renewables under the Paris agreement. Indian has subsequently increased the target to **450 GW**.
- India has leapfrogged from **BS IV to BS VI** for vehicle emission norms.
- India has promised **creation of additional carbon sinks of 2.5 to 3 billion tons of carbon equivalent** through increasing green cover. In last 5 years, India's green cover has increased by 15,000 sq. km.
- India has taken up a target for **restoration of 26 million of degraded land by 2030** during the 14th COP of UN Convention to Combat Desertification in Delhi.
- India has launched **Coalition for Disaster Resilient Infrastructure**, which is a partnership to support countries through knowledge exchange and provide technical support on developing disaster and climate resilient infrastructure.

### Climate Prosperity Plan

- Bangladesh will represent the climate prosperity plan with the aim to lessen the effects of climatic change on the economy, in light of COP26 climate change summit in Glasgow.
- The plan also envisions promoting renewable energy. It will make agriculture more resistant to climate shocks and find solutions to the challenges posed by global warming.



## Plastic Waste Management & EPR Rules, 2021

Recently, **Plastic Waste Management (2<sup>nd</sup> Amendment) Rules, 2021** was notified. But before we go into that, let's see some general concern related to plastic generation, its harmful effects and plastic waste management.

### Plastic Waste Generation

According to the reports for year 2017-18, Central Pollution Control Board (CPCB) has estimated that India generates approximately **9.4 Million TPA** (tonnes per annum) plastic waste, out of this ~ 60 % (5.6 Million TPA) plastic waste is recycled & **3.8 Million TPA plastic waste is left uncollected or littered**. While recycling stats are 40% higher than global average of 20%, there are no comprehensive methods for plastic waste management.

### Harmful Effects Of Plastic

Ironically, one of plastic's most desirable traits: its durability and resistance to decomposition, is the source of one of its greatest liabilities when it comes to the disposal of plastics. The disposal of plastics is highly problematic areas as natural organisms have a very difficult time breaking down the synthetic chemical bonds in plastic, creating the tremendous problem of the material's persistence.

- **Groundwater And Soil Pollution:** When buried in a landfill, plastic lies untreated for years. In the process, toxic chemicals from plastics drain out and seep into groundwater, flowing downstream into lakes and rivers, causing soil pollution and resulting in presence of micro plastics in soil.
- **Pollution in Oceans And Effect on Marine Species:** Since most of the plastic debris that reaches the ocean remains floating for years as it does not decompose quickly, it leads to the dropping of oxygen level in the

water, severely affecting the survival of marine species. When oceanic creatures and even birds consume plastic inadvertently, they choke on it which causes a steady decline in their population. The plastic is even ingested by smaller and smaller creatures (as it breaks down into smaller and smaller particles) and bio accumulates in greater and greater concentrations up the food chain—with humans at the top. Even plankton, the tiniest creatures in our oceans, are eating micro plastics. The tiny, broken-down pieces of plastic are displacing the algae needed to sustain larger sea life who feed on them.

- **Dangerous For Human Life:** Burning of plastic results into formation of a class of flame retardants called as Halogenes. These harmful chemicals are known to cause severe health problems such as cancer, neurological damage, endocrine disruption, birth defects and child developmental disorders, reproductive damage etc.
- **Environmental Issues On Disposal Of Plastic Waste**
  - ✓ During polymerization process, fugitive emissions are released.
  - ✓ Indiscriminate dumping of plastic waste on land makes the land infertile due to its barrier properties.
  - ✓ Burning of plastics generates toxic emissions such as Carbon Monoxide, Chlorine, Hydrochloric Acid, Dioxin, Furans, Amines, Nitrides, Styrene, Benzene, 1, 3- butadiene, CCl<sub>4</sub>, and Acetaldehyde.
  - ✓ Lead and Cadmium pigments, commonly used in LDPE, HDPE and PP as additives are toxic and are known to leach out.

### Plastic Waste Management Rules 2016

Government of India notified Plastic Waste Management (PWM) Rules 2016, superseding Plastic Waste (Management & Handling) Rules, 2011. These rules were further amended and named as ‘Plastic Waste Management (Amendment) Rules, 2018. Salient features of Plastic Waste Management Rules, 2016 are:

- Applicable to every Waste Generator, Local Body, Manufacturer, Importer, Producer and Brand Owner.
- Carry bags, made of virgin or recycled plastic, shall not be less than **50 microns in thickness**.
- Waste Generators including institutional generators, event organizers shall not litter the plastic waste, shall **segregate waste and handover to authorized agency** and **shall pay user fee** as prescribed by ULB.
- **Local Bodies** shall encourage *use of plastic waste for road construction or energy recovery or waste to oil or co-processing in cement kilns* etc. It shall be responsible for development and setting up of infrastructure for waste management which includes segregation, collection, storage, transportation, processing and disposal of the plastic waste either on its own or by engaging agencies or producers.
- **Gram Panchayat** shall operationalize and coordinate for **waste management** in the rural area. They shall also be responsible for segregation, collection, storage, transportation, and channelization of recyclable plastic waste fraction to recyclers having valid registration; ensuring that no damage is caused to the environment during this process; creating awareness among all stakeholders about their responsibilities; and ensuring that open burning of plastic waste does not take place.
- **Producer, Importers and Brand Owners** need to work out modalities for waste collection system for **collecting back** plastic waste within a period of **six months** in consultation with local authority/State Urban Development Department and implement with two years thereafter.
- **State Pollution Control Board (SPCB)/ Pollution Control**



**Committee (PCC)** shall be the authority for enforcement of the provisions of PWM Rules, 2016, relating to registration, manufacture of plastic products and multi-layered packaging, processing and disposal of plastic wastes.

- **District Magistrate or Deputy Commissioner** shall provide assistance to SPCBs/PCCs, Secretary-in- Charge, Urban Development Department and Gram Panchayat under his jurisdiction.

### Plastic Waste Management (2<sup>nd</sup> Amendment) Rules, 2021

In this amendment, the govt took a **U turn on its stand of banning use of recycled plastic or newspaper** for food items packaging. 2<sup>nd</sup> amendment came just a few weeks after the notification of the **1<sup>st</sup> amendment**, which listed 20 single-use plastic items to be phased out. **2 new rules** have been added by 2nd amendment which are:

#### 1<sup>st</sup> Rule

- Assured companies that more single-use plastic products will be added to phase-out list **only after 10 years** from the notification of **1st amendment of 2021**, thereby providing a moratorium to big companies to keep polluting

#### 2<sup>nd</sup> Rule

- To allow the use of **recycled plastics** for food products packaging

### Criticism of Plastic Waste Management (2nd amendment) Rules, 2021

#### Non-Conformity With Previous Laws

According to Plastic Waste Management Rules 2016, carry bags/Products made of **recycled plastic** shall not be used for storing, carrying, dispensing or packaging **ready to eat or drink foodstuff.**

**FSSAI in 2018** banned use of **recycled plastic or newspaper** for packaging of food items from July 1, 2019.

#### Not a part of Draft rules 2021

**Public discussion** which is the essence of **democracy, was not done**

### Plastic Waste Management (1<sup>st</sup> Amendment) Rules, 2021- Key Features

#### Single-use plastic

Manufacture, import, stocking, distribution, sale and use of **12 single-use plastic**, shall be **prohibited with effect from the 1st July 2022**

Earbuds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice-cream sticks, polystyrene [Thermocol] for decoration; plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, wrapping or packaging films around sweet boxes, invitation cards, and cigarette packets, plastic or PVC banners less than 100 micron, stirrers.

The ban will **not apply to commodities made of compostable plastic.**

#### Increase thickness of plastic bags

Polythene bags with thickness less than 50 microns were already banned. Government chalked out a **phased manner of banning-single use carry bags.**

- From September 30, polythene bags under **75 microns** will not be allowed.
- From December 31 2022, polythene bags under **120 microns** will be banned.
- This will also allow the reuse of plastic carry due to an increase in thickness.

#### Plastic packaging waste

Not covered under the phase-out of identified single-use plastic items, shall be **collected and managed in an environmentally sustainable way through Extended Producer Responsibility(EPR) of the Producer, importer and Brand owner (PIBO)**, as per Plastic Waste Management Rules, 2016.

Guidelines for EPR have been given **legal force** through Plastic Waste Management 1<sup>st</sup> Amendment Rules, 2021

## Implementation

Plastic Waste Management (1<sup>st</sup> Amendment) Rules, 2021 is to be implemented in three stages starting this year and culminating in mid-2022.

- States/UTs have been requested to constitute a **Special Task Force** for the elimination of single-use plastics and effective implementation of Plastic Waste Management Rules, 2016.
- **National Level Taskforce** has also been constituted for taking coordinated efforts to eliminate identified single-use plastic items and effective implementation of Plastic Waste Management Rules, 2016.

## New Draft Rules for Extended Producer Responsibility (EPR)

Environment Ministry has issued draft rules that mandate **producers** of plastic packaging material to **collect all of their produce by 2024 and ensure that a minimum percentage of it be recycled as well as used in subsequent supply.**

- It has also specified a system whereby makers and users of plastic packaging can collect certificates — called **Extended Producer Responsibility (EPR) certificates** — and **trade** in them.

Plastic packaging as per the rules, fall into three categories:

1 <sup>st</sup> rigid plastic	•They are plastic products that <b>do not get easily squeezed</b> . Many are large, bulky items like lawn chairs, buckets, toddler toys etc
2 <sup>nd</sup> -flexible plastic	• <b>Packaging of single layer or multilayer</b> (More than one layer with different types of plastic), plastic sheets and covers made of plastic sheet, carry bags (including carry bags made of compostable plastics), plastic sachet or pouches
3 <sup>rd</sup> - multi-layered plastic	•which has at least one layer of plastic and at least one layer of material <b>other than plastic</b> .

## About

- Only a fraction of plastic that **cannot** be recycled such as **multi-layered multi-material plastics** will be eligible to be sent for end-of-life disposal such as road construction, waste to energy, waste to oil and cement kilns, and here too, only methods prescribed by the Central Pollution Control Board will be permitted for their disposal.
- As of 2019, about 660,787.85 tonnes of plastic waste is produced in India annually, of which around 60% is reportedly recycled. Nearly **43% is packaging material** and most are single use plastic.
- **Targets:** Producers of plastic will be obliged to declare to the government, via a centralised website, how much plastic they produce annually. Companies will have to collect at least :



- In 2024, a minimum 50% of their rigid plastic (category 1) will have to be recycled as will 30% of their category 2 and 3. Every year will see progressively higher targets and after 2026-27, 80% of category 1 and 60% of the other two categories will need to be recycled.
- There are similar targets with slight variations, for companies that use packaging material as well as import them.

- **EPR certificates:** If entities cannot fulfil their obligations, they will on a “case by case basis” be permitted to buy certificates making up for their shortfall from organisations that have used recycled content in excess of their obligation.
  - The CPCB will develop a “mechanism” for such exchanges on a **centralised online portal**.
- **Non-compliance:** Will not invite a traditional fine. Instead an “**environmental compensation**” will be levied, though the rules do not specify how much this compensation will be.
  - Entities that do not meet their targets or do not purchase enough credits to meet their annual target must pay a fine.
  - Were they to meet their targets within three years, they stand to get a 40% refund. Beyond that, however, the money will be forfeited.
  - Funds collected in this way will be put in an **escrow account** and can be used in collection and recycling/end of life disposal of uncollected and non-recycled/ non-end of life disposal of plastic packaging waste on which the environmental compensation is levied.



## Jurisdiction of BSF Expanded in Assam, West Bengal, Punjab

Ministry of Home Affairs has **extended the jurisdiction of BSF** from 15 km to 50 km inside the international border **along** Punjab, West Bengal and Assam.

### What Has Been Done?

- In this stretch, the officers of BSF have powers of arrest, search and seizure, on par with their counterparts in the police.
- The border stretch under BSF in Gujarat stands reduced to 50 km from 80 km earlier.
- The area remains the same in Rajasthan at 50 km.
- As was the case earlier, no such limit has been prescribed for the five north-eastern states of Meghalaya, Nagaland, Mizoram, Tripura and Manipur or the UTs of J&K and Ladakh.

### Earlier Notification

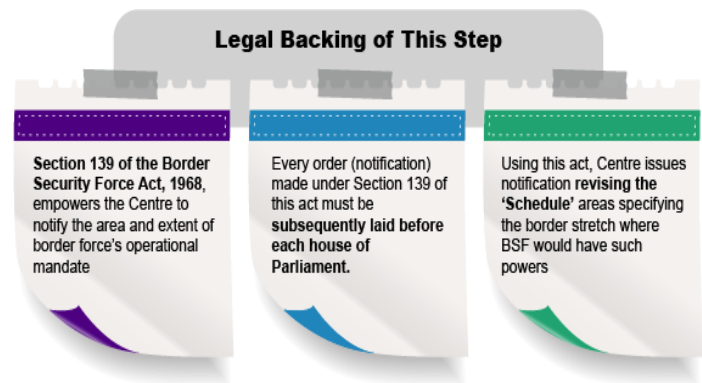
- Earlier notifications were published in September 1969, June 2012 and July 2014.
- As per these notifications, the ‘Schedule’ area comprised
  - ✓ States of Manipur, Mizoram, Nagaland, Tripura, Meghalaya and J&K.
  - ✓ Area within 80 km border belt in Gujarat, 50 km in Rajasthan, and 50 km in WB, Assam and Punjab.

Necessity Of This Step	Controversy
<p>It is meant to <u>improve operational efficiency</u> and <u>crack down on smuggling rackets</u>.</p> <p>✓ Punjab has problem of drugs and arms smuggling. Similarly, Assam and West</p>	<ul style="list-style-type: none"> <li>• <b>Law &amp; Order is a state subject</b> and powers of search, seizure and arrest typically lies with state police officials.               <ul style="list-style-type: none"> <li>✓ Hence, the affected states have questioned the step as an encroachment upon their powers and <u>against the</u></li> </ul> </li> </ul>

<p>Bengal face the issue of cattle &amp; fake currency smuggling.</p> <ul style="list-style-type: none"> <li>✓ These borders are also prone to illegal migration.</li> <li>✓ BSF regularly gets inputs about illegal activity deep in the hinterland but their hands were tied beyond 15 km.</li> </ul>	<p><u>federal structure.</u></p> <ul style="list-style-type: none"> <li>✓ It is being termed as an attempt to “<b>interfere through Central agencies</b>”.</li> <li>• Questions have also been raised about the controversial provisions under the BSF Act: <ul style="list-style-type: none"> <li>✓ Section 139 (ii) gives sweeping powers of arrest to BSF.</li> <li>✓ It has powers of preventive arrest under Section 139 (1) &amp; post offence arrest under 139 (ii).</li> <li>✓ No mention of consultation with local police.</li> </ul> </li> </ul>
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**About Border Security Force (BSF)**

- It is one of the five Central Armed Police Forces (CAPF) of India and was raised in December 1965 with Headquarters is in New Delhi.
- It was raised in the wake of the 1965 War to ensure the security of the borders of India.
- It is the only CAPF which has its own Water Wing, Air Wing and other ancillary units.
- It works under the administrative control of Ministry of Home Affairs.



**Operations**

Its operational responsibility is spread over 6,386.36 km of International Border with Pakistan and Bangladesh.

<p><b>Peace Time Role</b></p>	<ul style="list-style-type: none"> <li>•Promote a sense of security among the people living in the border areas.</li> <li>•Prevent trans-border crimes, unauthorized entry into or exit from the territory of India.</li> <li>•Prevent smuggling and any other illegal activity</li> </ul>
<p><b>War Time Role</b></p>	<ul style="list-style-type: none"> <li>•Holding ground in less threatened sectors so long as <b>the main attack does not develop</b></li> <li>•Protection of <b>vital installations</b> particularly air-fields</li> <li>•Limited aggressive action against Para military or irregular forces of the enemy within the overall plan of the Armed forces</li> <li>•<b>Guarding of prisoners of war cages.</b></li> <li>•Assistance in control of refugees</li> <li>•It is also deployed on Line of Control (LoC) in J&amp;K under the Operational control of the Army</li> </ul>
<p><b>Overseas Deployment</b></p>	<ul style="list-style-type: none"> <li>•BSF contributes its personnel every year <b>for UN Missions.</b></li> <li>•It is handling the security issues on the famous <b>Kartarpur Corridor.</b></li> </ul>
<p><b>Natural disaster/ calamities</b></p>	<ul style="list-style-type: none"> <li>•BSF provides assistance in areas of deployment such as <ul style="list-style-type: none"> <li>•Kashmir flood in 2014,</li> <li>•Kerala flood in 2018 and</li> <li>•Kedarnath Tragedy in 2013.</li> </ul> </li> </ul>



# Targeted Killing Of Minorities in J&K

Recent terror attacks are **targeting minorities and non-locals in the Kashmir Valley**. These incidents have revived memories of the mass exodus of minority communities that took place in the early 1990s when targeted killings of civilians were carried out.

## Why Minorities And Other Non-Locals Are Being Targeted

- Intelligence agencies believe there could be more such attacks with Pakistan-backed groups wanting to create disturbance in the valley.
  - These are the **softest of soft targets** but cause maximum impact on the psyche of people.
  - Whenever terrorist groups are unable to carry out any major terror attack, they tend to pick these soft targets to register their presence.
- Targeted killing is also aimed at creating an atmosphere of fear & damaging communal harmony.
- Many experts believe that these attacks are being carried out in retaliation to the constitutional reforms that took place in Jammu and Kashmir in 2019.

**New domicile rule for J&K**

A person residing in J&K for at least **15 years** will now be eligible

Or

has studied for a period of **seven years and appeared in class 10th or 12th examination** in an educational institution located in the UT of J&K.

As per them, it is the **phobia around demographic change** (due to the new domicile laws) in the Valley which is causing such attacks.

Role Of Over-Ground Workers In Recent Killings	This Time There Is Shift In Strategy
<ul style="list-style-type: none"> <li>• The Resistance Front (TRF), an offshoot of Lashkar-e-Taiba, has taken responsibility of the attacks.</li> <li>• As per intelligence sources, <u>over-ground workers of TRF recently converted to main cadres to carry out targeted killings</u>.</li> </ul>	<ul style="list-style-type: none"> <li>• Militants have in 2021 targeted civilians and more recently, members of the minority community in Jammu and Kashmir.</li> <li>• Almost all civilian killings have been carried out by <u>newly recruited terrorists or those about to join the ranks</u>.</li> <li>• These newly recruits <b>do not advertise themselves on social media or hype the killings</b> in order to stay off the radar.</li> </ul>

## Fear of Mass Exodus As A Repercussion Of These Targeted Killings

- In 1990s, during the peak of militancy in Kashmir, minority community leaders were accused of being informers. Now, they are again being accused of working for the agencies.
- Recent killings have exacerbated fear among the minority community and they are leaving the valley.
  - ✓ Due to the deterioration in the security situation in Kashmir, most of the nearly 4,000 Kashmiri Hindus employed in different government jobs have suspended work.
  - ✓ They moved to the Hindu majority region of Jammu.



## New Challenges Due To Shift In Strategy

### Tracking of terrorists became difficult

- Previously, full-time militants used to go missing from their villages or advertise themselves on social media. Thus, it was easy to track them.
- On the other hand, these part-timers are **largely under the radar and thus difficult to track**.

### Plausible deniability of Pakistani handlers

- These neo-recruits of hybrid terrorists who beat surveillance with one-off attacks, helps **Pakistan-based masterminds maintain deniability**.
- As a result, these attacks are being highlighted as indigenous problem

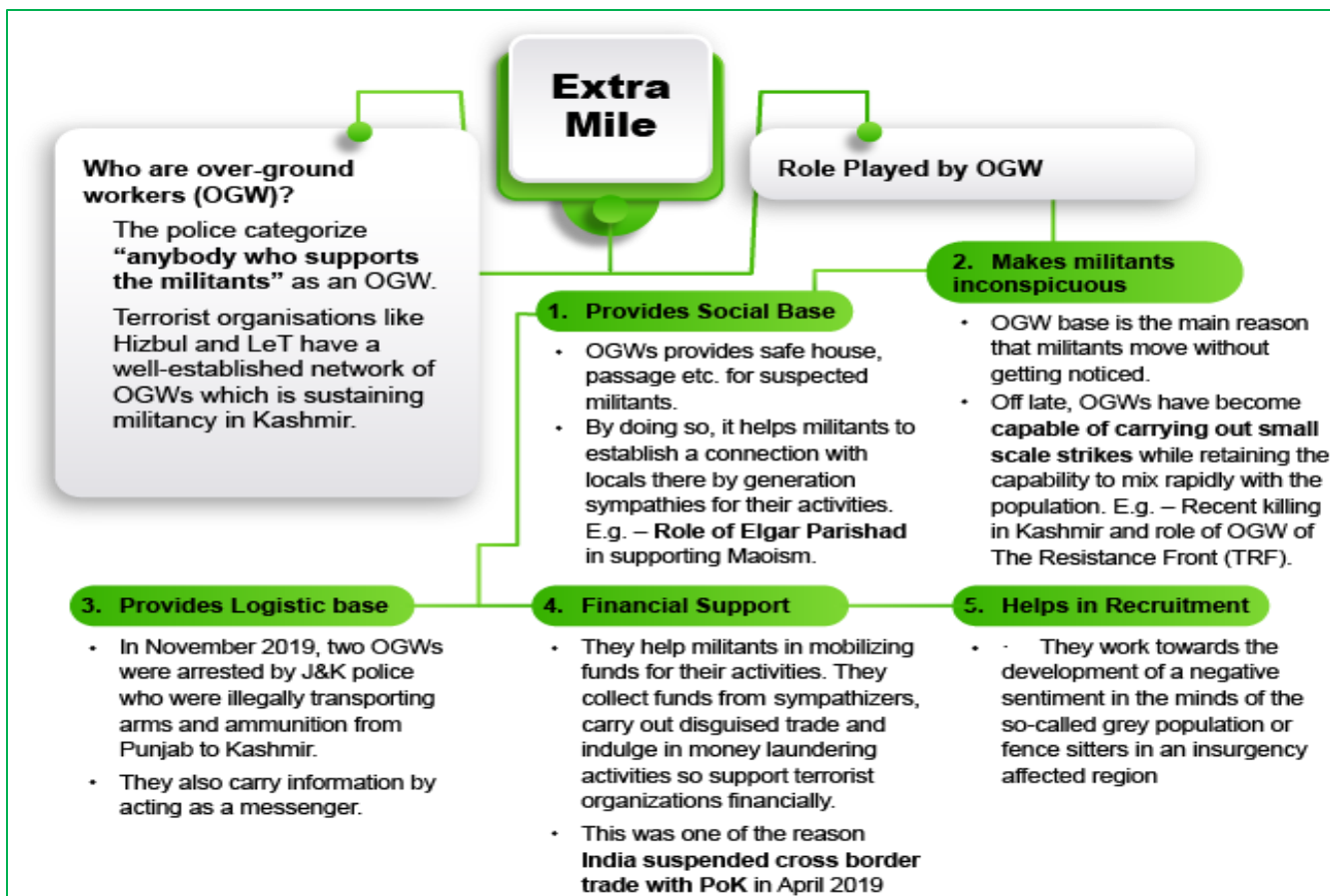
### Use of drone further complicates the matter

- Nearly all civilian killings this year were carried out **using pistols**. These weapons were **brought in using drones from across the border**.
- The pistols were delivered to these neo-recruits by Pakistani handlers specifically for the strikes and later taken back. This allowed them to conveniently **return to their homes in populated neighbourhoods**.

## Way Forward

In order to tackle this new challenge, a more proactive strategy is needed. This should focus on

- ✓ A full crackdown on terror eco-system including overground workers
- ✓ Watching youths with family and friends across the border
- ✓ Tracking movements of weapons
- ✓ Perpetrators and facilitators of attacks must be identified expeditiously, tracked and engaged.

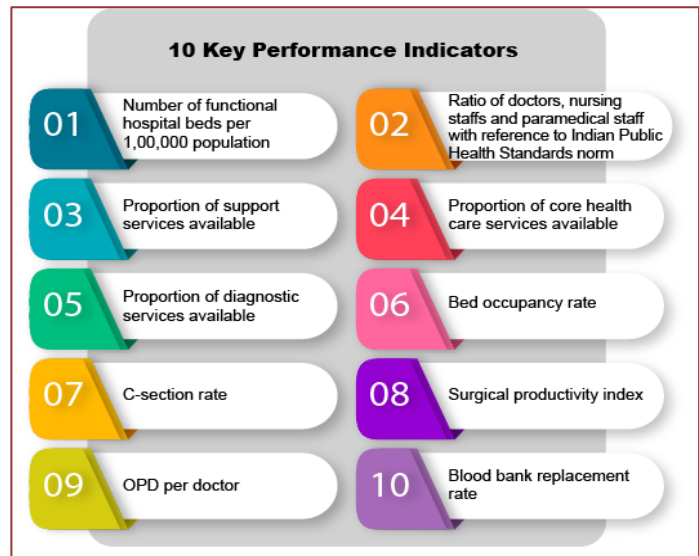


## Best Practices In The Performance of District Hospitals Report

NITI Aayog has released a performance assessment report of district hospitals in India.

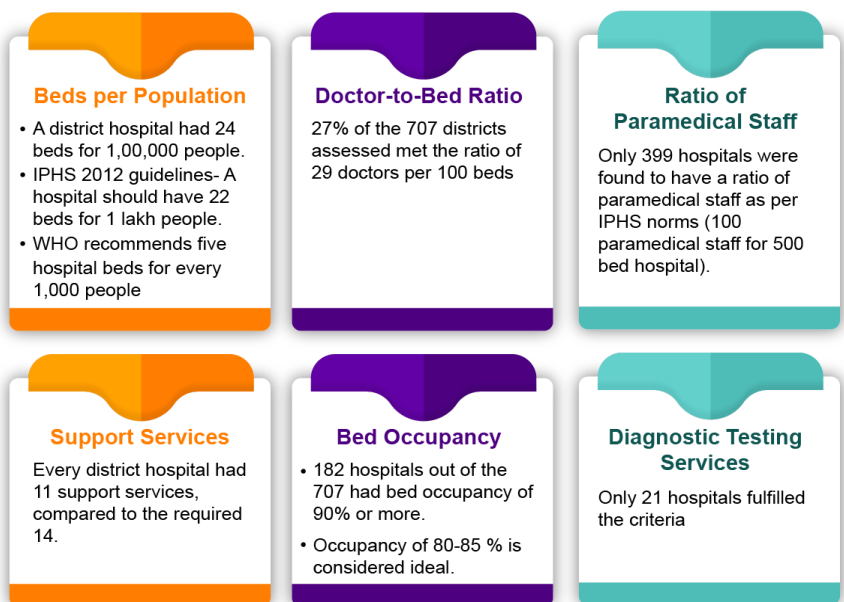
### About The Report

- **Objective:** To pave the way for a more informed understanding of healthcare services available in different regions. It is the **first-ever** performance assessment of **district hospitals** undertaken across the country. It marks a major shift in the healthcare delivery system towards **data-driven governance** and takes us even closer to communities and people availing health services.
- **Collaboration:** Between **Ministry of Health & Family Welfare** and **WHO India**.
- **Data Validation:** National Accreditation Board for Hospitals and Healthcare Providers, a constituent board of the Quality Council of India, conducted the on-ground data validation.
- Health Management Information System (HMIS) data for 2017–18 has been used as **baseline**.
- **Assessment Framework:** It covers 10 Key Performance Indicators (in fig beside) across the domains of Structure and Output. **707 district hospitals** across all States and UTs participated.
- The framework classifies hospitals in **three categories:** Small Hospitals (less than or equal to 200 beds), Mid-sized Hospitals (between 201–300 beds) and Large Hospitals (more than 300 beds).



