

**CURRENT EVENTS
AND
ANALYSIS
(January 2022)**

Editor

R.C. Reddy

R.C. REDDY IAS STUDY CIRCLE

**H.No. 3-6-275, Opp. Telangana Tourism Development Corporation,
Near Telugu Academy, Himayatnagar, Hyderabad - 500 029.**

**Phone No. : 040-23228513; 040-27668513; 040-27612673;
9346882593; 9573462587**

Email : rcreddyiasstudycircle1989@gmail.com

CURRENT EVENTS AND ANALYSIS

CONTENTS

| ECONOMY | |
|--|----------------|
| TOPIC | Page No |
| INDUSTRY | |
| Capital Goods Scheme Phase-II | 1 |
| INFRASTRUCTURE | |
| Green Corridor Phase II Approved | 4 |
| SOCIAL SECTOR | |
| Oxfam Report on Inequality | 5 |
| WORLD ECONOMY | |
| World Bank's Global Economic Prospects Report | 10 |
| NATIONAL POLITY | |
| <i>Hate Speeches:</i> | |
| Supreme Court Issues Notices to Uttarakhand Government on Haridwar Hate Speeches | 14 |
| LEGISLATURE | |
| Supreme Court Quashes One-year Suspension of 12 BJP MLAs in Maharashtra | 15 |
| SOCIAL ISSUES | |
| <i>Women:</i> | |
| Should Marital Rape Be Criminalised | 16 |
| FOREIGN RELATIONS | |
| <i>Srilanka:</i> | |
| Sri Lankan Economic Crisis | 19 |
| <i>India-Central Asia:</i> | |
| First India-Central Asia Virtual Summit | 22 |
| SCIENCE & TECHNOLOGY | |
| SPACE | |
| Somanath appointed as ISRO Chairman | 25 |
| Reforms in the Indian Space Sector | 25 |
| Supreme Court upholds the NCLT order to liquidate Devas Multimedia | 26 |
| China's Chang'e-5 Lunar Lander finds first on-site Evidence of Water on Moon | 29 |

DEFENCE

| | |
|---|----|
| Global Nuclear Powers Vow to Stop Spread of Nuclear Weapons | 30 |
| IAF Chopper Crash: Inquiry rules out Mechanical Failure, Sabotage or Negligence | 31 |
| BrahMos's Extended Range Variant Test-fired | 31 |
| BrahMos: India's Defence Exports | 32 |

ENVIRONMENT**Forests:**

| | |
|-----------------------------------|----|
| India State of Forest Report 2021 | 33 |
|-----------------------------------|----|

IUCN Red List:

| | |
|--|----|
| Red Sanders Placed in 'Endangered Species' Category in IUCN Red List | 35 |
|--|----|

BIOTECHNOLOGY

| | |
|---|----|
| Pig Heart Transplantation into Humans | 38 |
| NeoCov: What is this virus and should we be worried? | 39 |
| Global Research on Antimicrobial Resistance (GRAM) report: The Lancet | 40 |

INFORMATION TECHNOLOGY

| | |
|--|----|
| Code of Practice for Securing Consumer Internet of Things(IoT) | 41 |
| Cookies and Freedom of Consent | 44 |

ECONOMY

INDUSTRY:

Capital Goods Scheme Phase-II

- In January 2022, the Union Government notified Phase-II of the Scheme to enhance competitiveness in Indian Capital Goods sector.

Background:

What are Capital Goods?

Capital Goods refer to products that are used in the production of other products in manufacturing industry.

There are broadly ten sub sectors in the capital goods.

1. Heavy electrical equipment,
2. Machine tools,
3. Metallurgical machinery,
4. Earth-moving and mining machinery,
5. Dies, Moulds & Press Tools,
6. Processing plant equipment (equipment used in chemical and materials processing in facilities like refineries, chemical plants, and wastewater treatment plants).
7. Textile machinery,
8. Food processing machinery,
9. Printing machinery
10. Plastic machinery.

Heavy Electrical Equipment is the largest sub-sector followed by Process Plant Equipment and Earthmoving & Mining machinery.

What is the significance of the Capital Goods Industry?

1. For Manufacturing:

The Capital Goods industry is the "mother" of all manufacturing industries..

It provides the foundational building blocks for a large number of user industries by providing critical inputs such as machinery and equipment necessary for manufacturing.

It also has a multiplier effect on overall economic growth

2. Contribution to Manufacturing GVA: 12 %

3. Contribution to GDP: 2%

4. Employment: Direct employment to around 1.4 million people and indirect employment to around 7 million people.

Challenges to Capital Goods Industry:

1. High Imports:

Though India exports capital goods, it is also a significant importer of capital goods across sub sectors.

Around Rs. 4 lakh crores worth of capital goods were imported into India in 2020-21 accounting for 12.7 % of total imports.

2. Need for Enhancing Domestic Capabilities:

Development of domestic capabilities in capital goods sector is essential to ensure national self reliance, as the sector directly or indirectly influences overall economic development in India.

Moreover, a globally competitive and dynamic capital goods sector will open up export opportunities for India.

Issues impacting the growth of capital goods production in India:

1. Lack of skill availability:

The capital goods sector also suffers from lack skilled manpower.

In the capital goods industry, sub-sector specific skill development and training institutes with appropriate capability and curriculum are lacking. This is a key contributing factor towards low technology depth in the capital goods industry.

2. Weak support infrastructure:

Support infrastructure like design standards, testing and certification infrastructure lags global standards which inhibits technology