### Key Findings

- Overall, 75 district hospitals across 24 States and UTs emerged as top performers on indicators ranging from availability of beds, medical and paramedical staff, core health and diagnostic testing services to outputs such as bed occupancy rate and number of surgeries per surgeon.
- It also highlights the issues faced by health system and provides some sustainable solutions, primarily involving improving data reporting in HMIS and encouraging such **performance assessment exercises** to bring about greater accountability for health care services in district hospitals.



This report can serve as a foundation for a roadmap of action for developing upgraded and improved district hospitals in the country.

## DigiSaksham

**Minister for Labour and Employment** launched DigiSaksham - a digital skills programme to enhance the *employability of youth* by imparting digital skills that are required in an increasingly technology driven era. This joint initiative with **Microsoft India** is an extension of the Government’s ongoing programs to support the youth from rural and semi-urban areas.

### About

- It will be implemented on ground by **Aga Khan Rural Support Programme India (AKRSP-I)**. AKRSP-I is a non-denominational, non-government development organization which works as a catalyst for betterment of rural communities by providing direct support to local communities.
- **Free of cost training** in digital skills, including basic skills as well as advance computing, will be provided to **more than 3 lakh youths** in the **first year**.
- The Jobseekers can access training through **National Career Service (NCS) Portal**. NCS Project is a Mission Mode Project for transformation of **National Employment Service** to provide a variety of employment related services like job matching, career counselling, vocational guidance, information on skill development courses, apprenticeship, internships etc.
- The initiative gives **priority** to the job-seekers of semi urban areas belonging to **disadvantaged communities** (socially and economically backward communities, marginalized communities), including those who have **lost their jobs** due to Covid-19 pandemic.
- There will be basically **3 types of training**, shown beside in figure.
- Through this initiative, nearly **one crore active jobseekers** registered on NCS Portal will be able to access training in areas like Java Script, Data Visualisation, Advance Excel, Power Bi, HTML, Programming languages, software development fundamentals, Introduction to coding etc, equipping them with the skills required in a digital economy.



### Benefits

- It will equip youth with industry-recognized skills that increase access to employment opportunities and promote skills-based hiring.
- It will ensure equal opportunity and access to digital skills, which will facilitate long-term economic and social value creation for India.
- It will place the country on the path to inclusive economic recovery, and help to realize the vision of Digital India.

### How is it different from SAGE?

Sage encourages the selected “startups” based on the innovative products and services to address the services from health, housing, care centers, technology access linked to needs ranging from finances, food and wealth management to legal guidance.

**{For Senior care Ageing Growth Engine (SAGE) project, refer the Recitals for June 2021}**

## SACRED Portal

Senior Able Citizens for Re Employment in Dignity (SACRED) Portal will support India's elderly.

**Aim:** Devise ways to ensure Senior Citizens live healthy, happy, empowered, dignified & self-reliant life.

### Need

- There has been a steady rise in the population of senior citizens in India. As per the Report of the Technical Group on Population Projections for India and States (2011-2036), submitted to National Commission on Population, Ministry of Health and Family Welfare, the population of senior citizens in India is projected as given below:

2011		2021		2026		2031		2036	
Population	%	Population	%	Population	%	Population	%	Population	%
0.38	8.6	13.76	10.1	16.28	11.4	19.34	13.1	22.74	14.9

- There are 110 million elders in this country, who are above the age of 60.
- More than 50% senior citizens are found active as per the Longitudinal Ageing Study of India (LASI) report 2020.** Many senior citizens having experience, time and energy can be used by the business enterprises looking for stable experienced employees. The portal allows bringing these people together by **virtual matching** of preferences

### About

- Citizens **above 60 years** of age can register on the portal and find jobs and work opportunities.
- Weighing experience and new recruitment:** Any individual/ firm/ company/ agency will seek the services of the senior citizens in respect of those tasks where experience can naturally outweigh hiring new personnel and providing them training, etc. Examples can be short term employment, contract for a project, teaching, counselling jobs.
- Cost:** Rs. 10 Cr would be provided for funding for the platform development along with maintenance grant of @ Rs. 2 Cr per year for 5 years. Expenditure would be incurred on actual basis. An amount of Rs. 10 cr would be spent annually for publicity about the portal in various business enterprises



## Swachh Bharat Mission-Urban 2.0 & AMRUT 2.0

Prime Minister has launched Swachh Bharat Mission-Urban 2.0 and Atal Mission for Rejuvenation and Urban Transformation (AMRUT) 2.0

- **Aim:** Swachh Bharat Mission-Urban 2.0 is to make cities garbage-free while AMRUT 2.0 is to make cities water secure.
- Ministry of Housing and Urban Affairs (MoHUA) is the nodal ministry for these schemes.

Swachh Bharat Mission-Urban 2.0	AMRUT 2.0	Impact of SBM-U and AMRUT
<ul style="list-style-type: none"> <li>• It envisions to make all cities 'Garbage Free' and ensure grey and black water management in all cities other than those covered under AMRUT</li> <li>• Make all urban local bodies as ODF+(focuses on toilets with water, maintenance and hygiene)</li> <li>• Those with a population of less than 1 lakh as ODF++ (focuses on toilets with sludge and septage management), thereby achieving the vision of safe sanitation in urban areas.</li> <li>• 50% of all statutory towns with less than 1 lakh population will become Water+ certified (aims to sustain toilets by treating and reuse of water).</li> <li>• Mission will focus on source segregation of solid waste, utilizing the principles of 3Rs (reduce, reuse, recycle) for single use plastics, scientific processing of all types of municipal solid waste and remediation of legacy dumpsites for effective solid waste management.</li> <li>• It will be implemented over five years from 2021 to 2026. The outlay of SBM-U 2.0 is around ₹1.41 lakh crore.</li> </ul>	<ul style="list-style-type: none"> <li>• It aims to provide 100% coverage of water supply to all households in around 4,700 urban local bodies by providing about 2.68 crore tap connections and 100% coverage of sewerage and septage in 500 AMRUT cities by providing around 2.64 crore sewer/ septage connections, which will benefit more than 10.5 crore people in urban areas.</li> <li>• It will adopt the principles of circular economy and promote conservation and rejuvenation of surface and groundwater bodies</li> <li>• It will promote data led governance in water management and Technology Sub-Mission to leverage latest global technologies and skills.</li> <li>• 'Pey Jal Survekshan' will be conducted to promote progressive competition among cities.</li> <li>• The outlay of AMRUT 2.0 is around ₹2.87 lakh crore</li> </ul>	<ul style="list-style-type: none"> <li>• SBM-U and AMRUT have contributed significantly to improve urban landscape during the last seven years. The two flagship Missions have augmented the capacity to deliver <b>basic services of water supply and sanitation</b> to the citizens. Swachhta has become a Jan Andolan today.</li> <li>• Under the SBM-U, urban areas of 35 States and UT's have become open defecation free. <ul style="list-style-type: none"> <li>✓ More than 73 lakh toilets have been built across the country.</li> <li>✓ 97% homes now have door to door waste collection facilities.</li> <li>✓ All urban local bodies have been declared ODF and 70% solid waste is being scientifically processed now.</li> </ul> </li> <li>• AMRUT has been ensuring water security by adding 1.1 crore</li> </ul>
<p style="background-color: #28a745; color: white; padding: 2px;"><b>Background</b></p> <p>SBM-U 1st phase was launched on 2nd October 2014 aiming at making urban India Open Defecation Free (ODF) and achieving 100% scientific management of municipal solid waste. It lasted till October 2019.</p>	<p style="background-color: #fd7e14; color: white; padding: 2px;"><b>Background</b></p> <p>AMRUT mission launched in June 2015 to ensure that every household has access to a tap with the assured supply of water and a sewerage connection</p>	

household water tap connections and 85 lakh sewer connections, thus benefiting more than 4 crore people.

- ✓ Rs 3,840 crore has been raised through Municipal Bonds by 10 ULBs. The Online Building Permission System has been implemented in 2,471 cities including 455 AMRUT cities.

## Jal Jeevan Mission App

The PM has launched a newly designed Jal Jeevan Mission (JJM) **mobile application** on Gandhi Jayanti. The app would enable anyone to find provision of tap water in **rural parts** of India.

- PM also released the **progress report** of the JJM and a manual for utilisation of the 15<sup>th</sup> Finance Commission grant for rural local bodies.

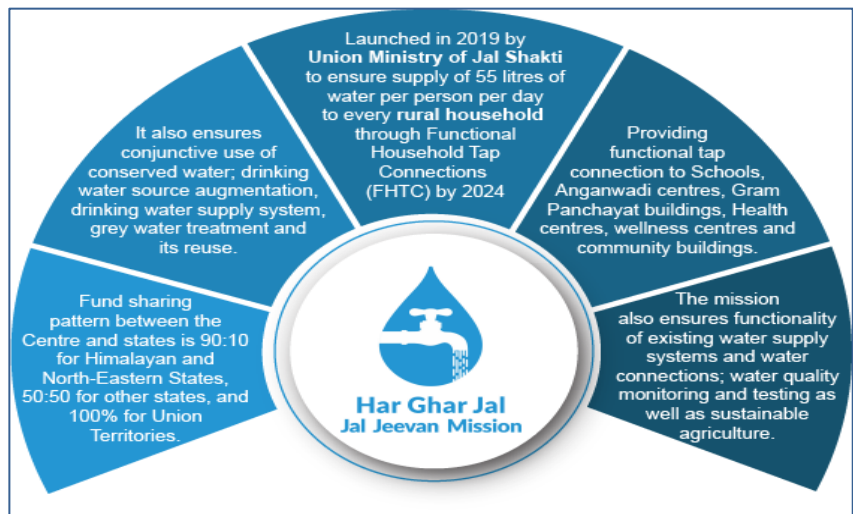
- He released a framework for **water quality monitoring & surveillance** as well as ‘**margdarshika**’ (guide) for **Gram Panchayats & paani samitis** (village water and sanitation committees under JJM).
  - ✓ JJM is managed by paani samitis to plan, implement, manage, operate and maintain village water supply systems.
  - ✓ These consist of 10-15 members, with at least 50% women members and other members from SHGs, accredited social and health workers, Anganwadi teacher, etc.
  - ✓ The committees prepare a one-time village action plan, merging all available village resources. The plan is approved in a Gram Sabha before implementation.
- The mobile application will provide details of water infrastructure, an **Aadhaar-verified** data set of beneficiaries, and **water quality and contamination**-related information for each village.

**Water quality management information system** provides details of water samples received and tested across labs and states. The app will bring all this data under one umbrella

- It will improve awareness among stakeholders, transparency and accountability of scheme.
- Maintaining a **JJM dashboard** to show the coverage of tap water connections across states.

### Significance

- The provision of an assured tap water supply in homes relieved people, **especially women and younggirls**, from the drudgery of fetching water over long distance.
- The newfound time could be used for income generation activities, improving tourism, learning new skills, supporting children’s education, etc.
- When the mission was launched, only 17% of the country’s rural households had a tap water supply. Today, 41.14% rural households have tap water supply. Goa, Telangana, Andaman & Nicobar Islands and Puducherry have achieved 100% household connection in rural areas.



- As on date, tap water supply has been provided in 76% schools and 67.5% anganwadi centres.

### Scheme for ‘Good Samaritan’

Union government has launched a scheme for ‘Good Samaritan’ under which anyone who saves life of a road accident victim by rushing them to a hospital within the “**golden hour**” will get cash **reward of ₹5,000 along with certificate of appreciation**. It will be implemented from 15<sup>th</sup> October.

- An individual could be awarded a **maximum of five times** in a year.
- There will be **10 national-level awards** each year for the worthiest Good Samaritans, who would be selected from all those who have been awarded during the whole year and they would be given an award of ₹1 lakh each.

- If more than one Good Samaritan saves the life of **more than one victim**, the amount of award would be **₹5,000 per victim saved, subject to maximum ₹5,000 per Good Samaritan.**

### Issue

Lack of implementation of **Section 134 of the Motor Vehicle Amendment Act 2019** at state level, which is to insulate Good Samaritans from police questioning, detention, mistreatment at hospitals and prolonged court procedures.

## Global Girlhood Report

Save the Children released the Global Girlhood Report 2021: **Girls Right in Crisis.**

### Key findings

- West and Central Africa has the highest rate of child marriage in the world.
- Child marriage kills more than 60 girls a day globally, 26 girls a day in West and Central Africa and six girls a day in South Asia.
- Covid effect on Child marriage: With school closures, health services under strain or closed, and more families being pushed into poverty, women and girls face an increased risk of violence. 10 million girls are now expected to marry by 2030, leaving more girls at risk of dying.

### Suggestions

- To raise girls' voices by supporting their right to safe and meaningful participation in all public decision-making.
- Address ongoing risks of gender-based violence, including child marriage, by putting girls' rights and gender equality at the centre of Covid-19 and humanitarian responses, development policy, and wider efforts to build forward better.
- Governments must **guarantee the rights of all girls**, including those impacted by different forms of inequality and discrimination (including on the basis of gender, race, disability, economic background, etc.), by developing inclusive policies and programmes.
- Governments must priorities girls and ensure they're protected from child marriage and premature childbirth-related deaths.

## SOER For India: UNESCO

On the Occasion of the World Teachers' Day, UNESCO launched its *2021 State of the Education Report (SOER) for India: "No Teacher, No Class"*

### About SOER

- It is the annual flagship report of UNESCO. This third edition focused on the theme of **3Ts - Teachers, Teaching and Teacher education.**
- It is largely based on analysis of Periodic Labour Force Survey (**PLFS**) and the Unified District Information System for Education (**UDISE**) data.
- It attempts to provide an understanding of key aspects of the teaching profession, provides a profile of the 9.6 million teaching workforce, as well the challenges of their intricate teaching routine and their professional development.

- The report aims to serve as a reference for enhancing the implementation of NEP as well as towards the realization of SDG4 target 4c on teachers.

**Target 4c:** By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.

### Key Findings

<b>Gross Enrolment Ratio</b>	<ul style="list-style-type: none"> <li>• For elementary schools, it has increased from 81.6 in 2001 to 93.03 in 2018-19 and stands at 102.1 in 2019-2020.</li> <li>• Overall retention is <b>74.6% for elementary education</b> and <b>59.6% for secondary education</b> in 2019-20.</li> </ul>
<b>Lack of Teachers</b>	<ul style="list-style-type: none"> <li>• There are ~1.2 lakh <b>single-teacher schools</b> of which <b>89% are in rural areas</b>.</li> <li>• India needs <b>11.16 lakh additional teachers</b> to meet the current shortfall.</li> </ul>
<b>Women Teachers</b>	<ul style="list-style-type: none"> <li>• <b>Women teachers accounts for 50% with inter-state, urban-rural imbalances.</b></li> <li>• In rural areas, 28 % of primary school teachers are women; versus 63% in urban areas.</li> <li>• <b>Tripura</b> has least number of women teachers, followed by Assam, Jharkhand and Rajasthan.</li> <li>• <b>Chandigarh</b> leads the chart followed by Goa, Delhi, Kerala.</li> </ul>
<b>Teachers in Private Sector</b>	<ul style="list-style-type: none"> <li>• Proportion grew from 21% in 2013-14 to 35% in 2018-19.</li> <li>• According to RTE, Pupil-Teacher Ratio should be 30:1 (classes 1-5) and 35:1 in higher grades.</li> </ul>
<b>Lack of Digital Infrastructure</b>	<ul style="list-style-type: none"> <li>• Availability of computing devices (desktops/laptops) in schools is <b>22%</b> (pan India), with rural areas (18%) &amp; urban areas (43%)</li> <li>• Access to the internet in schools is <b>19%</b> (Pan India) - only 14% in rural areas compared to 42% in urban areas</li> </ul>

### Recommendations

The report concludes with a set of ten action-oriented recommendations to address the challenges facing the teaching profession in India, and thus help achieve the NEP 2020 vision and objective – “Ensuring quality education for all in the country”.

{For ASER Report, refer The Recitals - September 2021}

### Global Food Security Index 2021

India is ranked at **71st position** in Global Food Security (GFS) Index 2021 of 113 countries.

#### About The Index

- It was designed and constructed by London-based Economist Impact and is sponsored by Corteva Agriscience.



- It measures the underlying drivers of food security, based on the factors of:



- It considers 58 unique food security indicators including income and economic inequality – calling attention to systemic gaps and actions needed to accelerate progress toward UN Sustainable Development Goal of Zero Hunger by 2030.
- It looks beyond hunger to identify the underlying factors affecting food insecurity around the world.

Concerns	Rankings
<ul style="list-style-type: none"> <li>• Global food security has decreased for the 2<sup>nd</sup> year in a row after seven years of progress towards the Sustainable Development Goal of achieving zero hunger by 2030.</li> <li>• While countries have made significant strides toward addressing food insecurity in the past ten years, food systems remain vulnerable to economic, climatic, and geopolitical shocks.</li> <li>• Action is imperative at all levels—local, national, and global—to end hunger and malnourishment and ensure food security for all.</li> </ul>	<ul style="list-style-type: none"> <li>• Ireland, Austria, the UK, Finland, Switzerland, Netherlands, Canada, Japan, France and US <b>shared the top rank</b> with the overall GFS score in the range of 77.8 and 80 points</li> <li>• India held 71st position with an overall score of 57.2 points fared better than Pakistan (75th), Sri Lanka (77th), Nepal (79th) and Bangladesh (84th). <b>But the country was way behind China (34).</b></li> <li>• Pakistan (with 52.6 points) scored better than India (50.2 points) in the <b>category of food affordability</b>. Sri Lanka was even better with 62.9 points in this category</li> <li>• Over the past 10 years, India’s incremental gains in overall food security score were lagging behind that of Pakistan, Nepal and Bangladesh.</li> </ul>

# ECONOMY

## Prompt Corrective Action Framework

- RBI recently removed Indian Overseas Bank (IOB) from Prompt Corrective Action (PCA) Framework, following improvement in bank's various parameters. IOB was placed under PCA in 2015 due to high Net Non-Performing Assets (NPAs) and negative Return on Assets (RoA).
- However, IOB has met the threshold to exit the PCA framework on a quarterly basis in the last four quarters and on an annual basis for FY21. IOB also provided a written commitment that it would follow the required norms.
- RBI's current move will give the bank more freedom to lend, especially to corporations and grow the network.

**PCA framework** considers a bank as risky if it falls below certain norms on the following:

### About PCA

- Introduced in 2002 by RBI, PCA is a framework under which banks with weak financial health are put under monitoring by RBI. The framework was revised by RBI in 2017.
- As most bank activities are funded by deposits which need to be repaid, it is important that a bank carries a sufficient amount of capital to continue its activities. PCA is used to alert the RBI, investors and depositors if a bank may face problems in the future.
- PCA helps RBI to monitor key performance indicators of banks, and take corrective measures to restore its financial health.
- It is **applicable only to commercial banks** and not to co-operative banks and non-banking financial companies (NBFCs).

### PCA framework

**Capital to Risk (Weighted) Assets Ratio (CRAR):** CRAR also known as Capital Adequacy Ratio (CAR) is the ratio of a bank's capital to its risk. It is tracked to ensure that a bank can absorb a reasonable amount of loss.

**Net non-performing assets (NPA):** Used to measure the asset quality of a bank.

**Return on Assets (ROA):** Used to measure profitability of a bank.

- The PCA has **three risk threshold levels** (1 being the lowest risk and 3 being the highest risk) based on where a bank stands on the parameters above.
- For example, the first threshold is triggered, if the CRAR is less than 9%, but equal or more than 6%. For second threshold CRAR should be less than 6%, but equal or more than 3% and the third threshold is triggered if the CRAR is less than 6%.

### Impact Of Putting A Bank Under PCA

- RBI can place various restrictions on the bank depending on threshold level crossed
- It can put restrictions on the amount of dividend distributed by the bank and may ask promoters of the banks to increase the capital base of bank by bringing in fresh funds.
- There can be restrictions on the domestic and overseas branch expansion of the bank, restrictions on pay hikes, director's fees, promotions, annual hikes and recruitments.
- It also has the power to initiate other measures like special inspections, audit of the bank, detailed review of the bank in terms of investments etc.

## PM MITRA Parks

Union Cabinet recently approved a scheme to set up **7 Mega Integrated Textile Region and Apparel (PM MITRA) parks**, with a total outlay of ₹4,445 crore in the next 5 years.

### Background

- Currently, the entire value chain of textiles is scattered and fragmented in different parts of the country. Cotton is made in Maharashtra and Gujarat. It is then processed in Tamil Nadu before it is shipped to Bengaluru or Noida after which it is sent to the port.
- This leads to **high logistics costs**, which is a key hurdle to India's goal of boosting textile exports.

### Details of PM MITRA

- First announced in Union Budget 2021, PM MITRA is designed to make the textile industry globally competitive.
- Aims to create an **integrated textiles value chain** from spinning, weaving, processing/dyeing and printing to garment manufacturing at **one location**.
- A contest through a **transparent challenge route** will be conducted to select the 7 regions for parks. The **parameters** for selection will be cheap land, adequate electricity and water supplies, a stable labour situation, skilled manpower etc.
- Further, a **Master Developer** will be selected, that will be responsible for setting up and maintaining the park **during the concession period**.
- Each Park will have an incubation centre, common processing house and a common effluent treatment plant and other textile related facilities such as design centres and testing centres.



### Support Under The Scheme

- Centre will provide **Development Capital Support** for the development of common infrastructure (@30% of the project cost) with a cap of Rs 500 crore for each green-field MITRA park and up to Rs 200 crore for each brownfield park.
- An additional Rs 300 crore will be provided as **Competitiveness Incentive Support (CIS)** for the early establishment of textiles manufacturing units in each of these parks. Under CIS, a maximum support of Rs 10 crore per year for a maximum of three years will be provided to such anchor (early) investors.
- State Government support will include provision of **1,000 Acre land** for development of a world class industrial estate.

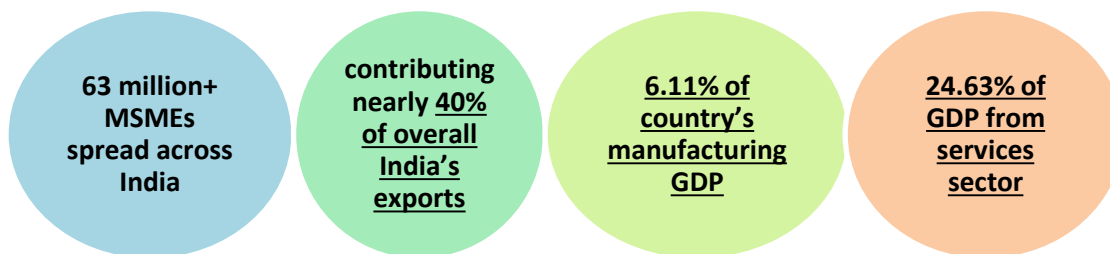
### Benefits

- Convergence with other Central Government and State Government Schemes is also available under the scheme. This will **enhance competitiveness** of textiles industry, by helping it **achieve economies of scale**.
- It will help in setting up world-class industrial infrastructure that would attract new age technology, boost FDI and local investment in the sector and help Indian companies to emerge as **global champions**.
- The value chain at one location will **reduce logistics cost** and each park is expected to directly generate 1 lakh jobs and indirectly generate 2 lakh jobs.

## IndiaXports 2021 Portal

- Ministry of Micro, Small and Medium Enterprises (MSME) recently inaugurated the **India Export Initiative** and **IndiaXports 2021 Portal**.
- IndiaXports aims to orient MSMEs free of cost, to focus on the untapped export potential and support them to grow the number of exporting MSMEs and increase MSME exports by 50% in 2022 and contribute to the vision of \$5 trillion economy.
- The initiative features an **Info Portal** which serves as a knowledge base related to export potential for all the 456 tariff lines along with the potential markets, trends in exports, export procedures etc.
- **Instructor led orientation** will also be provided to MSMEs highlighting the opportunities in specific products in international markets.
- It targets one lakh+ MSMEs that desire to know more about exports and hand-hold 30,000+ MSMEs to start exporting, doubling the base of active exporters.

### Significance



- Improving the competitiveness of MSMEs can make India a preferred destination for manufacturing for the world.
- Furthermore, MSME exports will help to reduce imports and the trade balance.

### Integration Of Procurement Portals

Department of Food and Public Distribution has developed an application ecosystem, for **integration of procurement portals of all state governments** having Minimum Threshold Parameters (MTPs) for monitoring and strategic decision making.

### Minimum Threshold Parameters (MTPs)

MTPs that must be necessarily captured by States in all the procurement portals to ensure uniformity and interoperability are as follows:

- **ONLINE REGISTRATION** of farmers and sharecroppers.
- **Integration of registered FARMER DATA** with State's land record portal.
- **Integration of DIGITIZED MANDI/PROCUREMENT** centre operations
- **Mechanism for auto generation of billing**
- **ONLINE PAYMENT MECHANISM** for direct and speedy transfer of MSP to farmers.

### Issues In Current Procurement

- Till now, due to prioritization of local requirements & practices there is **no pan-India standard procurement ecosystem**.

- Due to variations in the procurement systems, both **systemic and implementation challenges** emerge while implementing central government schemes.
- Reconciliation of procurement operations with various States, takes a long time, leading to **avoidable delays** in the release of funds to States.
- Moreover, non-standard procurement operations also lead to **avoidable inefficiencies**, creating a **layer of middlemen**.

### Significance

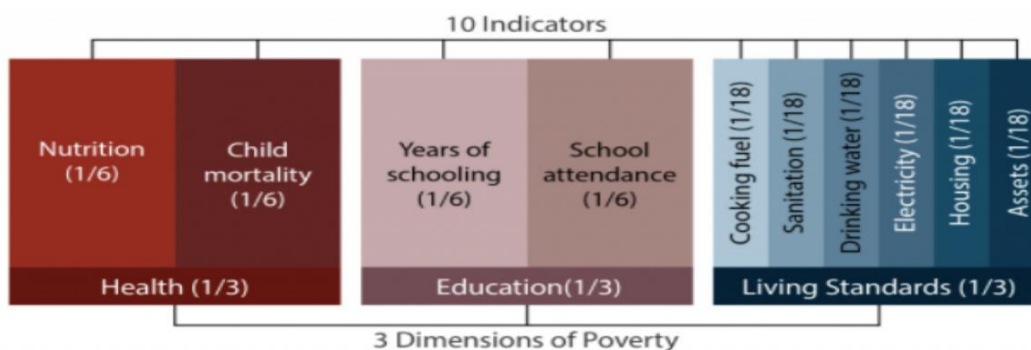
- Farmers will be able to sell their produce at suitable prices and avoid distress sale.
- Automation and standardization of procurement operations will give an integrated view of procurement and storage of food grains in godowns.
- It will also help in quick reconciliation of procurement figures with States and release of funds by Central Government to States.
- This will essentially help the country achieve greater levels of transparency and efficiency in procurement, eventually ensuring food security in the country.

### Multidimensional Poverty Index 2021

- Global **Multidimensional Poverty Index (MPI)** 2021 was released by United Nations Development Programme (**UNDP**) and the Oxford Poverty and Human Development Initiative (**OPHI**). MPI 2021 examines 109 countries covering 5.9 billion people.
- First developed in **2010**, it measures poverty across **three equally weighted dimensions: health, education and standard of living**, comprising **10 indicators**. The MPI value ranges from 0 to 1. A higher value means higher multidimensional poverty.
- If a person is deprived in at least 1/3<sup>rd</sup> of the indicators, they are identified as **'MPI poor'**.
- It also measures the **extent (or intensity)** of their poverty through the percentage of deprivations they are experiencing.

#### United Nations Development Programme

- It is a United Nations organization with the mandate to help countries eliminate poverty and achieve sustainable economic growth and human development.
- Formed in 1965, it is headquartered in **New York City** and is the largest UN development aid agency.



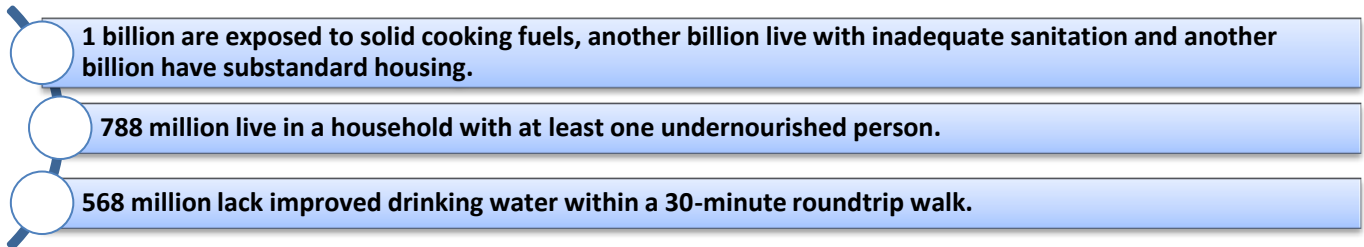
### Key Findings

- Worldwide, more than **one in five (1.3 billion)** people live in multidimensional poverty (MDP). About half (644 million) are children under age 18.
- **Top five countries** with the largest number of people living in MDP are:



- Nearly 85% of MDP live in Sub-Saharan Africa (556 million) or South Asia (532 million). More than 67% in middle-income countries.
- Disparities in MDP across **ethnic and racial groups** are greater than disparities across geographical subnational regions. Within a country, multidimensional poverty among different ethnic groups can vary immensely. Therefore, different policy actions are needed to reduce multidimensional poverty.

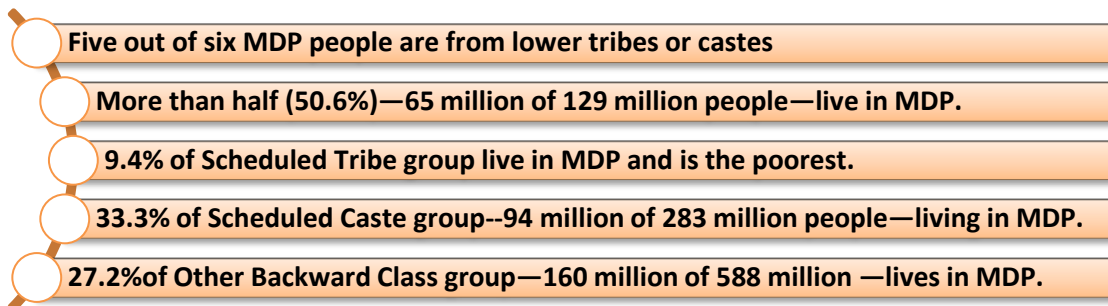
### Disabilities Faced



### Gender Disparities In Education

- Among the 1.3 billion, almost two-thirds- 836 million- live in households in which **no female member has completed at least six years of schooling**.
- One-sixth of all MDP (215 million) live in households in which at least one boy or man has completed six or more years of schooling but no girl or woman has.
- This exclusion of women from education has significant impacts on societies around the world. Also, women and girls living in multidimensional poverty are at higher risk of intimate partner violence.

### Findings from India



### Sveriges Riksbank Prize in Economic Sciences

Royal Swedish Academy of Sciences recently awarded the **Sveriges Riksbank Prize in Economic Sciences 2021**, to three US based economists for their work based on “**natural experiments**”.

### Natural Experiments

- Finding answers to various real-life questions in the society is not easy because designing randomised experiments to study them is difficult.
- To address such questions this year’s winners used natural experiments (**situations arising in real life** that resemble randomized experiments).

## David Card's Contributions

- One half of the prize was given to David Card, for his “**contributions to labour economics**”.
- Using natural experiments, Card analysed how minimum wage, immigration and education affect the labour market.
- Contrary to previous studies, he found that increasing minimum wage doesn't necessarily lead to fewer jobs.
- Card's work also challenged another commonly held idea that immigrants lead to lower wages for native-born workers. He found that incomes of the native-born can benefit from new immigration, while it is earlier immigrants who are at risk of being negatively affected.
- He also showed that resources in schools are far more important for students' future labour market success than was previously thought.

## Angrist and Imbens' Contribution

The other half of the prize was shared by **Joshua Angrist and Guido Imbens** for their contributions to the **analysis of causal relationships** (relationship between cause and effect). They helped to make sense of the data from natural experiments. This is crucial because unlike a clinical trial or randomised control trial, in a natural experiment a researcher is not in control of the experiment, which makes it difficult to draw precise conclusions and develop causal links.

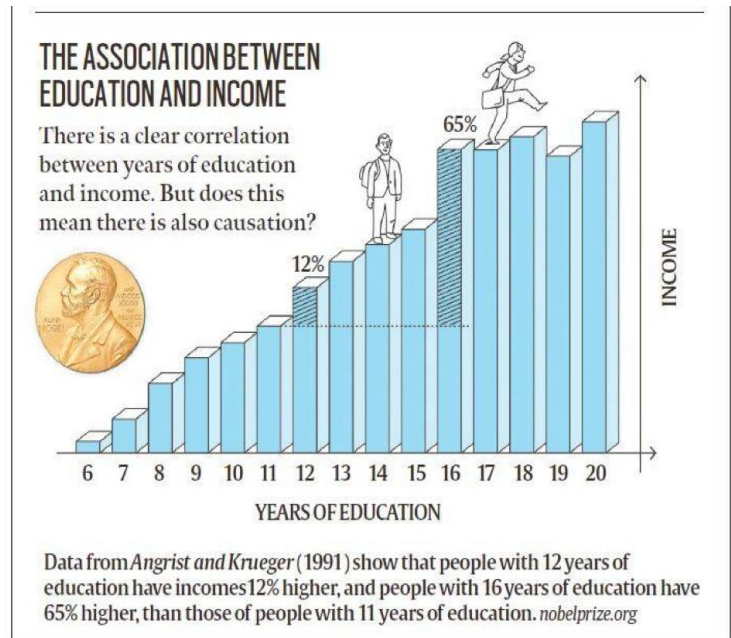
- For example, extending compulsory education by a year for one group of students (but not another) may or may not affect everyone in the groups in the same way.
- Some students would have kept studying anyway and, for them, value of education is often not representative of the entire group. This makes it difficult to draw precise conclusions.
- The duo solved this methodological problem, demonstrating how precise conclusions about cause and effect can be drawn from natural experiments.

## Significance

- 3 economists have shown that natural experiments are a rich source of knowledge.
- Their approach has spread to other fields and revolutionized empirical research, contributing greatly to the society.
- For instance, their studies provided a justification for raising minimum wages in US. It can also be used in India and other developing economies to raise wages, leading to an equitable society.

## Sveriges Riksbank Prize in Economic Sciences

- Often incorrectly referred to as the Nobel Prize in Economics, the award is officially called **the Sveriges Riksbank Prize in Economic Sciences**.
- Unlike the other Nobel prizes, the economics award wasn't established in the will of Alfred Nobel but by



the Sveriges Riksbank (Sweden's central bank) in his memory in 1968, with the first winner selected a year later.

## Maharatna Status for Power Finance Corporation

- Department of Public Enterprises, under Ministry of Finance issued **Maharatna Status** to state-owned Power Finance Corporation (PFC). PFC is the largest infrastructure finance company dedicated to the power sector under the administrative control of **Ministry of Power**.
- PFC has become 11<sup>th</sup> public sector enterprise to get 'Maharatna' status
- PFC has received this Status due to exceptional financial performance during the last 3 years and it reflects the confidence of the government on PFC's strategic role in the overall development of Indian power sector.

### Criteria For Grant Of Maharatna Status

Central Public Sector Enterprises (CPSEs) fulfilling the following criteria are eligible for the grant of Maharatna status:

- Having Navratna status & listed on Indian stock exchange with minimum prescribed public shareholding.
- Average annual turnover of more than Rs 25,000 crore during last 3 years
- Average annual net profit after tax of more than Rs. 5,000 crore, during last 3 years.
- Average annual net worth of more than Rs. 15,000 crore, during the last 3 years
- It should also have significant global presence/international operations

### Impact of Maharatna Status

- It will give more powers to the **PFC Board** while taking financial decisions.
- Board can make equity investments to undertake financial joint ventures and wholly-owned subsidiaries. It can also undertake mergers and acquisitions in India and abroad, subject to a ceiling of 15% of the net worth of the concerned CPSE, limited to Rs.5,000 crore in one project.
- Board can also structure & implement schemes related to personnel & human resource management & training. They can also enter into technology Joint Ventures or other strategic alliances.
- It will enable PFC to offer competitive financing for the power sector and facilitate affordable & reliable 'Power For All 24x7'.
- It will also help PFC in pushing the government's agenda of funding under the National Infrastructure Pipeline; national commitment of 40% green energy by 2030 and effective monitoring and implementation of the New Revamped Distribution Sector Scheme.

## World Economic Outlook

IMF recently released the latest World Economic Outlook (WEO). The WEO is released **twice every year** — April and October.

### Key Findings

- India's economy, which contracted by 7.3% due to Covid-19, is expected to grow by:



9.5% in 2021

8.5% in 2022

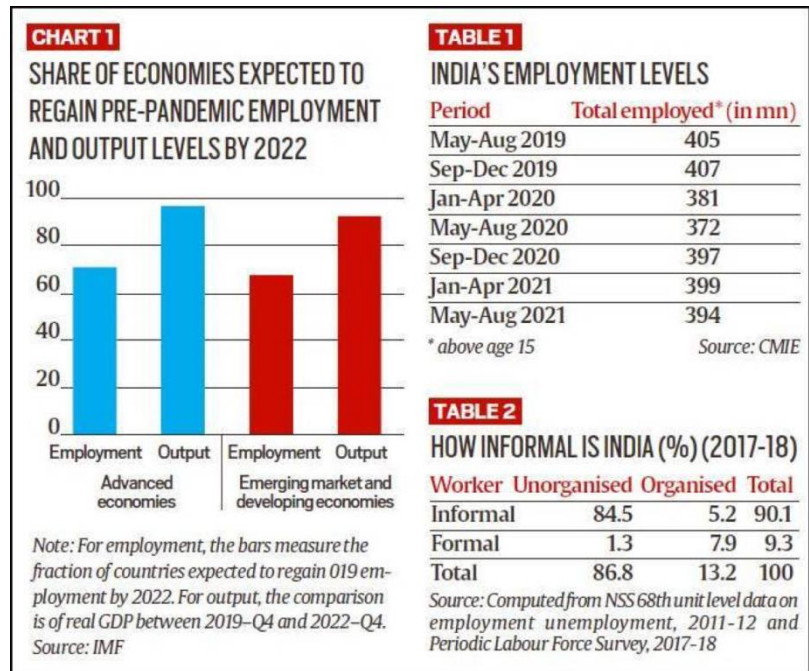
- World is expected to grow at 5.9% (2021) & 4.9% (2022). Aggregate output for advanced economy group is expected to regain its pre-pandemic trend in 2022 & exceed it by 0.9% (2024).
- By contrast, **aggregate** output for the **emerging market and developing economy** group (excluding China) is expected to remain 5.5% below the pre-pandemic forecast in 2024.
- This difference in economic prospects across countries remains a major concern.
- The two key reasons for economic gaps are large differences in vaccine access and differences in policy support.

### Slow Growth In Employment

- Employment around the world remains below its pre-pandemic levels, due to negative output gaps, worker fears of on-the-job infection, childcare constraints, labor demand changes as automation picks up in some sectors etc.
- As per the WEO, employment growth is likely to lag the recovery in GDP growth. Moreover, this gap between recovery in output and employment is likely to be larger in emerging markets and developing economies than in advanced economies.
- Further, young and low-skilled workers are likely to be worse off than prime-age and high-skilled workers, respectively.

### Impact on India

- Bulk of India's employment is in the **informal or unorganised sectors**. At the same time, India is witnessing a **K-shaped recovery**, which means different sectors are recovering at significantly different rates.
- If the informal/unorganised sector recovers at a slower pace than the formal sector, then the recovery in employment (relative to the recovery in output) will be even slower in India.
- This matters a lot, as large sections of the population will be excluded from the GDP growth and its benefits.



### UDAN Scheme

Ministry of Civil Aviation (MCA) recently launched **6 routes** to expand the aerial connectivity of North-East India, under UDAN scheme.

#### Ude Desh ka Aam Naagrik (UDAN)

- It was launched by MCA in 2016, as a **Regional Connectivity Scheme (RCS)**. It is a key component of the National Civil Aviation Policy (NCAP).
- Objective** is to make air travel affordable and widespread, boost inclusive national economic

development, job growth & air transport infrastructure development of all regions & states

- It is jointly **funded** by central government and state governments. Under the scheme, financial subsidies are given to airlines, from airport operators and Central and State government to reduce fares.
- Progress of UDAN has taken place in four phases, with several incremental developments in each phase. The scheme will run for 10 years and can also be extended further.

## 2 Components of the Scheme

- First component is to develop new airports and enhance the existing regional airports to increase the number of operational airports for scheduled civilian flights.
  - Second component is to add several hundred financially-viable, capped-airfare, new regional flight routes to connect underserved and unserved airports in smaller towns by using "Viability Gap Funding" (VGF) where needed.
- **VGF** is a grant to support projects that are economically justified but not financially viable.

## Performance Evaluation

- UDAN has turned into a game-changer for a few airports, like Darbhanga, Jharsuguda, Nasik, Hubballi, etc. by improving air connectivity and regional growth.
- However, the scheme is **struggling** even after 4 years of its launch. More than 750 routes have been awarded, but only 387 routes have been operationalized till now. Out of these 100 routes are awarded in North East alone.
- **Reasons** vary from lack of infrastructure at RCS airports, heliports & seaports; regulatory issues; failure of some airlines & unsustainability of awarded routes because of very low demand.
- Regional airlines use **smaller aircraft** to deal with low demand. This increases costs & hurts commercial viability.
- Further, Covid outbreak also had a negative impact on the scheme's performance. The pandemic impacted the regional airlines more than the bigger ones, as they have more funds to deal with the crisis.

**International UDAN:** To connect India's smaller cities directly to some key foreign destinations in the neighborhood.

**KRISHI UDAN Scheme:** 16 airports have been identified to enhance export opportunities of North East region establishing dual benefits of cargo movements and exports.

## Gati Shakti

Prime Minister recently launched the **Rs 100 lakh crore** Gati Shakti – National Master Plan for Multi-Modal Connectivity. It is aimed at developing **easier interconnectivity** between road, rail, air and waterways for an **integrated economy** in **next 4 years**.

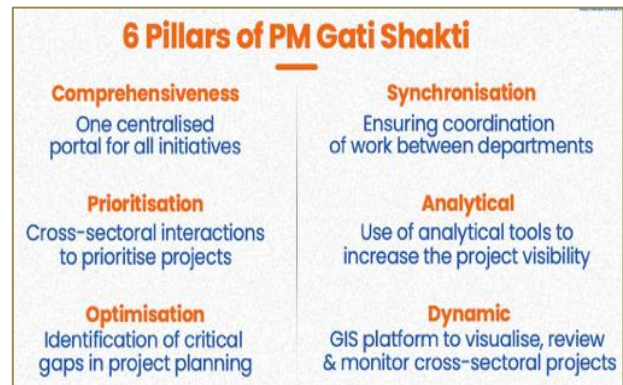
### Reasons for Launching Gati Shakti

- Infrastructure creation in India has suffered for decades from multiple issues. There is lack of coordination between different departments.
- For example, once a road is constructed, other agencies dig up the constructed road for other activities. This not only causes great inconvenience but also leads to wasteful expenditure.

- The logistical cost in India is about 14% of GDP, compared to global average of 8%. Due to **high logistical cost**, the competitiveness of India's exports is greatly reduced.

### Details of Gati Shakti

- Under Gati Shakti, a **digital platform** has been created which will bring **16 ministries** including rail and roadways together for integrated planning and coordinated implementation of infrastructure connectivity projects.
- It will subsume Rs 110 lakh crore **National Infrastructure Pipeline** that was launched in 2019.
- It also aims to have **11 industrial corridors** and **2 new defence corridors** - one in Tamil Nadu and other in Uttar Pradesh. Extending 4G connectivity to all villages is another aim.
- The platform will provide **high resolution satellite images**, infrastructure, utilities, administrative boundaries, land and logistics.
- It will subsume the infrastructure schemes of various Union ministries and state governments — Bharatmala, Sagarmala, UDAN, inland waterways, dry/land ports etc.
- Zones like textile clusters, pharmaceutical clusters, defence corridors, electronic parks, industrial corridors, fishing clusters, agri zones will be covered to improve connectivity & make Indian businesses more competitive.
- It will help to fulfill the targets set by the government for 2024-25, including expanding the length of the national highway network to 2 lakh route km, creation of over 200 airports, heliports and water aerodromes and doubling the gas pipeline network to 35,000 km.



Significance	Concerns
<ul style="list-style-type: none"> <li>• It will address the past issues by institutionalizing planning. Instead of planning &amp; designing separately, the projects will be designed and executed with a common vision.</li> <li>• Multi-modal connectivity will provide <u>integrated and seamless connectivity for movement of people, goods and services</u>. This will help to reduce transit time, <u>increase productivity of the industry and generate employment opportunities</u>.</li> <li>• It will <u>improve the global competitiveness of local products</u> by cutting down logistics costs and improving the supply chains and also ensure proper linkages for local industry &amp; consumers. This will eventually facilitate <u>ease of living as well as ease of doing business</u>.</li> </ul>	<ul style="list-style-type: none"> <li>• Although the government has pushed in some banking sector reforms, there are concerns about the <u>declining trend of credit off-take</u>. Banks give credit off-takes to help businesses acquire financing for future projects through the promise of future income &amp; proof of existing market.</li> <li>• Moreover, due to <b>land acquisition delays and litigation issues</b>, the rate of implementation of projects is very slow.</li> <li>• To address these issues and realize the true potential of Gati Shakti, there is a need of a stable and predictable regulatory framework.</li> </ul>

## Coal Crunch

India could be on the verge of a power crisis as 112 of 135 power plants were operating with stocks that are at critical or super-critical levels. Some States have also witnessed partial load-shedding aimed at saving power.

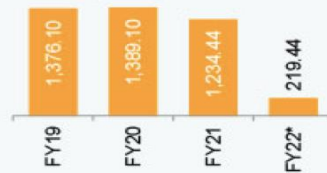


## Power



### MARKET SIZE

Electricity Generation in India<sup>^</sup> (in BU)



Power Supply Position (GW)

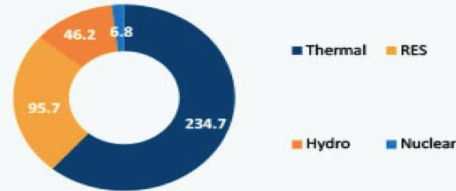


Note: GW – Gigawatt, BU – Billion Unit, \* – Until May 2021 \*Including renewable sources



### SECTOR COMPOSITION

Installed Capacity for Different Sources of Power – FY22\* (GW)



Note: GW – Gigawatt, \* – Until May 2021



### KEY TRENDS

Installed Electricity Generation Capacity (GW)



Per-Capita Electricity Consumption (KWh)



Note: GW – Gigawatt, KWh – Kilo Watt hour, \* – Until June 2021, P – Provisional

### Reasons Behind The Shortage

- The current coal crisis comes amid a broader energy crisis across the world with the prices of natural gas, coal and oil rising sharply in the international market.
- Low domestic production of coal & sharp drop in coal imports over last few years has also played a part.
- Domestic coal production in India has stagnated since 2018. It peaked at 12.80 exajoules (EJ) in 2018.
- Coal imports have dropped from the peak of 6.46 EJ in 2016 to 4.22 EJ in 2020.
- **Short-term issues** like flooding in coal-mining areas, transport issues, labour disruptions in major coal-mining countries and the sudden rise in power demand as the economy revives from the pandemic.
- Moreover, government has connected an additional 28.2 million households, leading to an increase in power demand. However, **deeper structural problems** have hurt the power industry in general for long.
- Due to populist policies the price that many consumers pay for power is not aligned with production costs. For instance, in FY19 the revenues of distribution companies covered only about 70% of their total costs.

- This has **discouraged private investment** in power generation and distribution even as the demand for power continues to rise each year.

### Measures To Address The Shortage

- The government has asked thermal plants with captive coal mines to boost their coal outputs so that they can meet more of their own demand.
- The Power Ministry is also trying to increase the supply of coal by accelerating the start of production from various mines that already have required clearances.
- The government has also increased the number of rakes of coal being transported daily with 263 rakes of coal being dispatched from coal mines, up from 248 rakes.
- The government has also changed the requirement for thermal plants to now hold 10 days of coal stock, down from 14 days, to avoid hoarding and ensure more equitable distribution of coal among the plants.
- The government is also expected to ease restrictions on imported coal in the near future.

### Sovereign Gold Bonds

- The government in consultation with RBI has decided to issue Sovereign Gold Bonds (SGBs) in **four phases** from October 2021 to March 2022.
- SGB scheme was launched by the Ministry of Finance in **2015** to provide people an alternative to physical gold investment and reduce the physical demand of gold and discourage high imports. The bonds are issued by the RBI on behalf of the Government.
- SGBs are **sold through** Scheduled Commercial banks (except Small Finance Banks and Payment Banks), Stock Holding Corporation of India Limited (SHCIL), Clearing Corporation of India Limited (CCIL), designated post offices, and recognized stock exchanges like the Bombay Stock Exchange.
- **Eligibility:** Eligible investors include resident individuals, Hindu Undivided Family (HUF), trusts, universities and charitable institutions.

### Features of SGB

- The bonds are secured against physical gold holdings of the government and therefore are denominated in grams of gold.
- Minimum investment in the bond is **one gram** with an annual maximum limit of subscription of 4 kg for individuals, 4 kg for HUFs and 20 kg for trusts and similar entities per fiscal year.
- Though the tenor of the bond is 8 years, early encashment/redemption of the bond is allowed **after fifth year** from the date of issue.
- The bond is tradable on exchanges, if held in demat form. It can also be transferred to any other eligible investor.
- Bonds also give fixed interest (2.5%) per annum on the amount of initial investment.
- Interest on the Bonds is taxable. However, **capital gains tax (CGT) arising on redemption has been exempted**. CGT is a kind of tax that individuals have to pay on benefit or gain arising from the sale of capital assets such as investments in the stock market and real estate.
- Bonds can also be used as collateral for loans from banks, financial Institutions and Non-Banking Financial Companies (NBFC).

## Benefits

- Investors are assured of the market value of gold at the time of maturity and periodical interest.
- SGB is free from issues like making charges and purity in the case of gold in jewellery form.
- Holding physical gold includes the risk of it getting stolen or lost. To prevent this, bank lockers are used, which are hard to get and also include storage costs.
- SGB is **paper gold** and is free from these risks and storage issues. The bonds are held in books of the RBI or in demat form, thus always keeping it safe.

## SAMBHAV Programme

- Ministry of Micro, Small and Medium Enterprises recently launched the SAMBHAV programme.
- It is a **national level awareness programme** to promote entrepreneurship and boost domestic manufacturing to push economic growth.
- Awareness programs will be conducted in more than 1,300 colleges/ITIs across the country in which 1,50,000 students are expected to participate.
- College students will also be made aware of various schemes being implemented by the Ministry of MSME.

## Economic Advisory Council to the Prime Minister Reconstituted

- Recently, the government reconstituted the Economic Advisory Council to the Prime Minister (EAC-PM) for a period of **two years** after its term came to an end last month.
- EAC-PM a **non-constitutional, non-permanent and independent body** constituted to give economic advice to the Union Government and specifically to the Prime Minister.
- Its primary role is to give a **neutral viewpoint** on economic policy matters. It advises on economic issues like inflation, microfinance, and industrial output. Additionally, it prepares a monthly report of economic developments that need to be highlighted to the PM.

## Global Agricultural Productivity Report

Global Agricultural Productivity Report (GAP Report), 2021 was released in conjunction with the **World Food Prize Foundation's** annual conference.

### Key findings

Global agricultural productivity is not growing as fast as the demand for food.

Globally, **Total Factor Productivity (TFP)** grew by an average of 1.36% annually (2010 to 2019).

This is **below** the Global Agricultural Productivity Index **target of 1.73%**, to sustainably meet the needs of consumers for food and bioenergy in 2050.

- TFP tracks changes in how efficiently agricultural inputs (land, labour, fertilizer, feed, machinery, and livestock) are transformed into outputs (crops, livestock, and aquaculture products.)
- TFP growth is **influenced by** climate change, weather events, change in fiscal policy, market conditions, investments in infrastructure and agricultural research & development.

## Regional Status

- Human-caused climate change has slowed global agricultural productivity growth by 21% since 1961.
  - In **drier regions** (Africa & Latin America), climate change has slowed productivity growth by as much as 34%.
  - **Low-income countries**, home to many small-scale farmers, have a negative TFP growth rate of -0.31% annually.
  - **Middle-income countries**, including India, China, Brazil and the countries of the former USSR, continue to have strong TFP growth rates.
- **India** had an average annual TFP growth rate of 2.81% and output growth of 3.17% (2010–2019).

## Significance of Productivity growth



## Recommendations

Report identifies **6 strategies** & policies to create sustainable agricultural growth at all scales of production:

- Invest in agricultural research and development
- Adopt science-and-information-based technologies
- Improve infrastructure for transportation, information and finance
- Cultivate partnerships for sustainable agriculture, economic growth & improved nutrition.
- Expand and improve local, regional and global trade.
- Reduce post-harvest loss and food waste

Yield	Total Factor Productivity
<ul style="list-style-type: none"> <li>• <b>Yield</b> measures <u>output per unit of a single input</u>, for example, the quantity of crops harvested on a hectare of land. Yields can</li> </ul>	<ul style="list-style-type: none"> <li>• <b>TFP</b> captures the <u>interaction between multiple agricultural inputs and outputs</u>. It indicates that more farmers generate <b>more crops, livestock, and</b></li> </ul>

<p>increase through productivity growth, but they can also increase by applying <b>more inputs</b>, called input intensification.</p> <ul style="list-style-type: none"> <li>• Therefore, an increase in yield <b>may or may not represent improvements in sustainability</b>.</li> </ul>	<p><b>aquaculture products with the same or less inputs</b> (land, labor, fertilizer, feed, machinery, and livestock.).</p> <ul style="list-style-type: none"> <li>• As a result, TFP is a powerful metric for evaluating and monitoring the sustainability of agricultural systems</li> </ul>
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➤ Yield and total factor productivity are ratios of outputs to inputs.

#### **Global Agricultural Productivity (GAP) Initiative**

- GAP Initiative is central to the mission of CALS Global in the Virginia Tech College of Agriculture and Life Sciences (CALS).
- It brings together experts from the private sector, NGOs, conservation and nutrition organizations, universities, and global research institutions.
- Consultative partners contribute their knowledge of agricultural R&D and extension, natural resource conservation, human nutrition, international development, gender equity, and the needs of small-scale farmers.

#### **Krishi UDAN 2.0 Scheme**

- Ministry of Civil Aviation (MoCA) recently launched Krishi UDAN 2.0 scheme to facilitate movement of agricultural produce by air.
- Krishi UDAN scheme was launched in August 2020 to assist farmers in transporting agricultural products on **international and national routes** so that it improves their value realisation.
- Krishi UDAN 2.0, too, will focus on this convergence between agriculture and aviation sectors (**A2A: Agriculture to Aviation**). This convergence is possible because of 3 primary reasons:
  - ✓ Evolutionary possible use of biofuel for aircraft in future;
  - ✓ Use of drones in agriculture sector; and
  - ✓ Greater integration and value realisation of agricultural products through schemes like Krishi UDAN.

#### **Key Features**

- 53 airports have been selected for the first phase mainly focusing on hilly areas, north-eastern States and tribal regions and are likely to benefit farmer, freight forwarders and airlines. Along with this seven-focus domestic and international trade routes will also be started.
- It will strengthen cargo-related infrastructure by facilitating the development of a **hub-and-spoke model** and a **freight grid**.
- It will provide full waiver of landing, parking, Terminal Navigation and Landing Charges and Route Navigation Facilities Charges for domestic airlines.
- The ministry has asked states to reduce sales tax on Aviation Turbine Fuel (ATF) to 1% for airlines under the scheme.



## **E-KUSHAL**

- The ministry will also develop an online portal **E-KUSHAL** (KrishiUdaan for Sustainable Holistic Agri-Logistics), to **facilitate information** regarding the transportation of agricultural produce.
- E-Kushal will also assist in coordinating, monitoring and evaluating the scheme.
- MoCA has also proposed a convergence of E-Kushal with the National Agriculture Market (e-NAM) platform.

## **Benefits**

- It will increase incomes of farmers by removing barriers in supply chain, logistics and transportation of farm produce.
- Reduce transport time of perishable goods & help to establish new markets for such produce.
- This will also go a long way to reduce agricultural food wastes in the country.

## Polity And Governance

### Renunciation of Citizenship Simplified

Ministry of Home Affairs (MHA) has **simplified the process** for Indians who want to renounce their citizenship. Provisions have been made for applicants to **upload documents online**, with an upper limit of **60 days** for the renunciation process to be completed after “verification of documents”.

- Over 6.7 lakh Indians renounced their citizenship between 2015-19.
- In 2018, the MHA revised the Form XXII under the Citizenship Rules for declaration of renunciation of citizenship, which for the first time included a **column on circumstances/reasons** due to which applicant intends to acquire foreign citizenship and renounce Indian citizenship
- It is initiated to check fraudulent documents and reduce compliance burden.
- Ministry issued new guidelines stating that the form, after being filled online, has to be downloaded, signed and submitted at **District Magistrate’s office**, if the applicant is in India, or **at the nearest Indian mission**, if she/he is in a foreign country. The applicant will also be interviewed by DM before the certificate is issued
- The guidelines said that when a person ceases to be a citizen of India under Section 8(1) of Citizenship Act, 1955, “every minor child of that person shall thereupon ceases to be a citizen of India”. The minor child may, however, within one year of attaining full age apply to resume Indian citizenship.
- The guidelines are not clear if minors would also lose citizenship if only one of the parents gives up her/his Indian citizenship.

#### Acquisition of Indian Citizenship

- Citizenship Act of 1955 prescribes 5 ways - **Birth, descent, registration, naturalisation and incorporation of territory**

#### Citizenship (Amendment) Act, 2019

- To fast-track citizenship for **religious minorities**, specifically **Hindus, Sikhs, Buddhists, Jains, Parsis and Christians, from Afghanistan, Bangladesh and Pakistan** who entered India **prior to 2015**.
- The requirement for them to stay in India for at least 11 years before applying for Indian citizenship **by naturalisation** has been reduced to **5 years**

### Ways to Renounce Citizenship in India

#### Voluntary

- If an Indian citizen wishes, who is of full age and capacity, he can relinquish citizenship of India by his will.

#### By Termination

- If a person takes the citizenship of another country, then his Indian citizenship ends automatically. However, this provision does not apply when India is busy in war.

#### Deprivation by Government

- If citizen has disrespected the Constitution
- If obtained citizenship by fraud
- Citizen has unlawfully traded or communicated with the enemy during a war.
- Within **5 years of registration or naturalisation**, a citizen has been sentenced to **2 years of imprisonment** in any country.
- Citizen has been living outside India **for 7 years continuously**.

## EWS Quota

Supreme Court asked the government to explain how it zeroed in on the figure of '₹8 lakh' as the annual income criterion to identify Economically Weaker Sections (EWS) among forward classes of society for grant of 10% reservation

- SC asked the Centre to file an affidavit explaining the “basis” on which economic cut-off to be applied **uniformly across the country** arrived.

### About EWS Quota

- It provides reservation in **jobs** and **education institutes** for EWS.
- 10% EWS quota was introduced under the 103rd Constitution (Amendment) Act, 2019. It inserted Article 15 (6) and Article 16 (6).

To be eligible for the EWS certificate, one has to satisfy **all the conditions** mentioned below

- Should be a 'general' candidate
- Family's gross annual income should be below Rs. 8 lakhs. This includes income from all sources such as agriculture, salary, business, etc. for the financial year before you apply
- Family should not own **agricultural land of size 5 acres or more.**
- Family should not own a **residential flat of area 1000 square feet or more.**
- Family should not own a **residential plot (in notified municipalities)** of area 100 sq yards or more.
- Family should not own a residential plot (**other than in notified municipalities**) of area 200 sq. yards or more.

### Concerns

- Statement of Object and Reason in the **EWS bill** mentioned that EWS have largely remained excluded from attending **higher educational institutions and public employment** on account of their financial incapacity to compete with the persons who are economically more privileged. This is a wild guess because the government has not produced any data to back this point.
- Candidates from EWS are already **well represented** in higher educational institutions.
- In the Indira Sawhney case 1992, the nine-judge Constitution bench put a cap of 50%. EWS quota breaches this limit.
- SC questioned the government whether they have checked the **GDP per capita for every State** which **differ widely** while deciding the monetary limit. Goa has the highest per capita income of almost Rs. 4 lakh whereas Bihar is at the bottom with Rs.40,000.

## Cyber Security Guidelines for Power Sector

Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019 has framed Guidelines on Cyber Security in Power Sector. The guidelines are a precursor to cybersecurity regulations that Central Electricity Authority is working on.

### Why The Need Was Felt

- On October 12, 2020, Mumbai faced major power outages that brought key services to a halt.

- A US cybersecurity firm, Recorded Future, had said the failure was due to a cyberattack by Red Echo, a hacker group allegedly affiliated with the Chinese government.
- Four of India's five regional load dispatch centres have faced cyberattacks

### Guidelines

- It's the first time that a comprehensive guideline has been formulated on cyber security in the power sector.
- These will apply to all **"responsible entities"** including:



- The guidelines are also applicable to system integrators, equipment makers, vendors, service providers, IT hardware and software OEMs engaged in power supply system.
- Appointment of a Chief Information Security Officer (**CISO**) at each **"responsible entity"** as well as the setting up of an **Information Security Division** headed by the CISO.
- The entities will also be required to incorporate a procedure for identifying and reporting of any disturbances suspected or confirmed to be caused by sabotage and submit the report to the sectoral **Computer Emergency Response Team (CERT)** and **Indian CERT within 24 hours**.
- Guidelines mandate ICT (Information and Communication Technology)-based procurement from identified **"Trusted Sources"** and identified **"Trusted Products"**.
- In case the procurement is not from a trusted source, the product needs to be tested for Malware/Hardware Trojan before deployment for use in power supply systems.

## Registration of Births and Deaths Act, 1969

Centre has **proposed** amendments to **Registration of Births and Deaths Act, 1969** law that will enable it to "maintain the database of registered birth and deaths at the national level".

- Presently, the registration of births and deaths is done by the **local registrar appointed by States**. Registration of Births and Deaths in India is **mandatory** and is done as per the place of occurrence of the event.

### Proposed Amendments

- Chief Registrar (appointed by the States) would maintain a unified database at the State level and integrate it with the data at the "national level," maintained by the Registrar General of India (RGI). The amendments will imply that the Centre will be a parallel repository of data.
- The appointment of "Special Sub-Registrars, in the event of disaster, with any or all of his powers and duties for on the spot registration of deaths and issuance of extract thereof, as may be prescribed."

### How Is It Helpful

- The database can be used to update the National Population Register (Citizenship Act, 1955) and the electoral register, and Aadhaar, ration card, passport and driving licence databases.
- If the amendments are implemented, the Centre could use the data to update the National Population Register (NPR), first prepared in 2010 and revised through door-to-door enumeration in 2015. The NPR already has a database of 119 crore residents and under the Citizenship Rules, 2003, it is the first step towards the creation of the National Register of Citizens (NRC).

## Right to Protest

Supreme Court observed that it was not against people's right to protest even on matters that are sub judice, but made it clear that such protesters **cannot block public roads indefinitely**. SC had issued notice to leaders of 43 farmers' unions after Haryana government urged it to make them parties in the matter.

- Right to Protest is **not an explicit right under the Fundamental rights, it can be derived from the Right to Freedom of Speech and Expression under Article 19(1)(a), 19(1)(b), 19(1)(c)**
- **Article 19(2)** imposes reasonable restrictions on the right to freedom of speech and expression
- **Past incidence:** SC hearing the plea regarding **Shaheen Bagh Protests (2019)**, upheld right to peaceful protest against the law but also cleared that public ways and spaces cannot be occupied indefinitely.

## Suo-motto Powers of NGT

- Recently, National Green Tribunal (NGT) took suo motu cognizance of the Vizag Gas Leak. The Respondent Company, LG Polymers appealed before the Supreme Court ("SC") challenging the exercise of suo motu powers by the NGT.
- Court ruled that the NGT, which safeguards the right to life under **Article 21** of the Constitution, even in the absence of an application, can **self-ignite action** either towards amelioration or towards prevention of harm.
- At the same time, it clarified that NGT's suo motu jurisdiction would be subject to the principles of natural justice and fair play – before passing an adverse order, an opportunity of hearing should be provided to a party that is likely to be affected by NGT's order.

### NGT Has Attempted To Justify Its Use Of Suo motu Powers On Two Grounds.

- Firstly, it relied on Section 19 of the NGT Act which confers upon the Tribunal power to make its own procedure. NGT at para 14 of the order has observed that the power to regulate its own procedure, in appropriate circumstances, includes the power to institute suo motu proceedings.
- Secondly, it relied on Rule 24 of the NGT Practice and Procedure Rules, 2011 ("NGT Rules") which confers upon the Tribunal wide range of powers to pass any order or direction as may be necessary or expedient to give effect to its order, prevent the abuse of the process and secure the ends of justice.

#### About NGT

- National Green Tribunal (NGT), a specialized tribunal to deal with environmental matters, was created by the NGT Act 2010.
- The Tribunal shall not be bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by **principles of natural justice**.
- It has got **original as well as appellate jurisdiction** on matters relating to water, air, forest conservation, environment protection and biological diversity. (i.e., on all civil matters).
- The Tribunal is mandated to make an endeavor for disposal of applications **within 6 months**.
- New Delhi is the Principal Place of Sitting of the Tribunal and Bhopal, Pune, Kolkata and Chennai are other 4 place of sitting of the Tribunal.
- The Tribunal is headed by **a sitting or retired Supreme Court judge or the Chief Justice of a High Court**. The Tribunal, shall consist of—a full time Chairperson and between 10-20 full time Judicial Members.
- The chairperson is appointed by the **Government with the consultation of CJI**. The maximum age of chairperson will be **70 years if he is from SC and 67 years if he is from HC**. He can be removed by central government after an inquiry made by a judge of Supreme Court.
- Anybody can approach the NGT. It can be **any individual, media organisation or NGO**.

- Compensation can be claimed in case of death, disability, ' damage to property and loss of business or employment. Though no limit has been fixed for the compensation, the tribunal may **provide relief and compensation** to the victims as it may think fit.
- Its decisions are subjected to **judicial review**, if an appeal is made within 90 days of award (only in Supreme Court).

## PM's 60 Point Action Plan

Centre has prepared a comprehensive **60-point action plan**. The action plan is targeted at specific ministries and departments, but a closer analysis suggests they fall under broadly **three buckets**:

### Improving Business Climate

- Doing away completely with certain permissions, reducing cost of starting a business in 10 sectors and bring it on a par with **Vietnam and Indonesia**, automatic notification of clearances, single-point access to all government services, incentives to states for timely land acquisition and forest clearances, **one comprehensive Environment Management Act** that subsumes various laws in the sector, **mentoring platform for start-ups** and skilling programmes for emerging sectors.
- Using Geographic Information System (**GIS mapping**) for decision making to increase the country's GDP
- Pushing for jobs while negotiating **trade pacts**
- Mostly directed at Department for Promotion of Industry and Internal Trade, Ministry of Environment, Forest, and Climate Change, and the Niti Aayog

### Leveraging IT and Technology for Governance

- Several actionable inputs for Ministry of Electronics and Information
- Technology from streamlining **disbursement of scholarships** to bridging **digital divide** for underprivileged students by developing **indigenous tablets and laptops**.
- Digitizing all land records by 2023 under the central database called '**Matribhumi**.' Integration with e-Courts system will provide transparency on title/possession related issues.
- **Citizenship may be linked to birth certificates** through technology and mainstreamed.
- Appointment of **more Chief Information Officers (CIOs) and Chief Technology Officers (CTOs)** as data is not being used efficiently. All government data should be made accessible to all ministries

### Upgrading the Civil Services

- On capacity building – training of officers on various aspects of **infrastructure** in both the Centre and states
- Infusion of expertise and exposure to latest technologies for higher civil services
- **Performance-based working**, clear and specific **targets** for ministries and departments just like that for public sector undertakings
- Institutional mechanisms for addressing issues of states given their limited capacities and restructuring of departments through **government process re-engineering every 10 years**.

### Other Action Plans

- PM has also asked departments and ministries to borrow from successes achieved by others.
- **Department of Sports** has been asked to adopt the **Odisha model**
- Department of Administrative Reforms and Public Grievances has been asked to organise all government circulars like the RBI's Master Circulars.

- States/ municipal bodies have undertaken many good initiatives. **National Urban Digital Mission** is being developed to bring all such initiatives in one place.
- Systems like **Integrated Command and Control Centre** may be made available by industry as a service so that smaller towns may also take advantage
- NITI Aayog has also been asked to target poverty eradication within 5 years.
- Asks Ministry of Housing and Urban Affairs to **ab initio plan residential facilities** for service staff engaged in construction to **prevent formation of slums**.
- Using Aadhaar for bringing together **beneficiary oriented schemes** of different ministries
- '**Family database design**' has been developed by Ministry of Social Justice and Empowerment and may be promoted like Aadhaar
- Directs culture & tourism ministries to identify and develop **100-200 iconic structures and sites**.
- **Centres of excellence** may be set up in rural areas through PPP, taking a cue from **Singapore**.

# INTERNATIONAL AFFAIRS

## Bangladesh Signs UN Deal To Help Refugees On Island

- UN and Bangladesh have signed a memorandum of understanding to work together in aiding protection and management of **Rohingya refugees**.
- These refugees have been relocated on an island, known as Bhasan Char, in the Bay of Bengal from cramped camps near the border with Myanmar.

### Key Highlights Of The Agreement

- The agreement allows for Close cooperation on **services and activities** to the benefit of the increasing numbers of Rohingya refugees living on the island.
- It covers key areas of
  - ✓ protection, education, skills-training, livelihoods and health.
  - ✓ This will help support the refugees to lead decent lives on the island and better prepare them for sustainable return to Myanmar in the future.
- Refugees will also have a chance to earn a living through odd jobs that will be accessible once aid organizations set up on the island.
- The memorandum states that Movement of refugees back and forth from the island to the main camps in Southern Bangladesh will be permitted on a conditional basis.
- However, they have freedom of movement around on the Char Island.



### Bhasan Char

- It is located near the mouth of the river Meghna where it flows into the Bay of Bengal.
- It surfaced only in 2006 from the sediment deposited by the river.
- Located close to the much larger Sandwip, Bhasan Char spans 40 sq km.

## China Adopts New Border Law

China's legislature has adopted a new border law on the protection and exploitation of the country's land border areas.

### About the new law passed by China

- The law stipulates that **the sovereignty and territorial integrity** of the People's Republic of China are sacred and inviolable. State shall take measures to safeguard territorial integrity and land boundaries and guard against and combat any act that undermines it territorial sovereignty and land boundaries.
- China has unresolved border disputes with India and Bhutan. Against this backdrop, the new law would formalise some of China's recent actions in disputed territories with both India and Bhutan, including

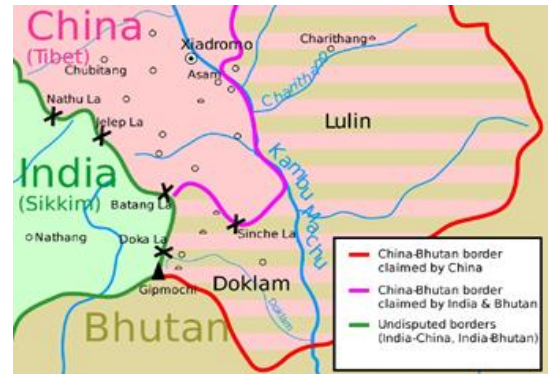
- **PLA's massing of troops in forward areas along the India border**
- **Multiple transgressions across the LAC**
- **Construction of new "frontier villages" along the border with Bhutan**



- It also calls on the state to:

- **Take measures to strengthen border defence as well as opening-up in border areas**
- **improve public services and infrastructure in such areas**
- **encourage and support people’s life and work there**
- **Promote coordination between border defence & social, economic development in border areas**

- It designates various responsibilities of the military, State Council or Cabinet and provincial governments in managing the security & economic issues in border area.
- It says the PLA shall carry out border duties including organising drills and resolutely prevent, stop and combat invasion, encroachment, provocation and other acts.
- It also says China will handle land border-related affairs with neighbouring countries through negotiations to properly resolve disputes and long-standing border issues.



### Bhutan-China Border Dispute

The entire 477-km Bhutan-China border is disputed. Significant Chinese claims range from:



### Sino – India Border Dispute

- The territorial dispute along the China-India border falls across three different areas.

<b>Eastern sector</b>	• About 90,000 square kilometres, corresponds roughly to the Indian state of Arunachal Pradesh and is under Indian control.
<b>Western sector</b>	• Sometimes called Aksai Chin or part of Ladakh, involves about 33,000 square kilometers and several districts in Xinjiang. It is under Chinese control
<b>Central or middle sector</b>	• West of Nepal, is the smallest contested area, around 2,000 square kilometers, and control is divided.

- That border is known as the line of actual control (LAC), but its precise location can be blurry, and there is still dispute between China and India.

### New Prime Minister of Japan

- Japan’s parliament elected former foreign minister **Fumio Kishida as the new prime minister.**
- Kishida replaces his predecessor, Yoshihide Suga, who resigned earlier after his party saw a drop in popularity over the decision to push ahead with the 2020 Tokyo Olympics.

[For detailed discussion about the electoral process of Japan, please refer the topic “**Prime Minister of Japan Stepped Down**” from September 2021 edition of CA magazine]

## Visit of Prime Minister of Denmark To India

Prime Minister of Denmark paid an official visit to India.

### Key Highlights

- The focus of bilateral talk was on expanding cooperation in a range of key areas such as health, agriculture, water management, climate change and renewable energy.

### List of MoUs Exchanged

- MoU on Mapping of ground water resources and aquifers
- MoU to establish a Centre of Excellence towards natural refrigerants for tropical climates with potential applications.
- MoU on the development of the Hydrogen Electrolyzer and the subsequent manufacturing and deployment of the Hydrogen Electrolyzer in India.
- MoU to establish a 'Center of Excellence for Sustainability Solutions' based in Denmark.
- MoU on strategic cooperation to promote knowledge-sharing on solutions and facilitate research on the green transition of the economy.

**Agreements:** Traditional Knowledge Digital Library Access Agreement

### Five-year Action Plan (2021-26) for the Green Strategic Partnership

- Both sides reviewed the progress made under **India-Denmark Green Strategic Partnership**.
- During the Virtual Summit held in September 2020, India and Denmark had established a '**Green Strategic Partnership**'. It aims to create a framework for significant expansion of cooperation in areas of renewable energy, environment, economy, climate change and science and technology.

### Both India and Denmark Have Ambitious Climate Goals

- India is the world's 3<sup>rd</sup> largest CO<sub>2</sub> emitter and by 2030 it is expected to have doubled its carbon emissions.
- Danish government has an ambition to reduce CO<sub>2</sub> emissions with 70% by 2030

### Cooperation In Agriculture Sector

Both sides decided to cooperate in areas like



### Sustainable Development And Green Growth

- The two Prime Ministers agreed to enhance the commercial cooperation with new technologies, in particular green hydrogen, E-mobility and storage.
- Both sides noted the active global collaboration on new green energy technologies, including under EU Horizon Programs and Mission Innovation.
- The two leaders welcomed sustainable water entrepreneurship initiative under the Niti Aayog – Atal Innovation Mission and Innovation Center Denmark 'Water Challenge' in 2022 and 2023.

## India Denmark Bilateral Relations

Bilateral relations are cordial and friendly, based on synergies in political, economic, academic and research fields.

### PM level interactions

- There have been periodic high-level visits between the two countries.
- **India-Nordic Summit** – First such summit took place in 2018. Second India-Nordic summit is to be convened in Copenhagen in 2022.

### Institutional Mechanism

- **India-Denmark Joint Commission established in February 2008 to:**
  - work towards Green Strategic Partnership,
  - facilitate Parliamentary exchanges,
  - deepen economic engagement and
  - expand cooperation in multilateral organizations.

### Commercial and Economic Relations

- Total volume of bilateral trade in goods & services - US\$ 3.58 billion in 2020
- **FOR FINANCIAL YEAR 2020-21**
- India's export to Denmark - \$ 755.25 million
- India's import from Denmark - \$ 589.13 million

### Investment

- 200+ Danish companies are present in India and over 60 Indian companies have a presence in Denmark.
- There exists strong collaboration in fields of renewable energy, clean technologies, water & waste management, agriculture & animal husbandry, science & technology, digitisation including ICT, smart cities, shipping, etc.

## Important Streets And Public Places Named After Indian Leaders

- **Gandhi Plaene**(Gandhi Park), located at the junction of Borups Alle and Hvidkil devej in Copenhagen. It has a bronze statue of Mahatma Gandhi in sitting posture.
- City of Aarhus has a **Nehru Road** near Aarhus University.

## Seychelles' Tax Inspectors Without Borders

Seychelles' Tax Inspectors Without Borders (TIWB) programme has been launched in partnership with India.

### Key Highlights Of The Program

- It is expected to be of **12-month duration**.
- It aims to aid Seychelles in strengthening its tax administration by transferring technical know-how and skills to its tax auditors through sharing of best audit practices.
- The focus of the programme will be on **Transfer Pricing cases of tourism and financial services** sector.
- This programme is the **6th TIWB programme** which has been **supported by India by providing Tax Expert**.
- In the past, India has also extended its support to Bhutan under the same program (5<sup>th</sup> TIWB).
- It depicts Indian commitment to South-South Cooperation, SAGAR initiative and elder brother approach to the Indian Ocean Nations.

### About TIWB

- It is a joint initiative of the United Nations Development Programme (UNDP) and the Organisation for

Economic Cooperation and Development (OECD) launched in 2015.

- The program supports countries in building **tax audit capacity**.
- TIWB Programmes complement the broader efforts of the international community to
  - ✓ Strengthen co-operation on tax matters and
  - ✓ Contribute to the domestic resource mobilisation efforts of developing countries.

### India And US Joint Working Group In Defence Industrial Security

- Industrial Security Agreement (ISA) summit between India and United States was held recently. ISA was signed in December 2019 to **facilitate the exchange of classified information** between the **defence industries** of both the countries.
- During the summit, both the sides agreed to establish the **Indo-US Industrial Security Joint Working Group**. The aim of this group is to align the policies and procedures expeditiously that will allow the **defence industries** to collaborate on cutting edge defence technologies.

### Sri Lanka Receives Nano Liquid Fertiliser From India

- Sri Lanka has received the **first consignment** of 3.1 million litres high quality non-harmful Nano Nitrogen liquid fertilizer from India.
- This will help the Sri Lanka's Eastern province in the cultivation of **maize and paddy**.
- Earlier, the Sri Lankan govt had decided to impose a total ban on agrochemicals in order to make Sri Lankan farming **100% organic**.

#### About Nano Urea (Liquid) fertilizer

- IFFCO developed nano-technology based Nano Urea (Liquid) fertiliser to address the imbalanced and excessive use of **conventional Urea**.
- It has been developed **indigenously**, for the first time in the world at IFFCO - Nano Biotechnology Research Centre (NBRC) Kalol, Gujarat.
- Cheaper than conventional urea, the new product is also expected to reduce the environmental pollution caused by the granular form.
- It should be noted that the Urea forms **82% of the total nitrogenous fertilisers consumed** in India, with an annual consumption of **33.6 million tonnes in 2019-20**.

### India Hands Over Jaynagar-Kurtha Rail Link To Nepal

- India has handed over the 34.9km-long **cross-border** rail link connecting Jaynagar in Bihar to Kurtha in Nepal to the Nepal government.
- Jaynagar-Kurtha section is part of the **68.7km Jaynagar-Bijalpura-Bardidas rail link** built under India's grant assistance of NPR 8.77 billion
- This will enhance trade and commerce activities as well as people to people linkages between the two countries.

## Canada's New Defence Minister

- Indian-origin Canadian politician **Anita Anand** has been appointed as Canada's new Defence Minister in Justin Trudeau's government.
- She will replace long-time defence minister Indian-origin Harjit Sajjan, whose handling of the military sexual misconduct crisis has been under criticism.
- She is just the second woman to serve as Canada's defense minister.

## First Strategic Dialogue Between India and Kyrgyzstan

- Recently, India and Kyrgyzstan held their **first strategic dialogue**. The dialogue is significant in view of **India's efforts to step up cooperation with the Central Asian** states on regional security.
- Both the countries agreed to enhance security and defence cooperation to address common threats and challenges faced by both countries arising out of the situation in Afghanistan.
- Both sides decided to take steps to enhance **bilateral security cooperation** between relevant bodies, including in the fields of counter-terrorism, combating radicalisation, narcotics control and defence cooperation.

## Bhoodan Grove Plaque Unveiled In Jerusalem Forest

External Affairs Minister S. Jaishankar unveiled "Bhoodan Grove" plaque at Jerusalem Forest in Israel.

### Bhoodan Grove

- After the independence, Indian leaders were exploring ways to implement the socialist ideals of the **Sarvodaya movement** namely, 'Bhoodan and Gramdan'.
- Basically, they wanted to keep Mahatma Gandhi's concept of the village as the basic unit of development.
- Hence, even before the establishment of full diplomatic relation between India and Israel, these leaders made several visits to Israel.
- The objectives of such visits were to study the social structure of different forms of Israel's communal and cooperative institutions -- 'Kibbutzim and Moshavim'.
- Jayaprakash Narayan, the leader of the Sarvodaya movement, visited Israel in September **1958** on a nine-day visit as the guest of Histadrut, the Israel Federation of Labour.
- Narayan's visit was followed by that of a 27-member Sarvodaya team in 1960.
- On their way back to India, they planted the "**Bhoodan Grove**" in Jerusalem Forest on **May 22, 1960**.

## Summits and Organisations

### Access to a Clean Environment Declared as a Human Right

- Recently, U.N. Human Rights Council has recognised access to a clean and healthy environment as a fundamental right.
- It will be the first of its kind in more than 70 years since the **Universal Declaration of Human Rights (UDHR)** was adopted by the UN General Assembly in **1948**.
- The resolution in this regard was passed with 43 votes in favour and 4 abstentions from Russia, India, China and Japan.
- India abstained as it believed that the council was not the appropriate forum and citing legal concerns.
- The resolution, first discussed in the 1990s, is **not legally binding**. However, it has the potential to shape global standards.

#### Universal Declaration of Human Rights (UDHR)

- These 30 rights and freedoms include **civil and political rights** (like the right to life, liberty, free speech and privacy) and **economic, social and cultural rights** (like the right to social security, health and education) etc.
- UDHR, together with the **International Covenant on Civil and Political Rights** and its two Optional Protocols (on the complaints procedure and on the death penalty) and the **International Covenant on Economic, Social and Cultural Rights**, form the **International Bill of Human Rights**

#### Criticism

- In October 2020, China, Russia and Cuba were elected to the council. Many analysts condemned the election as these countries are well known for crushing dissidents, arbitrary arrests and executions.
- China is being condemned for its **treatment of Uighur Muslims** in the country's Xinjiang region and **handling of pro-democracy protests in Hong Kong**.
- **Elected directly by secret ballot** by a majority of the U.N. General Assembly, the voting system has for years been criticized as being plagued by **corruption and back-door deals**.
- Membership is divided among geographic groups, mandating a certain number of members per region and **enabling several states to run for seats uncontested**.
- China and some of its allies including Belarus and Venezuela had used this platform to push through joint statements supporting Beijing's actions in Hong Kong, Xinjiang and Tibet.

### G20 Leaders' Summit on Afghanistan

Recently, G20 Leaders' *Summit on Afghanistan* was held. The summit was convened by Italy, which currently holds the G20 presidency.

#### Key Highlights Of The Summit

- **Focus of the summit** - Issues related to the humanitarian crisis in Afghanistan, terrorism and human rights.
- **On Terrorism** - The leaders discussed the critical need to maintain a laser-focus on ~~enduring~~ enduring counterterrorism efforts, including against threats from ISIS-K.

- **Afghan support package presented** - European Commission President Ursula von der Leyen presented an Afghan support package worth one billion euros. Aim of package is to prevent humanitarian & socio-economic collapse of Afghanistan.
- **Need to provide safe passage** for foreign nationals and "Afghan partners" with documentation who hope to leave Afghanistan.
- **Humanitarian Assistance and Promotion of Human Right:** The participating leaders also reaffirmed their collective commitment to promote fundamental human rights for all Afghans, including women, girls, and members of minority groups.

### India's Stand

<b>Terrorism</b>	<ul style="list-style-type: none"> <li>• India again underlined the need to ensure Afghan territory did not become a source of radicalisation and terrorism – regionally or globally.</li> <li>• Emphasised the need to enhance the <b>joint fight</b> against the nexus of radicalisation, terrorism and smuggling of drugs and arms in the region.</li> <li>• Conveyed support for the important <b>role of the UN</b> in Afghanistan.</li> <li>• Called for renewed support of G20 for the message contained in <b>UNSC Resolution 2593</b>. India sees the August 30 resolution as a template for international action in Afghanistan.</li> <li>• Calls upon Taliban to not allow Afghanistan territory to be <b>used against others</b></li> </ul>
<b>Inclusive governance</b>	<ul style="list-style-type: none"> <li>• Reiterated its call for an <b>inclusive government that has women and minorities</b>. <ul style="list-style-type: none"> <li>• This will help Afghanistan to preserve the socio-economic gains of the last 20 years and to restrict the spread of radical ideology.</li> </ul> </li> <li>• Called for the immediate and unhindered access to humanitarian assistance for Afghanistan as the country battles food and health crisis.</li> </ul>
<b>Unified response</b>	<ul style="list-style-type: none"> <li>• Called on the international community to “forge a unified international response. Without which, it would be difficult to bring about the desired change in Afghanistan’s situation.</li> </ul>

### India, US, UAE, and Israel Form A New QUAD

The first virtual meeting of the foreign ministers of India, Israel, the US and United Arab Emirates (UAE) took place. The meeting is described in some quarters as a “*new Quad*”.

#### Key Highlights

- The new grouping is described as an **international forum for economic cooperation**.
- **Objective** – To generate synergies that go beyond government level cooperation
- **Possible areas of cooperation** - The first quadrilateral meeting between India, Israel, the UAE and the US decided to ensure

**Abraham Accord**

- In August 2020, **US had brokered Abraham accord** between Israel and UAE.
- This deal promises to establish **normal relations between the two countries**.
- These include business relations, tourism, direct flights, scientific cooperation, and, in time, full diplomatic ties at the ambassadorial level.
- An important component of the deal is enhanced security cooperation against regional threats, especially from Iran and its proxies.
- Israel, on its part, agreed to **suspend declaring sovereignty over territories it occupies in the West Bank**.

- ✓ closer cooperation on increasing trade,
- ✓ enhancing cooperation in maritime security and global public health,
- ✓ joint infrastructure projects in transportation and technology.
- The group also discussed the possibility of working **on joint infrastructure projects**. It will help these countries to work together on infrastructure, transport, maritime security.
- All four ministers promised to meet in person during the Dubai Expo in the coming months.

### Benefits for India

- India has always supported peace and stability in West Asia which is considered as India's **extended neighbourhood**.
- The new "Quad" will give India the flexibility to engage more freely with Israel and India's partners in the Gulf region.
- This platform strengthens **India's strategic desire to adopt a regional foreign policy strategy towards West Asia**, transcending its bilateralism.
- o Earlier, there were three pillars to India's West Asia policy



- However, with the **Abraham Accord**, the gulf between the Sunni kingdoms and Israel is being narrowed. As a result, India faces fewer challenges to a regionalist approach.
- This grouping is also a strong manifestation of the changes in West Asian geopolitics.

### Challenges In Front Of India

- As part of US' plan to tackle China in East Asia, it is reducing its presence in West Asian region. This is leading to redrawing of the West Asia's traditional equations.
- o It is believed that many conflicts of West Asia could intensify amid growing regional rivalries. Hence, India should be careful not to get sucked into these conflicts.
- Iran has a very good relation with India while it shares hostile relation with the US, UAE and Israel. In this context, the current groping might be seen as an **anti-Iran bloc**.
- Hence, the challenge before India is to retain a healthy relationship with Iran as it seeks to build a stronger regional partnership with the U.S.-Israel-UAE bloc.

### UN Sets Up Trust Fund for Afghanistan

- United Nations has set up a special trust fund to provide urgently-needed cash directly to Afghans.
- **Aim:** To inject liquidity into Afghan households to permit them to survive this winter and remain in their homeland despite the turmoil.

### Background

- Recent virtual meeting brought these 4 countries **on a common platform for the first time**.
- However, it was the **Israeli foreign minister Lapid who had first coined the idea of such a "quadrilateral" meeting** during his recent visit to Washington.
- o According to him, the four countries had a "unique set of capabilities, knowledge, and experience that can be used to create the network beneficial to entire planet.



- It will do so through a system that taps into donor funds frozen since the Taliban takeover in August. The Taliban takeover saw billions in central bank assets frozen and international financial institutions suspend access to funds.

## 2<sup>nd</sup> United Nations Global Sustainable Transport Conference

2<sup>nd</sup> United Nations Global Sustainable Transport Conference was held recently in **Beijing, China**.

- 1<sup>st</sup> Conference was held in 2016 in Ashgabat, Turkmenistan.

### Key Highlights

- The conference **concluded with the Beijing Statement**, which called for adopting integrated, interdisciplinary & cross-sectoral approaches, supported by greater international cooperation.
- It made a call to accelerate progress towards achieving sustainable transport that would result in major reductions in greenhouse gas emissions.
- The participating leaders called for the **decarbonization of all means of transport**, in order to get to **net-zero emissions by 2050 globally**.
- China, the host country, committed to establishing a **Global Innovation and Knowledge Center for Sustainable Transport** as a contribution to global transport development.

### India's Stand at the conference

- India has voiced its **strong opposition to China's Belt and Road Initiative (BRI)** and its flagship project – the CPEC – at the just concluded conference.
- While Indian diplomat was highlighting New Delhi's objection to the controversial projects, her mike curiously went silent.
  - The sudden "mike failure" at the UN meet hosted by China created a flutter.

## 4<sup>th</sup> Assembly of International Solar Alliance

Recently, the fourth general assembly of the International Solar Alliance (ISA) was held virtually. The assembly was presided by the Union Minister for Power, New and Renewable Energy and the President of the ISA Assembly.

### India's Stand At The Assembly

- India emphasized that it is time for developed countries to direct the **energy transitions funds** they had committed at previous climate conferences. The Energy Transition Fund aims to encourage and support research, development and innovation in the field of energy.
- Indian leader said that the ISA will cover **credit guarantees** and help in driving green energy investments in these countries.
- ISA targets US\$1 trillion of investment in solar by 2030, which would be significant in bringing the world closer to energy transitions needed.

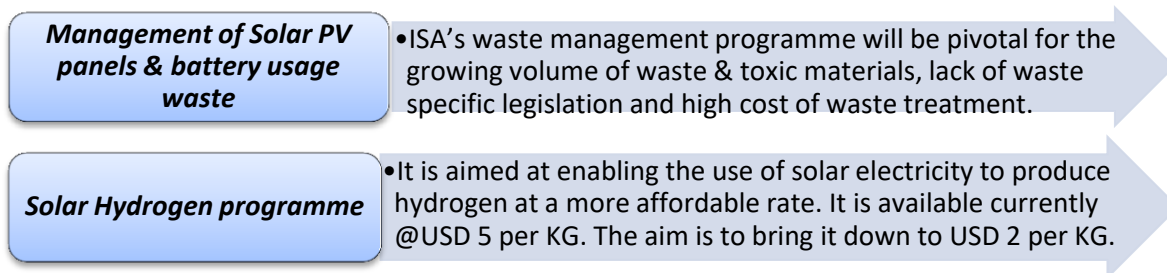
### Key Outcomes

#### 1. Session on Enhancing the Capacity of Women to Support Energy Transition

- India highlighted that it will focus more on women in skill and capacity building programs.

- India is working on the concept of Decentralised Renewable Energy applications & proposes to turn it into a scheme in the coming months.
- The idea is to enable women to use things such as solar dryers and solar grinders etc., and enable them to earn a livelihood.

## 2. Two New Programs Launched



## 3. An update on One Sun One World One Grid (OSOWOG) initiative was discussed

The concept of a single global grid for solar was first outlined at the First Assembly of the ISA in late 2018. It envisions building and scaling inter-regional energy grids to:

- Share solar energy across the globe, leveraging the differences of time zones, seasons, resources and prices between countries and regions.
- OSOWOG will also help decarbonise energy production.

## 4. Unified GGI-OSOWOG initiative

- OSOWOG has joined hands with **Green Grids Initiative (GGI)** to form a Unified GGI-OSOWOG initiative. It aims to contribute to the collaborative, rapid development of resilient grids globally – building on continental, regional and national grid infrastructure programs.
- The UK COP Presidency, the Government of India and the Presidency of the ISA are expected to announce this collaboration at COP26.

## 5. Promise To Achieve \$1 Trillion Global Solar Investments By 2030

### 6. Partnership Announced To Mobilize \$1 Trillion In Global Investments For Solar Energy

- Assembly announced a partnership with Bloomberg Philanthropies to mobilize \$1 trillion.
- The two organizations will work with **World Resources Institute** to develop: a **Solar Investment Action Agenda** and a **Solar Investment Roadmap**. These documents will be launched at COP26.

### International Solar Alliance (ISA)

- It is working to create a global market system to tap the benefits of solar power and promote clean energy applications.
- HQ - Gurugram

**ISA**

ISA Represents:

- \* 73% of global population, 36% of world GDP
- \* 55% of total energy consumption world wide,
- \* 23% of installed solar capacity

**What is International Solar Alliance?**  
It is an inter-governmental organisation to promote solar energy among member countries. It is headquartered in Gurugram

**How many have joined in?**  
As of now, 61 nations have joined the alliance while 32 have ratified the Framework Agreement

**What is the concept?**  
It is meant to bring together 121 countries that lie either completely or partly between the two tropics so as to harness solar energy and make the technology freely available to all nations

**ISA TARGET**

- 1,000 GW** Solar generation capacity globally by 2030
- \$1 trillion** Investment required to achieve the 2030 goal

**Who's behind it?**  
The idea was conceived and articulated by Prime Minister Narendra Modi during his Wembley Stadium speech at London in 2015

**\$83 bn** India's requirement to meet its 175 GW goal

**175** Gigawatts (GW) generation from renewable energy is India's target for 2022

**20** GW solar power capacity already installed in India, says Modi

- It was launched jointly by **India and France** at the side-lines of **COP 21** (held in Paris) in 2015.

### Objective

- To collectively address key common challenges to the scaling up of solar energy in line with their needs.
- To meet this objective, it aims to pave the way for future solar generation, storage and technologies for Member countries' needs by mobilising over USD 1000 billion by 2030.

### Vision and Role of ISA

- Vision of ISA is to enable One World, One Sun, One Grid.
- The ISA plays a four-fold role in establishing a global solar market: an accelerator, an enabler, an incubator, and a facilitator.

## 6<sup>th</sup> CICA Foreign Ministers Meeting

- Recently, 6th Meeting of the Foreign Ministers of the Conference on Interaction and Confidence-Building Measures in Asia (CICA) was held in Kazakhstan's capital Nur Sultan.
- The meeting discussed

- Issues of security
- Further development of regional economic cooperation
- Situation in Afghanistan, including the possibility of providing assistance to the Afghan people in an attempt to stop formation of humanitarian crisis

### About CICA

- Established in 1999, it is an inter-governmental forum for enhancing cooperation towards promoting peace, security and stability in Asia.
  - It was **proposed by Nursultan Nazarbayev**, first president of Kazakhstan, at the 47<sup>th</sup> session of UN General Assembly in October 1992.
  - It currently has **27 member states** and 9 observer states and 5 observer organisations.
- **Secretariat** - Nur-Sultan, Kazakhstan.
- For becoming a member of CICA, a state must have at least a part of its territory in Asia.
- **India has been a member of CICA since its inception.** India also co-chairs two CICA CBMs on
  - Development of Secure and Effective Systems of Transportation Corridors, and
  - Energy Security

## IEA Invites India to Become Full-time Member

Recently, International Energy Agency (IEA) invited India to become **full-time member**.

### India's Association With IEA

- In March 2017, India became an **associate member of the IEA**.

- In January 2021, IEA members and India entered into a **strategic partnership** to strengthen their collaboration across a range of vital areas including energy security and clean energy transition.

#### Why India Has Been Offered The Membership To The IEA?

- India is currently the world's **third-largest energy consumer** and is becoming increasingly influential in global energy trends.
- India's entry will **boost the global energy security apparatus**.
- India's membership would also add heft to its dealings with the Organization of the Petroleum Exporting Countries (OPEC)-plus grouping. OPEC makes up about 40% of global output and 83% of India's oil imports.
- As a natural corollary to the India IEA strategic partnership, IEA invited India to deepen its cooperation with IEA by becoming a full Member.

#### India's current strategic oil reserves

- India, currently maintains strategic oil reserves equal **9.5 days of its requirement**.
- Domestic refiners also maintaining 65 days of crude storage.
- In addition, the government is **building strategic crude oil reserves to support another 12 days of crude oil needs**.

#### Requirements To Be Fulfilled By Member Countries

According to IEA, a member country must maintain

A demand restraint programme to reduce national oil consumption by up to 10%

Crude oil and/or product reserves equivalent to 90 days of the previous year's net imports

#### Eligibility Criteria For Membership

Must also be members of the OECD

Hold 90 days of oil imports as commercial stocks

- However, starting in 2015, the IEA has been **opening its doors to major emerging economies** that are at the centre of the global conversation on energy.
- Since then, **eight countries have joined** the IEA's Association programme: Brazil, China, India, Indonesia, Morocco, Singapore, South Africa and Thailand.

#### About International Energy Agency (IEA)

- It is a **Paris-based** autonomous intergovernmental organization. It was created in 1974 to help co-ordinate a collective response to major disruptions in the supply of oil.
- It was established within the framework of the Organisation for Economic Co-operation and Development (OECD).
- The Agency's mandate has been broadened to focus on the **"3Es" of effectual energy policy**: energy security, economic development and environmental protection.
- IEA has a broad role in promoting alternate energy sources (including renewable energy), rational energy policies, and multinational energy technology co-operation.

#### 16<sup>th</sup> East Asia Summit

PM Modi participated in 16<sup>th</sup> East Asia Summit (EAS) via videoconference.

#### About East Asia Summit (EAS)

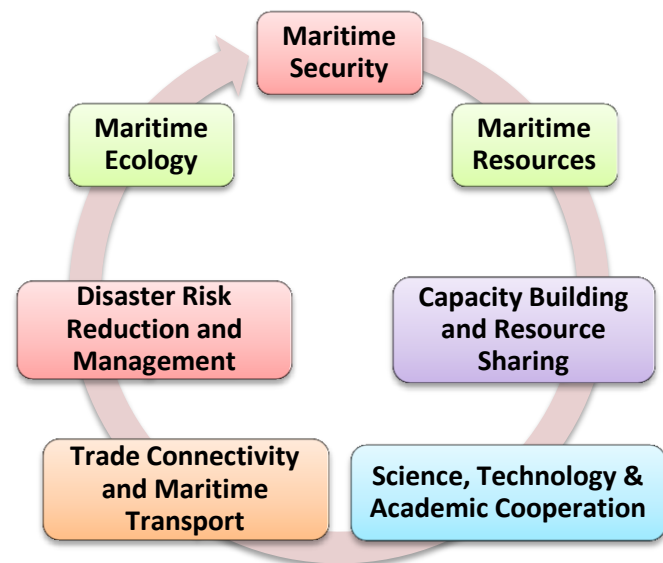
- EAS is a meeting of **18 regional leaders** for strategic dialogue and cooperation on the key political, security, and economic challenges facing the Indo-Pacific region.
- It comprises :
  - 10 member states of the Association of Southeast Asian Nations (ASEAN) – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam
  - Along with Australia, China, Japan, India, New Zealand, the Republic of Korea, Russia and United States.
- EAS membership represents ~54% of world’s population & accounts for 58% of global GDP.

### India’s Indo-Pacific Oceans Initiative (IPOI)

- In November 2019, while participating in 14<sup>th</sup> EAS, PM Modi launched the Indo-Pacific Oceans Initiative (IPOI).
- It is an **open, non-treaty-based initiative** for countries to work together for cooperative and collaborative solutions to common challenges in the region.
- It seeks to ensure security and stability of the regional maritime domain.
- IPOI draws on existing regional architecture and mechanisms to focus on **seven pillars**:

### Key Highlights

- 16<sup>th</sup> East Asia Summit was hosted by Brunei. Brunei is the current chair of EAS and ASEAN.
- The summit discussed important regional and international issues including:
  - Indo-Pacific, South China Sea, UNCLOS, terrorism, and situation in Korean Peninsula and Myanmar.
- It adopted 3 Statements on **Mental Health; Economic recovery through Tourism and Sustainable Recovery.**
- These statements have been co-sponsored by India.



### India’s Stand At The Summit

- India emphasised the importance of a **resilient global value chain** and highlighted the role of ‘Atmanirbhar Bharat’ campaign in post-pandemic recovery.
- India reiterated its commitment to provide **Quad-sponsored vaccines** to Indo-Pacific nations.
- PM Modi recalled India’s support of **\$1 million to ASEAN Covid-19 Recovery Fund.**
- India, while stressing upon the importance of Free, Open and Inclusive Indo-Pacific , raised the idea of developing global standards on cybersecurity.
- Modi reaffirmed “ASEAN centrality” in the Indo-Pacific.
- He highlighted the synergies between **ASEAN Outlook on Indo-Pacific (AOIP) and India’s Indo-Pacific Oceans Initiative (IPOI).** In June 2019, the ten-member has adopted the ‘ASEAN Outlook on the Indo-Pacific’. It outlines the ASEAN’s concept and strategy of the Indo-Pacific.

## 18th India-ASEAN Summit

PM Modi participated in the **18th India-ASEAN Summit** that was held virtually. He co-chaired the summit along with the Sultan of Brunei, the **current chair of ASEAN**.

### About ASEAN – India Summit

- ASEAN-India Summits are held annually. It provides opportunity for India and ASEAN to engage at the highest level.
- PM Modi attended the 17th ASEAN-India Summit held virtually in November last year.
- 18th ASEAN-India Summit will be the ninth ASEAN-India Summit to be attended by him.

### Key Outcome of the Summit

#### 2022 as India-ASEAN Friendship Year

- The year 2022 will mark the **completion of 30 years of India-ASEAN Partnership**. India will also **complete 75 years of its Independence**.

#### Centrality of ASEAN in India's Vision towards Indo-Pacific

- PM Modi underlined the centrality of ASEAN in India's Act East Policy and in India's Vision for the wider Indo-Pacific Vision.

#### ASEAN Outlook for the Indo-Pacific (AOIP) and India's Indo-Pacific Oceans Initiative (IPOI)

- Building upon the synergies between the AOIP and IPOI, both sides welcomed the adoption of the India-ASEAN Joint Statement on cooperation for peace, stability and prosperity in the region.

#### Cooperation In Fight Against COVID-19

- India has contributed medical supplies worth USD 200,000 to ASEAN's humanitarian initiative for **Myanmar** and USD 1 million for ASEAN's Covid-19 Response Fund.
- ASEAN leaders appreciated India's role as a trusted partner in the region especially during the current Covid-19 Pandemic with its supply of vaccine.

#### India-ASEAN Connectivity

- Views were exchanged on enhancing India-ASEAN connectivity in broadest terms including physical, digital and people to people.
- To further strengthen India-ASEAN **cultural connectivity**, PM Modi announced **India's support for establishing the ASEAN Cultural Heritage List**.

#### On Trade And Investment

- Both sides underlined the importance of diversification and resilience of **supply chains** for post-COVID economic recovery. They also stressed upon the **need to revamp India-ASEAN FTA**.

#### Promoting A Rules-Based Order In The Region

- Summit also discussed the regional and international issues of common interest and concern, including South China Sea and terrorism, adherence to international law, especially the UNCLOS.
- maintaining and promoting peace, stability, safety and security in the South China Sea, and ensuring freedom of navigation and overflight.

### ASEAN-India Engagement

- ASEAN and India became **Summit-level partners in 2002**, and **Strategic partners in 2012**.

- There is **ample closeness** between India's **IPOI** and **AOIP**
- India firmly believes that a "Cohesive and Responsive ASEAN" is essential for "Security and Growth for All in the Region".

### India-ASEAN Trade Relation

- In general, ASEAN is India's 4th largest trading partner and India is ASEAN's 7th largest trading partner accounting for 10.2% of India's total trade.
- Total bilateral trade between India and ASEAN for FY19 was \$ 96.7 billion of which Balance of trade is highly favourable to ASEAN. ASEAN and India have set a trade target of 200 billion USD by 2022.

India's export to ASEAN consisted \$37.4 billion

Import from ASEAN constituted \$ 59.3 billion

There has been significant recovery of FDI inflows from India in 2018, amounting to 1.7 billion USD.

- This placed India as ASEAN's sixth largest source of FDI among ASEAN Dialogue Partners.

### Deal on Global Minimum Corporate Tax

A global deal to ensure big companies pay a minimum tax rate of **15%** and make it harder for them to avoid taxation has been agreed by **136 countries**.

#### Background

- Companies like Apple, Facebook and other tech giants profit enormously from the domestic markets while they make minimal contributions to public coffers. Many countries wanted new taxes on these companies.
- To address this issue, almost 140 countries started negotiation under the **auspices of OECD**. They were trying to find an agreement on a global tax overhaul to address how multinationals are taxed in the nations where they have users or consumers.
- **OECD had proposed two ways to compromise which were recently agreed:**
  - ✓ Countries would be allowed to have **some rights to tax profits made on the basis of sales in their jurisdictions**.
  - ✓ It also talked about a **global minimum corporate tax rate** to stop countries lowering corporate tax rates below that level.

#### The Deal Proposes Two Main Elements

#### Pillar 1

- Redistribution of profits generated by largest companies to the domicile markets where **they actually make their sales** instead of simply where they are headquartered.
- A quarter of any profits they make above the 10% threshold will be reallocated to the countries where they were earned and taxed there.

#### Pillar 2

- Establishes a global minimum effective tax rate of 15% determined on a country-by-country basis.
- 15% floor under the corporate tax will come in from 2023, provided all countries move such legislation.

#### Firms Covered By This Deal

- This deal will cover firms with **global sales above 20 billion Euros** (\$23 billion) and **profit margins above 10%**. It is expected to hit digital giants like Amazon, Google and Facebook.

### Why A Global Minimum Tax?

- In the past, countries would frequently compete with one another to offer an attractive deal to multinationals.
- It made sense when those companies might come in, set up a factory and create jobs.
- However, the new digital era giants started simply moving profits around, from the regions where they do business to those where they will pay the lowest taxes.
- The new system is meant to minimise opportunities for profit shifting.

### What Next?

- This deal has been endorsed by the recently held G20 summit.
- Agreement calls for countries to bring it into law in 2022 so that it can take effect by 2023. This means, countries that have in recent years created **national digital services taxes** will have to repeal them.

### India's Digital Services Tax

- India introduced a **6% equalisation levy** in 2016, however, it was restricted to **online advertisement services**.
- Finance Bill 2020-21 imposed a 2% digital service tax on **trade and services** by non-resident e-commerce operators with a turnover of over Rs 2 crore.
- This step effectively expanded the scope of equalisation levy.

What Will Be The Economic Impact?	Impact On Revenue For India
<ul style="list-style-type: none"><li>• OECD, which has steered the negotiations, estimates the minimum tax will generate <b>\$150 billion in additional global tax revenues annually.</b></li><li>• Taxing rights on more than \$125 billion of profit will be additionally shifted to the countries where they are earned.</li><li>• The deal will encourage multinationals to repatriate capital to their country of headquarters, giving a boost to those economies.</li></ul>	<ul style="list-style-type: none"><li>• Once the deal gets implemented by 2023, India will only be able to tax the top 100 digital companies like Google, Facebook and Netflix.</li><li>○ It will have to withdraw the 2% equalisation levy as it stands.</li><li>• In 2020-21, India collected INR 20.57 billion from the equalisation levy.</li></ul>



# Defense and Security

## Military Exercises

### Military Exercises

#### AUSINDEX

India and Australia participated in 4<sup>th</sup> edition of biennial maritime series 'AUSINDEX'.  
This bilateral maritime exercise between navies of the two countries started in 2015.

#### Other exercises between the two countries

Ex AUSTRALIA HIND – involves Armies of India and Australia

EX PITCH BLACK :Multilateral air combat training exercise of Australia (India also participates)

#### MITRA SHAKTI

8<sup>th</sup> edition of the 'Mitra Shakti' exercise between militaries of **India and Sri Lanka**  
Aim is to enhance **inter-operability** and share best practices in **counter insurgency and counter terrorism operations**

#### Other Exercise between these two countries

**SLINEX** – Naval exercise

#### AJEYA WARRIOR

6<sup>th</sup> edition of the "Ajeya Warrior" exercise was kickstarted.

This is a bilateral exercise between armies of **India and UK**.

It is part of an initiative to develop interoperability and sharing expertise with friendly foreign nations.

#### JIMEX

5<sup>th</sup> edition of **bilateral maritime exercise JIMEX**, between **Japan and India**, was conducted.  
Aim is to develop a common understanding of operational procedures and enhancing an inter-operability.

#### Other exercises between these two countries

**Dharma Guardian** – between armies of both the countries

**Shinyuu Maitri** - Joint Air Force exercise

**Malabar** – involves navies of India, Japan, USA and Australia.

#### Ex Milan

India is set to host its **largest naval exercise, Ex Milan**, early next year.

46 countries have been invited .

It will see the participation of all Quad countries with U.S. being invited for the first time.

Theme of the mega event is **"Synergy Across the Seas"**

Ex Milan began in 1995. It is **held biennially** and brings together Navies of all countries in the region.

It has so far been held at Port Blair but is now being shifted to Visakhapatnam

# GEOGRAPHY AND ENVIRONMENT

## Toxic Firecrackers

- Supreme Court observed that major fireworks manufacturers had violated orders requiring them not to use prohibited chemicals such as **Barium salts**.
- The orders are in continuation of **Arjun Gopal and Others vs Union of India** and Others — filed on behalf of three children in **2015**, seeking measures to mitigate air pollution and asserting right to clean air under **Article 21** of the Constitution.
- Firecrackers use fuel and oxidisers to produce a combustion reaction and the resulting explosion spreads the material in a superheated state. The metal salts in the explosive mix get 'excited' and emit light.
- Central Pollution Control Board found that the levels of **Aluminium, Barium, Potassium, Sulphur, Iron and Strontium** rose sharply on Deepavali night

(CSIR-NEERI), Nagpur, has come out with firecrackers that have "reduced emission light and sound" and 30% less particulate matter using **Potassium Nitrate** as oxidant. These crackers are named Safe Water Releaser which minimises Potassium Nitrate and Sulphur use

- Indian Fireworks has turnover of over 6000 crores and employs more than 5 lakh people. There is a need to look for smooth transitioning of the industry towards **Green cracker** manufacturing units without affecting the livelihoods of those dependent upon the industry.

## Types Of Green Crackers

There are three types of green crackers available in India - SWAS, STAR and SAFAL.

- i) SWAS (Safe Water Releaser)
  - ✓ They will release water vapour in the air which will suppress the dust released
  - ✓ eliminates use of Potassium Nitrate (KNO<sub>3</sub>) and Sulphur (S).
- ii) STAR (Safe Thermite Cracker)
  - ✓ Does not comprise potassium nitrate and sulphur
  - ✓ Reduce particulate matter including sulphur dioxide and nitrogen oxide by at least 30%
- iii) SAFAL (Safe Minimal Aluminium)
  - ✓ Minimum usage of aluminium

## Disadvantage Of Green Crackers

- The biggest disadvantage of green cracker is that, only the manufacturers who have signed a **deal with CSIR** can manufacture green crackers and all the other industries which produce the traditional crackers may be left unemployed.
- The components and elements required for creating a green cracker may not be available so easily for everyone which may also be a reason for many manufacturers to opt for this job.

## National Environmental Engineering Research Institute (NEERI)

- It is a research organization under the Council of Scientific & Industrial Research (CSIR).
- It was established in 1958 in Nagpur & functions under Ministry of Science & Technology.

- CSIR has 38 national laboratories, CSIR-NEERI is one of those laboratories.
- Organization is devoted to research and innovations in environmental science and engineering besides solving a range of problems posed by industry, government & public.

### EdayurChilliAndKuttiattoor Mango Of Kerala Receives The GI Tag

- Edayur Chili: It is a unique cultivar of this area with very low pungency. The distinctiveness can be attributed to its genetic makeup, the specific environmental and soil conditions of Edayur (Kerala) region and the traditional methods of cultivation.
- Kuttiattoor mango is a popular and tasty traditional mango cultivar of Kuttiattoor (Kerala).
- GI status is expected to provide better visibility and market opportunities and greater access to domestic and international markets.

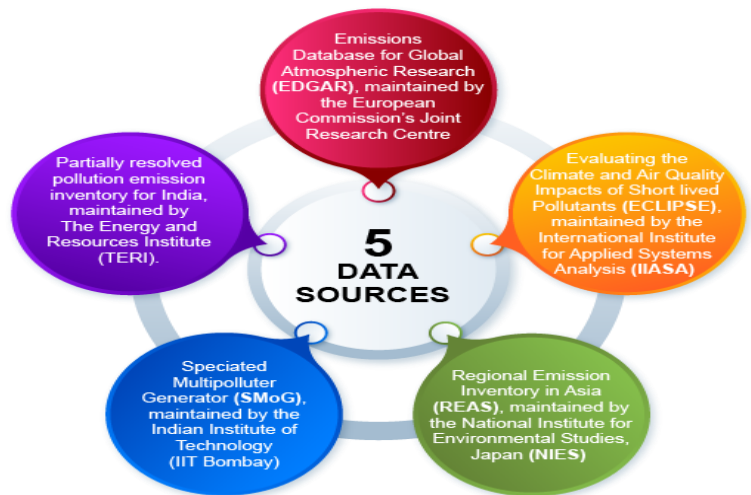
### “Hara Bhara” Initiative

- Hara Bhara is a first-of-its-kind initiative where the **Telangana government** will be planting **50 lakh trees** across 12,000 hectares of land by 2030.
- **Seedcopter drone** by Startup **Marut Drones**, which had earlier deployed drones successfully in agricultural operations and for delivery of vaccines will be used to disperse seed balls over barren lands.
- The seed balls contain a variety of seeds rolled within a ball of clay, together with organic manure & fertilizer.
- These pellets **sprout** when there is enough rain, with nutrients present within them helping in initial growth.
- Marut Drones has engaged the services of local people, SHGs and NGOs in the preparation of seed balls.

### CSIR’s Landslide and Flood Early Warning System

CSIR-National Geophysical Research Institute (NGRI) has launched an ‘Environmental Seismology’ group to develop a ‘Landslide and Flood Early Warning System’ for the **Himalayan region** based on *real-time monitoring with dense seismological networks, coupled with satellite data, numerical modelling and geomorphic analysis.*

- The broadband seismic network enables a complete **spatiotemporal tracking** of the entire disaster sequence using polarization and back-tracing approaches.
- This would enable a crucial warning several **hours prior**, which will save precious human lives and property in future during such events.
- Landslides are common in India’s northern Himalayan region, particularly in the monsoon season when heavy rains lead to subsidence of earth and rocks.
- Given that catastrophic floods are also likely to become more frequent under warming climate, driving rapid glacier retreat and precarious ponding of melt water in high locations, future risks will grow even further.



- Early warning is becoming ever more urgent, as mountain rivers are increasingly used for generation of hydropower.

### Uttar Pradesh: Highest PM2.5 Emitter in India

- Analysis was done by the **Council on Energy, Environment and Water (CEEW)**. The council, a research body, looked at **5 of the most reliable data sources** — international and national.
- Why UP: Due to a significant share of PM2.5 emissions from **solid-fuel use** in households and, by virtue of being India’s most populous State, it has a **higher proportion of households relying on this form of fuel**.

### Proposed Amendments to Forest Conservation Act, 1980

Union Ministry of Environment, Forest and Climate Change has proposed several amendments to the Forest (Conservation) Act, 1980 (FCA), which may **enable infrastructure projects** to come up in the forest areas **more easily**.

**Aim:** To facilitate **private plantations for harvesting** and **exploration or extraction of oil and natural gas** deep beneath forest land by drilling holes from outside the forest areas.

#### Need of Amendment

- Considering any private area as forest would **restrict** the right of an individual to use his/her own land for any non-forestry activity. This has led to the tendency to keep most of the private lands devoid of vegetation even if there’s scope for planting activities.
- To achieve the Nationally Determined Contribution (NDC), extensive plantations in all possible available lands **outside the government forests** was necessary.

#### Forest (Conservation) Act, 1980

- FCA is the principal legislation that regulates **deforestation** in the country.
- It prohibits felling of forests for any “non-forestry” use without prior clearance by the central government.
- The clearance process includes seeking consent from local forest rights-holders and from wildlife authorities.
- The Centre is empowered to reject such requests or allow them with legally binding conditions

Supreme Court judgement in **TN Godavarman Thirumulpad v/s Union of India & Others 1996**.

- Before 1996, forest land was only that as was defined by **1927 Forest Act**.
- But in the 1996 judgement, court included **all areas in definition of forest which are recorded as ‘forest’ in any government record, irrespective of ownership, recognition and classification**.

#### Key Highlights of The Proposal

- Deemed forests listed by state governments up to 1996 will continue to be considered forest land.
- Land that was acquired by the **Railways and the Road Ministries** before 1980 (day on which FCA was passed) but on which forests came up, will no longer be considered forests. These lands would be exempted from seeking a forest clearance — if they put the land to the same use for which it was acquired.

- It proposes to exempt plantation of native species of palm and oil-bearing trees from the definition of “non-forest purpose”.
- The forest land for strategic (border infrastructure) and security projects of national importance should be exempted from the need to obtain prior approval from the Central government. Doing this will allow states to permit **diversion of forest land for strategic and security projects** that are to be completed in a given time frame.
- **New section 1A - Oil and Natural Gas Extraction:** Facilitate new technologies such as Extended Reach Drilling (ERD) for extraction of oil and natural gas found deep beneath the forest land by drilling holes from outside the forest areas. The use of such technology is quite environment-friendly and as such should be kept outside the purview of Act.
- **New explanation added to Section 2:** It states that “survey, reconnaissance, prospecting, exploration or investigation” for future activity in the forest will **not be classified as a “non-forestry activity”**. This means such survey works would not require any prior permission from the government.
- Only exception is if the activity falls within a wildlife sanctuary, national park or tiger reserve.
- **Removal of Clause:** Section 2(iii) of the FCA requires the central government’s approval before assigning forest lands on lease to any private person/corporation/organisation not owned or controlled by the central government. This clause has purportedly been deleted in the proposed amendment which means state governments can issue leases for the use of forest land without the Centre’s prior approval.
- **Building in Forests:** To ease the grievances of the individuals whose land falls in state specific private forests act or within the purview of dictionary meaning of forest. The proposal allows them the right to construct structures for bonafide purposes including forest protection measures and residential units up to an area of 250 sq mtr as one time relaxation.

### Effects Of The Proposal

- The proposed amendment purportedly seeks to reduce the scope of this judgment by limiting the applicability of the FCA to only such land that has been:
  - ✓ Declared or notified as forest under the Indian Forest Act, 1927
  - ✓ **Recorded as forest land in the government record prior to 25 October 1980, with the exception of such land if its use has been changed from forest to non-forest purpose prior to 12 December 1996**
  - ✓ **Identified as “forest” by a state government expert committee up to one year from the date of the amendment.**
- It also puts in place stringent norms for forest conservation by increasing **penal provisions** for offenses and maintaining “pristine forests” where no non-forestry activity will be allowed under any circumstances.
- The proposed amendment would “reduce the flow from foreign exchange for import of wood and wood derivatives by encouraging plantations and afforestation.

### Climate Change: Snow Cover In Himachal Down By 18%

- The snow cover of the Himalayas in Himachal Pradesh that feeds **four major river systems** is down by 18% in a year, indicating climate change.
- Centre on Climate Change of the Himachal Pradesh Council for Science Technology and Environment (**Himcoste**) and the Space Applications Centre, Ahmedabad, conducted the study to assess spatial distribution of seasonal snow cover in Himachal Pradesh.

- Scientists used space technology to study the **cyrosphere, comprising the glaciers** over the Himalayas in Himachal Pradesh. Satellite data was analysed to map the geographical extent of snow cover and understand the contribution of snow in catchments to sustain the hydrology of the river basins.
- If there is a shift in snowfall pattern, as has been observed over the past few years, the long-term implications will be on water availability in the river basins as the seasonal snow cover contributes to the river discharge during the lean season.
- The late snowfall patterns that extend into summer are not sustainable as it melts fast due to more water content. If such fluctuating trends continue for long, they affect the weather cycle, resulting in erratic rain, snowfall and heat and ultimately water availability.

## Katol Meteorite

- A large meteor shower occurred near the town of Katol in Nagpur during **2012**.
- A meteorite is a solid piece of debris from an object, such as a comet, asteroid, or meteoroid that originates in outer space and survives its passage through the atmosphere to reach the surface of a planet or moon.
- Recently, International researchers studied meteorite segments from different perspectives and they found unique features in it.
- Though previous studies on other meteorite samples have shown the presence of much more magnesium and iron components, they were different from Bridgmanite. But the Katol Meteorite showed resemblance to the first natural occurrence of Bridgmanite mineral.
- The mineral was named in 2014 after Prof. Percy W. Bridgman, recipient of the 1946 Nobel Prize in Physics.

*Bridgmanite* is a magnesium-silicate mineral (MgSiO<sub>3</sub>), most abundant mineral on **earth's lower mantle**.

- Initial studies revealed that the host rock was mainly composed of *olivine*. Olivine is the most abundant phase in our **Earth's upper mantle**

## Prospects Of This New Research

- By studying this meteorite sample, scientists can decode how bridgmanite crystallized during the final stages of our Earth's formation.
- It can help in research related with Earth evolution from being a magma ocean to a rocky planet and researchers can unearth more details about the formation of Earth.

## Amur falcon

- The Amur Falcon (**IUCN status – Least Concern**) is a small raptor of the falcon family.
- It is the world's **longest travelling raptors**. It starts journey for about 22,000 kms with the onset of winters.
- It breeds in south-eastern Siberia and northern China before migrate a long distance across India and over the Arabian sea to winter in Southern and East Africa.
- They get their name from the Amur River that forms the border between Russia and China.
- **Doyang Lake (Nagaland)** is known as a stopover for the Amur falcons during their annual migration from their breeding grounds to warmer South Africa.

- Nagaland is also known as the “**Falcon Capital of the World**”
- Amur Falcon stays for a month in Nagaland and helps in maintaining the ecosystem by feeding on a large number of insects, thus controlling the population of insects.
- Termites are available in abundance during September and October giving it the necessary food which gives it the necessary energy to carry on the journey to Africa by crossing the Arabian Sea.

### Glossy Ibis

- The glossy ibis (**IUCN status – Least Concern**) species are medium sized birds, widely distributed and is found in Europe, Asia, Africa, Australia and Americas. These birds inhabit shallow lakes, swamps, lagoons, ponds, rivers, floodplains, wet meadows and rice fields.
- This species is migratory species in India and generally found in western parts like Keoladeo Ghana (Rajasthan), Velvadar (Gujrat).
- In last summer, a glossy ibis bird was rescued from the Prime Minister’s residence, after it collapsed due to heat exhaustion and dehydration.

### Countries Announced Net-Zero Targets

- New Zealand passed **Zero Carbon Act 2019**, which committed the country to zero carbon emissions by 2050.
- UK’s parliament passed legislation in 2019 requiring the government to reduce the UK’s net emissions of greenhouse gases (GHGs) by 100% relative to 1990 levels by the year 2050.
- US announced that it will cut its GHG emissions by at least 50% below 2005 levels by 2030.
- The European Union plan, called “**Fit for 55**”, the European Commission has asked all of its 27 member countries to cut emissions by 55% below 1990 levels by 2030.
- China also announced that it would become net-zero by the year 2060.

#### Net-zero

- It is **state or a year** by when a country’s fossil fuel emissions would peak and at some point, be neutralized by taking out excess carbon from the atmosphere. It is also referred to as **carbon-neutrality**.
- It does not mean that a country would bring down its emissions to zero. It differs from zero-carbon, which requires no carbon to be emitted. It is very positive concept unlike zero-carbon.

### Why Does India Objecting To Net-Zero Targets

- India is the 3<sup>rd</sup> largest emitter of GHG after United States and China.
- India despite being developing country is in unique position about trend of carbon emissions. For next 30 years, Indian economy will experience fastest growth in Carbon emissions.
- Because India is in Take-off stage of economic growth trajectory for removing millions out of poverty. So, demand for stressing to set target year on Net-Zero is against Policy of CBDR (Combined But Differentiated Responsibility).
- India claims that Net Zero is not part of PARIS AGREEMENT.

- Also, INDC doesn't require such target setting on individual countries. India is only country among G20 group whose climate actions are compliant to the Paris Agreement goal of keeping global temperatures from rising beyond 2°C.
- Instead, India demanding for Climate finance and technology transfer from developed countries.

Challenges Associated With Net Zero Targets	Recommendations for Net Zero Targets
<ul style="list-style-type: none"> <li>• According to the United Nations Environment Programme (UNEP), even if the current net zero commitments were fully implemented, our world would still see 2.7°C of warming by the end of the century.</li> <li>• If the challenge of change is tackled only by way of planting more trees, then about 1.6 billion hectares of new forests would be required to remove the world's excess carbon emissions by the year 2050. This dramatically increase demand for land to be used for carbon sequestration will jeopardize people's <u>rights to food and to land</u>.</li> <li>• Many of the net zero targets are vague and poorly defined.</li> </ul>	<ul style="list-style-type: none"> <li>• The net zero targets must prioritize ambitious emissions reductions to align with the goal of limiting warming to below 1.5°C.</li> <li>• Companies must cut emissions in their own operations and supply chains by taking steps like phasing out support for new fossil fuel.</li> <li>• The land-based climate action must be anchored in food first, rights-based approaches that help to achieve zero hunger and zero emissions.</li> <li>• The net zero commitments must be backed by meaningful transparency and disclosure.</li> </ul>

#### Related News

Indian Railways has announced that it is likely to become world's first 'net-zero' carbon emitter by 2030. It is taking a multi-pronged approach to decarbonize by:



### Earth Guardian Award

**Parambikulam Tiger Conservation Foundation** has won the Earth Guardian Award for its efforts in support of tiger's conservation and biodiversity.

- Parambikulam Tiger Conservation Foundation is a non-profit organisation, based in the Kerala that facilitates conservation of tiger and biodiversity in the Parambikulam tiger reserve.

#### About Earth Guardian Award

These awards were instituted by NatWest Group India. They are part of an initiative which recognizes the efforts of individuals and institutions that are working to subvert the climate change by conserving & preserving biodiversity in India.

#### Parambikulam Tiger Reserve

- It also includes erstwhile Parambikulam Wildlife Sanctuary. It is a protected area in Palakkad district of Kerala. It was established in 1973.
- The sanctuary lies in Sungam range of hills in between Anaimalai Hills and Nelliampathy Hills.



- Parambikulam Wildlife Sanctuary was declared a part of Parambikulam Tiger Reserve in 2010

### Cases Of Environment Offences Rose in 2020

- “Crime in India” report 2020 by the National Crime Records Bureau (NCRB) indicates that in comparison to the previous year, cases under environment related offences increased by 78.1% in the country.
- Environment related offences includes violations of -

	Different Laws	Particulars
1	Forest Act, 1927	Trespassing, illegal logging
2	Forest Conservation Act, 1980	Conversion for non-forest use
3	Environmental (Protection) Act, 1986	Pollution
4	Wild Life (Protection) Act, 1972	Wild life trafficking, illegal killing of animals
5	Air (Prevention & Control of Pollution) Act, 1981	Pollution
6	Water (Prevention & Control of Pollution) Act, 1974	Pollution
7	Cigarette and Other Tobacco Products Act, 2003	20% of total crimes under Environment related crimes
8	Noise Pollution Acts, 2000	
9	National Green Tribunal Act, 2010	Adjudication

- Tamil Nadu reported the country’s highest number of environment-related crimes, Rajasthan came second and Uttar Pradesh (UP) came third.

### Mount Aso Volcano Erupt

- It is the largest active volcano in Japan. The volcano stands on the **island of Kyushu**.
- Its peak is 1,592 meters above sea level. It has a fairly large caldera, having a circumference of about 120 km.
- Japan is among the world’s most volcanically active countries. It is located on the Pacific “Ring of Fire” where a large proportion earthquakes and volcanic eruptions are recorded.
- Volcanoes are categorized into three main categories:



#### Active volcano

- Which is recently erupted and there is a possibility that it may erupt soon. E.g. **Narcondam** volcano from Andaman and Nicobar erupted in 2017

#### Dormant volcano

- That has not erupted in a long time but there is a possibility it can erupt in the future. E.g. **Baratang** volcano in Andaman and Nicobar

#### Extinct volcano

- Which has erupted thousands of years ago and there’s no possibility of an eruption. Eg **Dhinodhar Hills** in Gujrat.

## Gene Editing

The proposal for Indian regulators to consider a new gene editing technique has been pending with the Genetic Engineering Appraisal Committee (GEAC) for almost two years.

- New technique uses gene editing tools such as CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats)
- Genetic Modification is a technology that involves inserting DNA into the genome of an organism. The seeds produced by these plants will have new DNA.

### About

- Indian Agricultural Research Institute (IARI) has now moved to newer technologies such as Site Directed Nuclease (SDN) 1 and 2.
- It uses different DNA-cutting enzymes (nucleases) that are directed to cut the DNA at a predetermined location by a range of different DNA binding systems. After the cut is made, the cell's own DNA repair mechanism recognizes the break and repairs the damage
- Research coalition under the Indian Council of Agricultural Research (ICAR), which includes the IARI, is using these techniques to develop rice varieties which are drought-tolerant, salinity-tolerant and high-yielding. It will tweak **plants own gene (without bringing any gene from outside)**. They could potentially be ready for commercial cultivation within three years.
- U.S, Canada, Australia and Japan have already approved the SDN 1 and 2 technologies

### Rationale Behind Introduction Of GM Crops On Backdrop Of Challenges In Agriculture

- Demand for productivity to feed rising population
- To fight against hunger and malnutrition.
- To **lower environmental footprint**, through reduction in usage of groundwater & early harvest varieties

Advantages Of GM Crops	Challenges Associated With GM Crops
<ul style="list-style-type: none"> <li>• Modified genes help crops survive stressful conditions, such as droughts and resist diseases like blights, resulting in a higher yield for farmers</li> <li>• Crops have been genetically modified to express a gene that protects them against pests and insects. It can reduce the use of pesticide and insecticide.</li> <li>• Increase the nutritional value of foods. For example, rice high in beta carotene, also called golden rice.</li> <li>➤ Golden rice, a <b>traditional GM</b> variety which inserted genes from <b>other organisms</b> into the rice plant</li> <li>• It can produce more in small area of land so it can feed a rapidly increasing population.</li> </ul>	<ul style="list-style-type: none"> <li>• They are artificially created and breeding with the other crops in the natural ecosystem can result in genetic contamination.</li> <li>• GM technology could also allow the transfer of genes from one crop to another, creating “super weeds”, which might be immune to common control methods.</li> <li>• Corporate control over farming is facilitated by GM technology (with accompanying Intellectual Property Rights), giving them control over the food supply.</li> <li>• Some ethical concerns also have been raised like potential harm to human health, potential damage to the environment, negative impact on traditional farming practice etc.</li> </ul>

## GM Crops in India

- The first GM crop variety approved for commercialization was the BT cotton, Bollgard-I, which provide immunity against the pink bollworm and it is the only GM crop that is allowed in India.
- GEAC) is the apex body that allows for commercial release of GM crops with final Approval for Minister of Environment and climate

## Silicosis

Silicosis is an occupational lung disease, caused by inhaling large amounts of **crystalline silica dust**, the tiny particles of dust settle deeply into the breathing passages. There were lot of instances of silicosis death in Rajasthan, Madhya Pradesh and Gujarat.

➤ Silica is a substance naturally found in certain types of stone, rock, sand and clay.

### Effect

Inside the lungs it causes inflammation and gradually leads to areas of hardened and scarred lung tissue, ultimately be fatal if the lungs stop working properly (respiratory failure).

### Treatment

There is no treatment for silicosis because lung damage can't be reversed. Treatment aims to relieve symptoms.

## Flower Scorpionfish

Recently, a fish species named Flower Scorpionfish which was only found in the Pacific Ocean has been discovered in the Indian Ocean.

### About Flower Scorpionfish

- The flower scorpionfish, that was first discovered in the Pacific Ocean region of Japan in the year 1929, has now been found in **Digha, West Bengal and Paradip in Odisha**.
- Its head is bigger than its body. Its colour was faint red.
- It is believed that the rise in the temperature of sea water due to global warming might induce the migration of this species from different regions.



## Kunming Declaration On Biodiversity

Kunming Declaration was adopted by over 100 countries at the **first part** of the 15th meeting of the Conference of the Parties (COP15) to the UN Convention on Biological Diversity (CBD) in the Chinese city of Kunming, which was held virtually on 12th and 13th October 2021.

### About Kunming Declaration

- Signed by all countries, it calls for “urgent and integrated action” to reflect biodiversity considerations in all sectors of the global economy.
- **Theme:** “Ecological Civilization: Building a Shared Future for All Life on Earth”.
- The signed declaration will be submitted to the General Assembly of the UN, the 2022 High-Level Political Forum on Sustainable Development, and the United Nations Environment Assembly at the **second part** of the ongoing session in Kunming, China from 25 April-8 May 2022.

- “30 by 30” goal, is a proposed commitment to protect 30% of land and ocean by 2030.

### Convention on Biological Diversity (CBD)

The CBD (with effect from 1993) known informally as the Biodiversity Convention, is a multilateral treaty. The convention has three main goals:

- conservation of biodiversity
- sustainable use of its components
- fair and equitable sharing of benefits arising from genetic resources

Its objective is to develop national strategies for the conservation and sustainable use of biological diversity and it is often seen as the key document regarding sustainable development.

It has two supplementary agreements, the Cartagena Protocol and Nagoya Protocol.

#### Cartagena Protocol

• It is an international treaty governing the movements of living modified organisms (LMOs) resulting from modern biotechnology from one country to another

#### Nagoya Protocol

• It deals with Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS).

### Commitments under Kunming Declaration

The document lists **17 commitments** for member countries, urging them to cooperate at the international level as well as domestic level. Some of these commitments are Biodiversity protection, Community involvement, financial incentives, integrated conservation, strengthening measures for developing and regulating biotechnology etc.

### Why Should India Be Serious About The Kunming Declaration?

- India is also facing threats to biodiversity and this declaration calls for immediate and integrated action on biodiversity, with the help of this, India can also improve its biodiversity.
- But huge investment in Kunming biodiversity fund is an indication of the leadership style of China, which emerges as a challenge for India in international relations.

### Kunming Biodiversity Fund

- China has also pledged to inject USD 233 million into a new fund to protect biodiversity in developing countries. The fund is being referred to by China as Kunming Biodiversity Fund.
- However, some countries have reservations regarding this fund. Some countries have called this fund as “a drop in the bucket” given that China is the world’s biggest polluter.

### Lukha River

- It is one of the major rivers of Meghalaya situated in the southern part of East Jaintia Hills District. Before entering into Bangladesh it flows through Surma Valley.
- Activities such as mining of coal and limestone, manufacturing of cement, deforestation etc. have been taking place in the catchment area of the river leading to changes in water quality which is cause of river water pollution.

## Recent Development

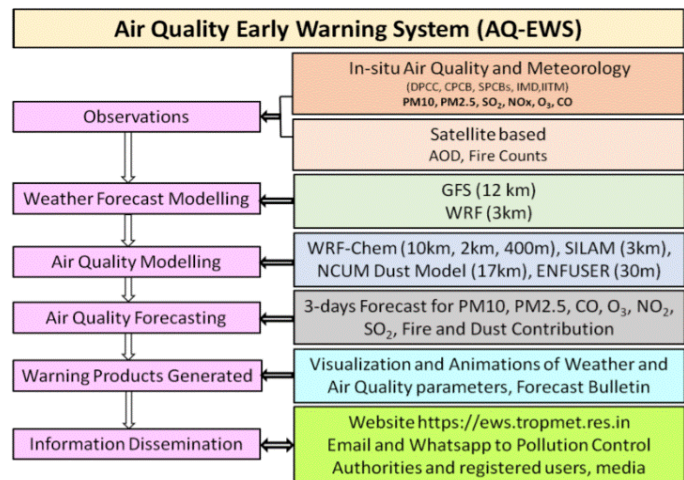
- The pilot project to rejuvenate the Lukha river by using **algae** (micro and macro) to remove toxic contents from the water has become a success.
- The process by which toxins are removed is called phytoremediation.
- Algae fix carbon-dioxide by photosynthesis and remove excess nutrients at minimal cost. It removes pathogens and toxic materials from waste water and helps in improving the pH level of the water.
- It offers advantage over conventional methods of treatment by its effectiveness, efficiency and eco-friendly nature.

## Air Quality Early Warning System (AQ-EWS)

Recently Air Quality Early Warning System (AQ-EWS) has been launched for Delhi to combat worsening air pollution. It was launched on the occasion of **Azadi ka Amrit Mahotsav** week organized by the Ministry of Earth Sciences.

### About AQ-EWS

- It is designed to **predict air pollution events** and give alerts to take necessary steps for its control.
- It has been developed under the aegis of Ministry of Earth Sciences, jointly by Indian Institute of Tropical Meteorology (IITM), Pune, India Meteorological Department, and National Centre for Medium-Range Weather Forecasting (NCMRWF).
- This system uses data of stubble burning incidents from **last 15 years** for predicting date and place of next burning. This data is then correlated with wind speed for predicting air pollution level for next 72 hours.
- It can also forecast the level of pollutants such as particulate matter (PM) 2.5, PM10 and dust which come from sources other than stubble burning.



### The System Consists of

- Air Quality forecast for Delhi region for 3-days and outlook for next 7-days from different air quality prediction systems based on state-of-the-art atmospheric chemistry transport models
- Air Quality Forecast for entire India and specifically for several non-attainment cities
- Details about natural aerosols like dust (from satellite and model forecast)
- Near real-time fire information over India.
- Generation of Warning Messages, Alerts and Bulletins for Air Quality and Weather.
- Forecast of the contribution of non-local fire emissions.
- Weather Information
- Day to day verification of forecast product.

### Significance of AQ-EWS

- It will help in proactive giving early warning about any large-scale air pollution incidents occurring in different areas three-four days in advance.
- The timely information will help the authorities to make better preparations to reduce the adverse effects.
- Due to real time data related to air pollution, people can avoid stepping out of the house.

### Debrigarh Wildlife Sanctuary

The wildlife wing of Odisha's Forest department decided to relocate around 420 families from four zero-connectivity villages in Debrigarh wildlife sanctuary. The move is aimed to reduce man-animal conflict and provide better living conditions to the relocated families.

#### About Debrigarh Wildlife Sanctuary

- Declared as a wildlife sanctuary on 8th February 1985, it is located in the Bargarh district of Odisha.
- There are a large number of migratory birds that visit the sanctuary as well. Diving ducks are a common sight in the sanctuary.
- The sanctuary is also home to the endangered species of **four-horned antelope**.
- A third of the sanctuary's area is bound by the **Hirakud Dam**.

#### Protected Area in Odisha

National Park	•Bhitarkanika •Simplipal
Wildlife sanctuary	•Debrigarh, Sunabeda, Nandankanan, Karlapat, Hadagarh, Kotagarh, Ushakothi, Chilika, Kuldiha, Tikarpada
Marine Sanctuary	•Gahirmatha

### Climate Vulnerability Index (CVI)

- Recently, environmental think tank 'Energy, Environment and Water Council' has released the first of its kind district-level 'Climate Vulnerability Index'.
- It presents a climate vulnerability index (CVI) of states and union territories by mapping exposure, sensitivity, and adaptive capacity.

#### Key Finding Of This Report

- More than 80 % of India's population lives in districts highly vulnerable to extreme hydro-met disasters
- The **southern zone** of India is the most vulnerable to extreme climate events and their compounding impacts, followed by eastern, western, northern, north-eastern and central zones.
- 59 and 41 % of the total districts in the eastern and western zones respectively are highly vulnerable to extreme cyclone events.
- The states located in northeast are more vulnerable to floods, while the states in the southern and central parts are more vulnerable to extreme droughts.

- Five out of six zones in India, i.e., South, North, North-East, West and Central have a low adaptive capacity to extreme hydro-met disasters. However, the Eastern Zone has a medium-range adaptive capacity to extreme hydro met disasters.
- Assam, Andhra Pradesh, Maharashtra, Karnataka and Bihar are highly vulnerable to extreme climate events such as floods, droughts and cyclones.
- Unsustainable landscape, lack of infrastructure planning and human-induced microclimate change are the key drivers of this high vulnerability.

#### **Why Does India Need A Climate Vulnerability Index**

- India is the seventh-most vulnerable country with respect to climate extremes according to the German watch finding 2020.
- Climate action needs to be scaled up both at the sub-national and district levels to mitigate the impact of extreme events.
- Three out of four districts in India are extreme event hotspots, with 40% of the districts exhibiting a swapping trend, i.e., traditionally flood-prone areas are witnessing more frequent and intense droughts and vice-versa.
- The IPCC states that every degree rise in temperature will lead to a 3% increase in precipitation, causing increased intensification of cyclones and floods.

#### **Allium Negianum**

- Recently, a plant discovered in 2019 in Uttarakhand has been confirmed as a new species of Allium- genus.
- Scientific name Allium negianum honour late Dr Kuldeep Singh Negi, an explorer and Allium collector
- Allium - genus that includes many staple foods such as garlic and onion, among 1,100 species worldwide.
- It grows at 3,000 to 4,800 m above sea level and can be found along open grassy meadows, sandy soils along rivers, and streams forming in snow pasture lands along alpine meadows, where the melting snow helps carry its seeds to more favourable areas.
- This newly described species is restricted to the region of western Himalayas and hasn't yet been reported from anywhere else in the world.
- This species has long been known under domestic cultivation to local communities.

#### **Ambergris**

- Recently, Forest Department officials seized 8.013 kg of ambergris at Muthupet in Tiruvarur district, Tamil Nadu.
- Ambergris or grey amber, is a solid waxy, flammable substance of a dull grey or blackish colour produced in the digestive system of sperm whales.
- Ambergris is produced only by an estimated 1% of sperm whales.
- Chemically, ambergris contains alkaloids, acids, and a specific compound called ambreine, which is similar to cholesterol.

### Is It Ambergris Valuable

- It is referred to as floating gold. As per the latest estimates, 1 kg of ambergris is worth Rs 1 crore in the international market.
- The reason for its high cost is its use in the perfume market.
- Ancient Egyptians used it as incense. It is also believed to be used in some traditional medicines.

### Sperm whales

- Sperm whales are the largest toothed whales and have one of the wildest global distributions of any marine mammal species.
- Conservation status:

IUCN Red List: Vulnerable

CITES: Appendix I

Wildlife (Protection) Act, 1972:  
schedule I



## SCIENCE AND TECHNOLOGY

### Indian Astronomical Observatory (IAO), Hanle

- Researchers from India and their collaborators carried out a detailed study of the **night time cloud cover fraction over 8 high altitude observatories**, including three in India.
- The study classified the quality of observable nights for different astronomical usages like photometry and spectroscopy on a daily basis.
- They analysed datasets for **the Indian Astronomical Observatory (IAO) in Hanle, Merak Observatory (Ladakh), and Devasthal (Nainital) in India, Ali Observatory in the Tibet Autonomous Region in China, South African Large Telescope in South Africa, University of Tokyo Atacama Observatory and Paranal in Chile, and the National Astronomical Observatory in Mexico.**
- Paranal, located in a high-altitude desert in Chile, to be the best site in terms of clear skies.

#### About IAO

- IAO has one of the world's highest sites for optical, infrared and gamma-ray telescopes
- The team found that the Hanle site which is as **dry as Atacama Desert** in Chile and much drier than Devasthal and has around **270 clear nights** in a year and is also one of the emerging sites for infrared and sub-mm optical astronomy. This is because –
- ✓ **Water vapour absorbs electromagnetic signals and reduces their strength.**
- ✓ It has advantages of more clear nights, minimal light pollution, background aerosol concentration, extremely dry atmospheric conditions, and uninterrupted monsoon

### Plastic Eating Algae

- In earlier studies, **species of bacteria** that degrade plastic have been studied. In the present study, this role is played by the **microalga *Uronema africanum* Borge**. This is a species of microalgae that is commonly found in Africa, Asia and Europe.
- The microalgae produce different kinds of extra cellular polysaccharides, enzymes, toxins such as cyanotoxins, hormones which react with the **polymer sheets** (polymer bonds) and break them up into the simpler monomers which will not have harmful effect in the atmosphere.
- **Significance:** According to the Central Pollution Control Board's annual report for the year 2011- 12, the plastic waste generated in a year amounted to 5.6 million metric tonnes. Only 60% of the plastic used in India was collected and recycled.

The usual means of disposal of plastic waste involves **incineration, land-filling and recycling**. These methods have limitations and also sometimes produce side effects that are hazardous to the environment. Hence, researchers are on the lookout for biodegradation methods that are safe and environment friendly.

### i- Drone

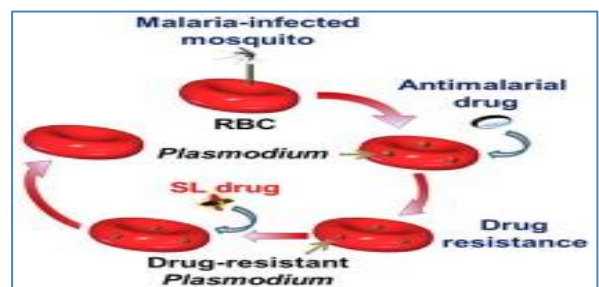
- **Ministry of Health and Family Welfare** has launched a drone-Based **vaccine delivery model**
- Indian Council of Medical Research (ICMR) has devised the model named **Drone Response and Outreach in the North-East** (i-Drone) which will ensure that Life-saving drugs reach everyone.

- First time that a 'Make in India' drone has been used in South Asia to transport COVID vaccine.
- The delivery model would serve remote areas and hard to reach terrains. It can be used in collecting blood samples etc.
- Currently, the drone-based delivery project has been granted permission for implementation in **Manipur and Nagaland**, as well as union territory of **Andaman and Nicobar** Island.

### Anti Malarial Drug Resistance

Evidence in Africa that the malaria parasite *Plasmodium falciparum* has developed **genetic variants** that confer **partial resistance** to the antimalarial drug (artemisinin or Chloroquine) either alone or with partner drugs is a warning of potential **treatment failure**.

- **Mechanism of Treatment and Resistance:** Partial resistance to artemisinin, the current frontline treatment for malaria, first emerged in Cambodia in 2008 and has become common in Southeast Asia.
- **Artemisinin is a fast-acting drug that typically clears the parasite within 3 days.** It's usually combined with a longer-acting drug to kill any remaining parasites. When artemisinin resistance emerged in Asia, resistance to the combination therapy soon followed.
- In India, after the failure of chloroquine to treat *P. falciparum* malaria successfully, artemisinin-based combination therapy was initially introduced in 2008.
  - ✓ Chloroquine (CQ) was the most commonly prescribed drug for P Vivax parasite. WHO report said P vivax resistance to chloroquine had been reported from all WHO regions.
- In 2010, artesunate plus sulfadoxine-pyrimethamine (AS+SP) was introduced universally, but in 2013, in view of resistance to the partner drug SP in the seven North Eastern States, the combination partner was replaced by artemether-lumefantrine (AL) for these states.
- Now, the time has come to carry out **Molecular Malaria Surveillance** to find out the drug-resistant variants so that corrective measures can be undertaken.
- Recently WHO gave nod for Anti-Malarial Vaccine-RTS,S/AS01 malaria or Mosquirix - a vaccine developed by British drug maker GlaxoSmithKline (GSK). This was the first time that WHO recommended broad use of a vaccine against a human parasite.
- The vaccine acts against plasmodium falciparum -- one of five parasite species and the most deadly.



### China's Chang'e-5 Samples Reveal Key Age of Moon Rock

- The lunar probe brought back the first fresh samples of rock & debris from the moon in more than 40 years.
- As a planetary body, the moon itself is about 4.5 billion years old, almost as old as the Earth. But unlike the Earth, the moon doesn't have the erosive or mountain-building processes that **tend to erase craters over the years**.
- At about two billion years old, **samples reveal volcanism** that is at least one billion years younger than any found by NASA's Apollo astronauts or by the Soviet Union's uncrewed Luna missions in the 1960s and 1970s.

- The mission's target, **Oceanus Procellarum on the Mons Rumker of Moon's near side**, is a region of interest because it is thought to contain young solidified lava.

The findings provide a vital data point about the history of not just the Moon, but of the wider Solar System too. **By knowing the exact age of Oceanus Procellarum and matching that to the number of its craters** — which accumulate over time as impacts occur — scientists can infer that locations on other worlds, such as Mars, **with similar numbers of craters** are of a comparable age. This process, known as crater counting.

### Linear No-Threshold Model for Radiation Risk

- U.S. Nuclear Regulatory Commission (NRC) decisively upheld the Linear No-Threshold model to prescribe radiation safety standards.  
The linear no-threshold (LNT) model describes a relationship between risk of harmful effects and the amount of exposure to ionizing radiation.
- The LNT model implies that there is **no level of exposure to ionizing radiation below which there is zero risk of causing cancer**. It also implies that risk will increase in direct linear proportion to the amount of radiation exposure, and typically refers to an “instantaneous” exposure and a **lifetime risk of fatal cancer**.
- The model helps the agencies to regulate radiation exposures to diverse categories of licensees, from commercial nuclear power plants to individual industrial radiographers and nuclear medical practices.

### CRISP-M Tool

- CRISP-M stands for **Climate Resilience Information System and Planning** (CRISP-M). Union Minister of Rural Development & Panchayati Raj jointly launched this tool. It was developed with the help of the British Government and all the stakeholders.
- It is a tool for making Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA) more efficient and outcome oriented.
- It will study the soil data, rainfall data, drought data of a place and after analyzing these data, further the tool gives us an idea of what other infrastructure we need to build next under MGNREGA, which will help in solving climate change issues.
- This tool will be available as a **website or mobile application**. Inside there are at least 10 or more different geographic information systems such as maps, data support, climate information systems, implementation and monitoring systems.

### Significance of CRIPS-M Tool

- Integration of climate information in GIS based watershed planning will be possible and that would further strengthen planning of climate resilient works under MGNREGA.
- This will open up new possibilities for rural communities in dealing with the climate change issue.

### Ballistic Missile

Any missile is called Ballistic when the trajectory it follows is ballistic. A ballistic trajectory is the path of any object that is launched but with **no active propulsion** during its actual flight, thus in such missiles the trajectory has to be fully determined by a given **initial velocity**, effects of gravity, air resistance and earth's motion.

- Ballistic can carry conventional high explosives as well as chemical, biological and nuclear munitions.

➤ Some of India's Ballistic Missiles are:

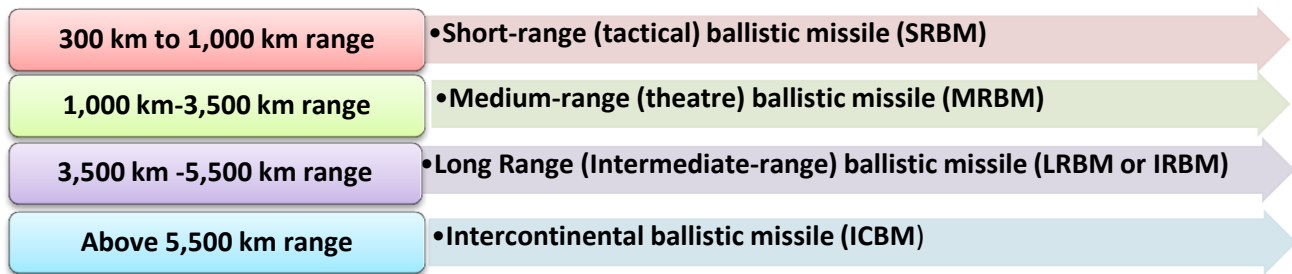
Agni missile

Prithvi missile

Dhanush

International Code of Conduct against Ballistic Missile Proliferation (ICOC), now known as the **Hague Code of Conduct** (HCOOC), is a political initiative aimed at globally curbing ballistic missile proliferation. India is a signatory to this convention.

### Types of Ballistic Missile



### Advantages of Ballistic Missile

- Ballistic travel above the atmosphere, experience very less drag as well as they use gravity and earth's rotation to cover very long distance.
- They are highly fuel efficient. Only fuel requirements are during lift-off phase and during course correction measures.
- Multiple independent targetable re-entry vehicles (MIRV) capability can be achieved in ballistic missiles. Each MIRV allows separate targeting nuclear warheads to be dispatched in their own independent ways.
- Due to fuel efficiency, their pay load carrying capacity is significantly more than cruise missiles.

Ballistic Missiles	Cruise Missile
It is propelled only for a brief duration after the launch	Self-propelled till the end of its flight.
Long-range missiles leave the earth's atmosphere and re-enter it.	The flight path is within the earth's atmosphere.
Can have a very long range (300 km-12,000 km)	Range is small (below 500 km)
Low precision as it is unguided for most of its path and its trajectory depend on gravity, air resistance and Coriolis Force.	Hits targets with high precision as it is constantly propelled.
Heavy payload can be carried.	Payload capacity is limited.
It is developed primarily to carry nuclear warheads.	It has been developed primarily to carry conventional warheads.
Examples: Prithvi I, Prithvi II, Agni I, Agni II and Dhanush missiles.	Examples: BrahMos missiles

## James Webb Space Telescope (JWST)

Recently Engineers have unboxed the James Webb Space Telescope in French Guiana and will now prepare it for launch. The telescope set to be launched in 2021.

### About James Webb Space Telescope

- It is a joint venture between the US (NASA), European space agency (ESA) and Canadian space agency (CSA).
- It is an **orbiting infrared observatory** with longer wavelength coverage.
- It was formerly known as the “Next Generation Space Telescope” and it was renamed in 2002 after a former NASA administrator, James Webb.
- Webb will not actually orbit the Earth; instead it will sit at the Earth-Sun **L2 Lagrange point**.
  - Lagrange points are positions in space where objects sent there tend to stay put. At Lagrange points, **gravitational pull of two large masses precisely equals the centripetal force required for a small object to move with them**. These points in space can be used by spacecraft to reduce fuel consumption needed to remain in position.

### Purpose of James Webb Space Telescope (JWST)

- It will study every phase in the history of our Universe, ranging from the first luminous glows after the Big Bang, to the formation of solar systems.
- It will be the premier space observatory for astronomers worldwide, extending the tantalizing discoveries of the Hubble Space Telescope.

### Webb v/s Hubble Telescope

- Unlike the Hubble telescope that **orbits the Earth** at an altitude of around 570 km, the Webb will instead sit 1.5 million kilometers away from the Earth to stay in a stable, predictable **orbit around the Sun**.
- Furthermore, Webb is capable of viewing the Universe in longer-wavelength infrared light while Hubble studies it primarily at optical and ultraviolet wavelengths.
- With a much bigger mirror than Hubble, Webb can peer farther back into time than Hubble as it has a larger light-collecting area.

## Indian Space Association (ISpA)

Prime Minister of India launched the Indian Space Association (ISpA)

### About ISpA

- It is the Premier Industry Association of Space and Satellite companies, which aspires to be the **collective voice** of the Indian Space industry.
- Tagline of ISpA's is “Bhumandal Se Brahmaand Tak”, meaning from “Earth to the Universe”.
- It will act as a **single-window** and **independent agency** on matters related to space technology.
- It will be represented by leading **domestic and global corporation** that have advanced capabilities in space and satellite technologies.

Government's approach to space reforms is based on following **4 pillars**

1. **Freedom of innovation** to the private sector.
2. The role of the government as an **enabler**.
3. Preparing **youth** for the future. Eg ATL space challenge for 6-12 class children.
4. To see the space sector as a **resource** for the progress of the common man. Eg Fasal Bima yojana , NAVIC for fisherman etc

## Members of ISpA

The Founding members include Larson & Toubro, Nelco (Tata Group), OneWeb, Bharti Airtel, Mapmyindia, Walchand nagar Industries and Ananth Technology Limited.

## Significance of ISpA

- It will undertake **Policy Advocacy** and engage with all stakeholders in the Indian Space domain, including the Government and its Agencies, to make India self-reliant, technologically advanced and a leading player in the space arena.
- It will also work towards building **global linkages** for the Indian space industry to bring in **critical technology and investments** into the country to create more high skill jobs.
- It will also play a crucial role in coordinating with the defense sector and other nodal space organizations, and this would especially be valuable for start-ups.

## Other Related Organisation

### New Space India Limited (NSIL)

- It is a Public Sector Undertaking (PSU) of Government of India and **commercial arm** of Indian Space Research Organization (ISRO). That role was already being performed by **Antrix Corporation**
- It was established on 6 March 2019 under the administrative control of Department of Space (DoS) and the Company Act 2013.
- The main objective of NSIL is to scale up industry participation in Indian space programmes by marketing the technologies.

### IN-SPACe or INSPACE

- Indian National Space Promotion and Authorization Centre (IN-SPACe or INSPACE) is an organization under the DoS of the Government of India.
- The Centre will act as a facilitator and regulator of space activities in India.
- It will act as a link between ISRO and private sector companies.

### Antrix Corporation Limited (ACL)

- It is a wholly owned Government of India Company under the administrative control of the Department of Space.
- It was incorporated as a **private limited company** owned by Government of India in September 1992 as a Marketing arm of ISRO for promotion and commercial exploitation of space products, technical consultancy services and transfer of technologies developed by ISRO.
- As the commercial and marketing arm of ISRO, Antrix is engaged in providing Space products and services to **international customers** worldwide.

## Space Tourism

- Space tourism is about humans travelling into space for recreational, leisure or business purposes.
- It will make space more accessible to those individuals who are not astronauts and want to go to space for non-scientific purposes.

Significance Of Space Tourism	Drawback Of Space Tourism
<ul style="list-style-type: none"> <li>• It will increase the commercial activity in the world economy.</li> <li>• It will give employment to thousands of people. Manufacturing of new and better spacecraft will give employment to many skilled people.</li> </ul>	<ul style="list-style-type: none"> <li>• May create inequality in society. Space tourism is meant for the super-rich only.</li> <li>• Space travel can be dangerous because space travellers are likely to get exposed to harmful radiations from the sun.</li> <li>• Spending long hours in zero gravity condition can be</li> </ul>

<ul style="list-style-type: none"> <li>• We can find new minerals in space and other planets, because the natural resources on earth are being depleting very fast.</li> <li>• It can provide a base for <b>testing supersonic travel</b> between different destinations on earth. Besides, it heralds the entry of the private sector into this arena.</li> </ul>	<p>dangerous for the person’s cardiovascular and musculoskeletal system.</p> <ul style="list-style-type: none"> <li>• May unwillingly introduce some harmful microorganism from space into the atmosphere of Earth.</li> <li>• Several natural resources are wasted in flying. It pollutes the atmosphere as well.</li> </ul>
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### Private Space Companies

- **SpaceX** - SpaceX manufactures the Falcon 9 and Falcon heavy launch vehicles, Dragon cargo, crew spacecraft and Starlink communications satellites.
- **OneSpace** - OneSpace launched China's first private rocket in 2018.
- **Blue Origin** - Blue Origin (Jeff Bezos) is developing a variety of technologies, with a focus on rocket-powered vertical takeoff and vertical landing (VTVL) vehicles for access to suborbital and orbital space.

### Xenotransplantation

New York surgeons have successfully transplanted a kidney from a genetically engineered pig into a brain-dead human by using Xenotransplantation process.

#### About Xenotransplantation Process

- Xenotransplantation or heterologous transplant is a procedure that involves the transplantation, implantation, or infusion into a human host of either:

Live nonhuman animal cells, tissues, or organs

Human body fluids, cells, tissues, or organs that have had ex vivo contact with **live nonhuman** animal cells, tissues, or organs.

- Ex vivo contact refers to a medical procedure in which an organ, cells, or tissue are taken from a living body for a treatment or procedure, and then returned to the living body.
- Such cells, tissues or organs are called xenografts or xenotransplants.

#### Significance

Provide an alternative and additional supply of organs for people facing life-threatening diseases.

#### Concerns

- Animals, such as Pigs, have a shorter lifespan than humans, meaning that their tissues age at a quicker rate and due to this man may die prematurely.
- Disease transmission and permanent alteration to the genetic code of animals are also causes for concern.
- Animal rights activists have also objected to xenotransplantation on ethical grounds.

#### Why Pigs Are Used In This Process?

- Pigs have advantages over monkeys and apes. They are produced for food, so using them for organs raises fewer ethical concerns.

- Pigs have large litters, short gestation periods and organs comparable to humans.
- Pig **heart valves** also have been used successfully for decades in humans.
- **Blood thinner heparin** is derived from pig intestines.
- Pig **skin grafts** are used on burns and Chinese surgeons have used pig **corneas** to restore sight.

## OPV SARTHAK

Indian Coast Guard's (ICG) new offshore patrol vessel (OPV) Sarthak was commissioned into service in Goa.

### About OPV SARTHAK

- It is **fourth in a series of five OPVs** built under 'Make in India' policy.
- It functions as a command platform and undertake mandated ICG charter of duties including search and rescue, combating maritime crimes and preserving and protecting the marine environment.
- The ship is also capable of carrying limited pollution response equipment to undertake oil spill pollution response at sea.

### Indigenous Off Shore Patrol Vessel Project

- The Project was launched in 2016. Under this project, five Indian Coast Guard Ships are to be launched. These OPVs are to be deployed in protecting the Exclusive Economic Zone of the territorial waters.
- Two Offshore Patrol Vessels have already been commissioned namely Indian Coast Guard Ship (ICGS) SACHET and ICGS Sujeet and the third in the series called ICGS SAJAG was commissioned in May 2021.
- In August 2020, ICGS SARTHAK was launched. It was fourth in the series and commissioned in October 2021.
- The 5th and the last Vessel, will launched on 14th Dec 2020 at Goa Shipyard Limited. The vessel was named as ICGS 'SAKSHAM'.

**Offshore Patrol Vessels (OPVs)** are long-range surface ships, capable of operation in maritime zones of India, including island territories with helicopter operation capabilities. Their roles include coastal and offshore patrolling, policing maritime zones of India, control and surveillance, anti-smuggling and anti-piracy operations with limited wartime roles.

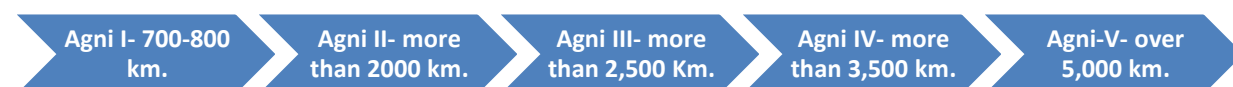
## AGNI-5

Recently, India successfully test-fires Agni-5, from the APJ Abdul Kalam Island off the Odisha coast.

### About Agni-5

- It is the most advanced **intercontinental surface-to-surface nuclear** capable ballistic missile, **indigenously** developed by DRDO.
- The missile uses a **three-stage solid-fuelled** engine and has a range of over 5,000 km and can carry about a 1500-kg warhead.
- It is a **fire and forget** missile, which once fired cannot be stopped, except by an interceptor missile.
- It has been developed under the Integrated Guided Missile Development Programme (IGMDP).

### Range of Agni Missiles





### **Integrated Guided Missile Development Programme (IGMDP)**

- It was launched in **1982-83** by the Indian Government. It was conceived by Dr. A.P.J. Abdul Kalam to enable India attain self-sufficiency in the field of missile technology.
- The programme was managed by the DRDO and Ordnance Factory Board in partnership with other Indian government political organisations.
- The **5 missiles** developed under this program
  - Prithvi: Short range **surface to surface** ballistic missile.
  - Agni: Ballistic missiles with different ranges, Agni (1,2,3,4,5).
  - Trishul: Short-range low-level **surface to air missile**.
  - Akash: Medium range surface to air missile.
  - Nag: India's third generation fire and forget **anti-tank missile**.

### **AY.4.2 Virus**

Recently, few fully vaccinated people from Madhya Pradesh's Indore district have been found infected with new Coronavirus variant AY.4.2

#### **About AY 4.2**

- It is a new delta variant of COVID.
- It was first detected in July and is found to have caused one in ten Covid-19 cases in UK.
- AY.4.2 has grown steadily in volume and has also been observed in a few European nations like Denmark, Germany and Ireland.

#### **Concerns About Delta Variant**

- Delta is believed to be more than twice as contagious as previous variants, and studies have shown that it may be more likely than the original virus to put infected people in the hospital
- Already existing Vaccines Not as Effective against Delta Variant.
- If Delta continues to accelerate the pandemic it could lead to hyperlocal outbreaks.

### **ABHYAS**

Recently DRDO successfully flight-tested Abhyas - **High-speed Expendable Aerial Target (HEAT)** from the Integrated Test Range, Chandipur off the coast of Bay of Bengal in Odisha.

#### **About Abhyas-HEAT**

- Abhyas HEAT is a drone (UAV) that will be used as a target for various missile systems.
- It is designed & developed by DRDO's Aeronautical Development Establishment (ADE), Bengaluru.
- It is powered by a **gas turbine engine** to sustain a long endurance flight at subsonic speed.
- The target aircraft is equipped with **Micro-electromechanical systems (MEMS)** based **Inertial Navigation System (INS)** for navigation along with the Flight Control Computer (FCC) for guidance and control.
- The vehicle is programmed for fully autonomous flight.
- It can also function as a decoy.

- It is very lightweight, reliable, consumes less power and is cost-effective.

## Semi-cryogenic Propellant Tank

Recently, Hindustan Aeronautics Limited (HAL) gives semi-cryogenic propellant tank (SC120- LOX) to ISRO.

### What Is Semi Cryo-Liquid Oxygen (LOX) Tank

The semi cryo-liquid oxygen (SC-120 LOX) propellant tank- the first developmental **welded hardware** is a part of the SC120 stage. The tank is intended for payload enhancement by replacing the 110 stage in the existing Mk-III launch vehicle

Cryogenic Engine	Semi Cryogenic Engine
<ul style="list-style-type: none"> <li>• Cryogenic means low temperature.</li> <li>• Cryogenic engines are highly efficient liquid propellant engines.</li> <li>• They use liquid oxygen and liquid hydrogen as the propellant. Oxygen can be kept in liquid state at below -1830 C temperature, while hydrogen requires temperature below - 253°C to be in liquid form.</li> <li>• Cryogenic engines are very useful in launching of heavy satellite launch vehicles like GSLV.</li> </ul>	<ul style="list-style-type: none"> <li>• Unlike a Cryogenic engine, a Semi Cryogenic engine uses <b>Refined kerosene</b> instead of liquid hydrogen.</li> <li>• In semi cryogenic engine, the liquid oxygen is used as an Oxidiser.</li> <li>• Kerosene combined with liquid oxygen provides a higher thrust to the rocket.</li> </ul>

### GSLV Mk-III

- It is a three-stage heavy lift launch vehicle, developed by ISRO.
- It comprises of two solid strap-on, a core liquid booster as well as a cryogenic upper stage.
- It was designed to carry 4-tons of satellites into the Geosynchronous Transfer Orbit (GTO) as well as 10 tons to Low Earth Orbit (LEO).

### Contribution of HAL for ISRO

- HAL has been associating with ISRO for India’s prestigious space programs for the past five decades. HAL has delivered critical structures, tankages, satellite structures for PSLV, GSLV-Mk II and GSLV-Mk III launch vehicles.
- In 2020, HAL delivered the **biggest ever cryogenic Liquid Hydrogen tank (C32-LH2)**.
- Till date, HAL has delivered 244 propellant tanks and 95 water tanks to ISRO for the space programmes of PSLVs, GSLV Mk-II and GSLV Mk-III.
- Currently, the company has been supplying hardware for the full-fledged launch vehicle GSLV Mk-III for the prestigious Gaganyaan Programme.

## Future Tech 2021

Recently, Union Minister of State for Electronics & Information Technology and Skill Development & Entrepreneurship inaugurated the “Future Tech 2021” conference in a virtual way.

### About Future Tech 2021

- It is an international conference and exhibition on **digital technologies** being organized by CII (The Confederation of Indian Industry).

- There will be talks between entrepreneurs, industry personalities and government officials. In the conversation, there will be a discussion on how digital technology can be best used in the economy.
- Theme: "Key carrier technology to build the future we can all rely on". The theme focuses on 5 key points – Strategy, Growth, Resilience, Inclusiveness, and Trust.
- The International conference serves as an ideal platform for Indian industry and entrepreneurs to understand the nuances of technologies and identify the right approach and technologies for their business.
- It will highlight the initiatives taken by the Indian government towards enhancing India's competitiveness in the global economy and achieving self-reliance by enhancing the use of emerging technologies.

#### **Confederation of Indian Industry**

- It was founded in 1895 & headquartered in New Delhi. It is a non-government, not-for-profit, industry-led and industry-managed organization.
- CCI works to create and sustain an environment conducive to the development of India, partnering industry, Government and civil society, through advisory and consultative processes

#### **Mission LUCY**

Recently NASA has launched the Lucy Mission.

#### **About Mission LUCY**

- Lucy space probe will explore the **asteroids (known as Jupiter Trojans or Trojan Asteroids)** that share Jupiter's orbit along with the Sun.
- The **solar-powered mission** is estimated to be over **12 years long**, during the course of which the spacecraft will visit eight asteroids covering a distance of about 6.3 billion km.
- The mission is named after 'Lucy', a 3.2-million-year-old ancestor who belonged to a species of hominins (which include humans and their ancestors).

#### **Aim Of This Mission**

It is designed to understand the composition of the **diverse asteroids** that are a part of the Trojan asteroid swarms, to determine the mass and densities of the materials and to look for and study the satellites and rings that may orbit the Trojan asteroids.

#### **Where And What Are The Trojan Asteroids**

Asteroids are divided into **3 categories**

- First, found in the main asteroid belt, **between Mars and Jupiter**. It is estimated that this region contains somewhere between 1.1-1.9 million asteroids.
- The second group is that of trojans (the name comes from Greek mythology), which are asteroids that **share an orbit with a larger planet**. NASA reports the presence of Jupiter, Neptune and Mars trojans. In 2011, they reported an Earth trojan as well.
- ✓ The Jupiter asteroids can be found in what are referred to as "swarms" that **lead and follow** the planet Jupiter along its orbit around the Sun. 'Lucy' will reach the first swarm of these asteroids.
- The third is under **Near-Earth Asteroids (NEA)**, which has orbits that pass close to the Earth. Those that cross the Earth's orbit are called Earth-crossers. More than 10,000 such asteroids are known, of which over 1,400 Are Classified As Potentially Hazardous Asteroids.

## Other Missions To Jupiter

- **Pioneer 10** - First spacecraft to explore Jupiter was Pioneer 10, which is launched by the NASA.
- **Voyager 1** - Launched by NASA to study the outer Solar System and interstellar space beyond the Sun's heliosphere.
- **Juno** - It is a space probe by NASA that is currently orbiting the planet Jupiter.
- **Galileo** - The first spacecraft to orbit Jupiter was the Galileo orbiter, sent by the NASA.
- **Jupiter Icy Moon Explorer (JUICE)** – It will be launch by the European Space Agency's in 2022.

## Sandalwood

- Recently as a part of 'Azaadi ka Amrit Mahotsav' initiative, a training program for the basics & benefits of Indian sandalwood, nursery techniques & managing the health of the plant was held.
- Sandalwood is a dry deciduous forest species native to **Asia pacific region**.
- This small tropical tree grows to 20m high in well-drained soil, the ideal temperature required is between 12° to 35 °C and annual rainfall between 500 millimetres and 3,000 millimetres.
- It is recognized as a "vulnerable" species by the IUCN.

## Uses of Sandalwood

- It is mostly harvested for its timber.
- The heartwood and roots also contain 'sandal oil', which is valued for use in perfumes, incense, cosmetics and medicines. The bark contains tannin, which is used for dye.
- In India, Sandalwood is being used from cradle to cremation.

## Sandalwood Spike Disease (SSD)

- SSD is an infectious disease which is caused by bacterial parasites, phytoplasma.
- It is transmitted by insect vectors and involved in plant-to-plant transmission.
- Currently there is no cure for the infection. The infected tree will have to be cut down.
- About 1% to 5% of sandalwood trees lost every year due to the disease.

## NOBEL PRIZES -2021

- The Nobel prizes are a series of annual awards given in the **fields of physics, chemistry, medicine, literature, and peace**.
- They are awarded to people "**who have conferred the greatest benefit to humankind**" in the **previous 12 months**.
- The Swedish businessman and inventor of dynamite - Alfred Nobel-left most of his fortune in a fund to launch the awards, which were first presented in 1901.
- In 1968, an economic sciences prize was added by Sweden's central bank, although it does not count as a Nobel prize.
- **The Prizes:** Different organisations award the prize in each category every year. Five of these six are chosen in Sweden, while the Nobel Peace Prize is selected in Norway.



- Academics, university professors, scientists, previous winners and others all submit nominations. Under the Nobel Foundation's rules, the shortlists are not allowed to be published for 50 years.
- More than one, but no more than three, people can win each prize.
- The prestigious Nobel award comes with a gold medal and prize money of 10 million Swedish kronor (over USD 1,118,000).
- Although Nobel Prizes are not awarded posthumously if a person is awarded a prize and dies before receiving it the prize is presented.

**Medicine: David Julius and Ardem Patapoutian, from US**, share the 2021 prize in Medicine or Physiology for their work on sensing touch and temperature.

- They unpicked how our bodies convert physical sensations into electrical messages in the nervous system. Their findings could lead to new ways of treating pain.
- Heat, cold and touch are crucial for experiencing the world around us. But how our bodies actually do it had been one of the great mysteries of biology.
- He experimented with the source of a **chilli's heat - the chemical capsaicin**.
- He discovered the specific type of receptor (a part of our cells that detects the world around them) that responded to **capsaicin**.
- Further tests showed the receptor was responding to heat and kicked in at "painful" temperatures. This is what happens, for example, if you burn your hand on a cup of coffee. The discovery led to a flurry of other temperature-sensors being discovered.

For eg : When you walk along a beach and feel the sand under your feet - it is these receptors that are sending signals to the brain.

- These touch and temperature sensors have since been shown to have a wide role in the body and in some diseases. The first heat sensor (called TRPV1) is involved in chronic pain and how our body regulates its core temperature. The touch receptor (PIEZO2) has multiple roles, from urinating to blood pressure

**Chemistry:** German-born Benjamin List and Scotland-born David Mac Millan for their work on building molecules that are mirror images of one another.

### Significance

- The scientific process in question, called asymmetric organocatalysis, has made it much easier to produce asymmetric molecules - chemicals that exist in two versions, where one is a mirror image of the other.
- Chemists often just want one of these mirror images - particularly when producing medicines - but it has been difficult to find efficient methods for doing this.
- If the body can differentiate between two mirror images, the same might be true for drugs used to treat illnesses. In other words, different versions of the same molecule might have different effects when ingested.
- One tragic example of this principle was the **drug thalidomide**, approved for treating morning sickness and other conditions in the 1950s. It was withdrawn when it was found to cause disabilities in babies.

Thalidomide medication contained two mirror versions of the same chemical compound mixed in together. One of these versions damaged the developing foetus.

- Their work focused on catalysts, substances that can speed up chemical reactions without becoming part of the final product.

**Physics:** Three scientists **Syukuro Manabe, Klaus Hasselmann and Giorgio Parisi** have been awarded the 2021 Nobel Prize in Physics for their **work to understand complex systems, such as the Earth's climate.**

**Significance:**

- It is incredibly difficult to predict the long-term behaviour of **complex physical systems** such as climate. Computer models that anticipate how climate will respond to rising greenhouse gas emissions have therefore been crucial for understanding global warming as a planetary emergency.
- Research by Manabe and Hasselmann led to **computer models** of the Earth's climate that can predict the impact of global warming. The climate models that have built on the winners' research form a crucial part of the evidence on which leaders at UNFCCC COP26 will base their decisions.
- Syukuro Manabe, demonstrated how **increased levels of carbon dioxide in the atmosphere could lead to increased temperatures at the surface of the Earth.** In 1960s, he led the development of **physical models** of the climate.

**Other 2021 winners**

- **Literature:** Abdul Razak Gurnah
- **Peace:** Maria Ressa and Dmitry Muratov
- **Economics:** David Card, Joshua Angrist and Guido Imbens

# Culture

## Nihangs

Recently, Nihangs (Sikh warriors) were in news after a man was found murdered, allegedly for desecration of a Sikh holy book.

### About

- Nihang (originally known as Akalis or Akali Nihangs) is an order of Sikh warriors, characterised by **blue robes**, arms such as swords and spears and turbans with steel quoits (rings).
- The word Nihang in Persian means an alligator, sword and pen but the characteristics of Nihangs seem to originate more from the Sanskrit word nihshank which means pure, carefree and indifferent to worldly gains and comfort.
- The word Nihang, also occurs in a hymn in the Guru Granth Sahib, where it refers to a **fearless person**.
- The order can be traced back to the creation of the Khalsa by Guru Gobind Singh in 1699. However, there are some sources which trace their origin to Guru Gobind Singh's younger son, Fateh Singh (1699-1705).
- Nihangs observe the Khalsa code of conduct in its strictest sense. Instead of saffron they hoist a blue Nishan Sahib (flag) atop their shrines.
- Any person irrespective of caste, creed or religion can become a Nihang if he has unshorn hair as per the Sikh traditions at the time of entering the sect.
- Nihangs are today divided into several groups, each with its own "chhaoni" (cantonment) but are loosely organised into two "dals" (forces) — **Buddha Dal and Taruna Dal**, names initially given to the two sections into which the 'Khalsa' army was divided in 1733.

### Role of Nihangs in Sikh history

- Nihangs had a major role in defending the Sikh panth after the fall of the first Sikh rule (1710-15) when Mughal governors were killing Sikhs, and during the onslaught of Afghan invader Ahmed Shah Durrani (1748-65).
- Nihangs also took control of the religious affairs of the Sikhs at Akal Bunga (now known as Akal Takht) in Amritsar. They did not consider themselves subordinate to any Sikh chief and thus maintained their independent existence.
- Their influence came to an end after the **fall of Sikh Empire in 1849** when the British authorities of Punjab appointed a manager (sarbrah) for the administration of the Golden Temple in 1859.

## Mount Harriet

- Union government recently renamed Mount Harriet, a historical tourist spot in Andaman and Nicobar Islands, as Mount Manipur.
- Mount Harriet is the 3<sup>rd</sup> highest peak in the Andaman and Nicobar Islands, and served as the **summer headquarters** of the Chief Commissioner during British Raj.
- It is believed to be named after British artist and photographer, Harriet Christina Tytler, who was the wife of a British Indian Army Soldier.
- It has now been renamed to honour the contributions of Manipur fighters in the **1891 Anglo-Manipur war**.

- The Mount Harriet National Park is located nearby and is known for its wide variety of birds.

### **Anglo-Manipur War**

- Anglo-Manipur War was fought between the kingdom of Manipur and the British in 1891.
- In 1886, when Surchandra inherited the throne from his father Chandrakirti Singh, kingdom of Manipur was not under the British rule but had links with the crown through different treaties.
- Surchandra's ascension to the throne was controversial and it led to a coup, in which Surchandra was removed and Kulachandra, the next oldest brother, was made the king.
- Surchandra fled to Calcutta seeking British help to reinstate him. Instead, the British dispatched James Quinton, the Chief Commissioner of Assam, with an army to Manipur.
- His mission was to recognize Kulachandra as the king under the condition that they be allowed to arrest the coup leader and deport him from Manipur.
- This aggressive imposition of British law in a sovereign state was rejected by the king, leading to the Anglo-Manipuri War of 1891.
- Finally, the British captured the Kangla Fort in Imphal and Kulachandra, along with 22 others, were transported for life to the Andaman Islands.
- War led to Manipur officially becoming a princely state under indirect rule of the British crown.
- In India, it was viewed as part of the general uprising against British rule in the country, soon after the Revolt of 1857.

### **Geographical Indication (GI) Tag**

- **Karuppur kalamkari paintings** and the **Kallakurichi wood carvings**, from Tamil Nadu recently received the geographical indication (GI) tags.
- GI Tag is given to products that have a specific place of origin and have a reputation because of their geographical origin.

### **Kalamkari Paintings**

- Kalamkari means creating something with a 'kalam', or a brush.
- These are done in Karuppur and its surrounding villages in Ariyalur district, and Thanjavur district. Documentary evidence shows that kalamkari paintings evolved under the patronage of **Nayaka rulers** in the early 17th century.
- Kalamkari paintings are done on **pure cotton cloth**, predominantly used in temples for umbrella covers, cylindrical hangings, chariot covers and asmanagiri (false ceiling cloth pieces).
- Pens or brushes are made out of bamboo tree and coconut tree stems. The artists wind a cloth around the twig around it and then dip it in the dye, which they make themselves.
- Dyes for the cloth are always extracted from **naturally colour producing agents** such as roots, leaves, and mineral salts of iron, tin, copper, and alum. The usage of cow dung, seeds of various kinds, plants and crushed flowers are also used to get effects in the paintings.
- Originally the kalamkari art specifically depicted Hindu epics tales of Ramayana and Mahabharata but in recent times it is also used to depict Buddha and Buddhist art forms.



### Kallakurichi Wood Carvings

- Kallakurichi wood carvings are a unique form of wood carving that involves the application of ornamentation and designs, derived from traditional styles by the craftsmen.
- Craftsmen are specialised in carving temple-related items & also furniture, using traditional designs.
- The woodcarving skill evolved as an indigenous art when Madurai was an important town under different monarchical regimes in the ancient times.
- In the course of time, woodcarving craftsmen migrated to other towns and places, and each of them evolved their own style like the Kallakurichi woodcarving.
- Kallakurichi wood carvings are mainly practised in Kallakurichi, Chinnasalam and Thirukkivilur taluks in Kallakurichi district.

### Langa-Manganiyar

- Recently an initiative has begun to **document and digitise** the folklore and songs of Langa-Manganiyar artistes. The project is aimed at saving the rapidly disappearing narrative traditions of these communities.
- The Langas and Manganiyars are hereditary communities of **Muslim musicians** residing mostly in western Rajasthan's Jaisalmer and Barmer districts and in Pakistan's Tharparkar and Sanghar districts in Sindh. Their music forms a vital part of Thar desert's cultural landscape.
- Their folk music flourished under the patronage of their Hindu yajmans (patrons) over the years. While Manganiyars are patronised by Bhati Rajputs, the Langas have Sindhi Sipahis as yajman.
- The preservation initiative has collected 20,000 hours of audio recordings of Langa-Manganiyar performances in analogue form. The recordings, comprise a wide range of heroic ballads, romantic epic tales and the Sufi spiritual stories.
- The romantic tales revolve around legendary lovers such as Umar-Marvi, Heer-Ranjha, Sohni-Mahiwal, Moomal-Rana and Sorath-Rao Khangar.
- The performances are in multiple languages and dialects including Marwari, Sindhi, Saraiki, Dhatti and Thareli.
- The material derived from recordings will be made available for research and utilised for training of younger generation of performers.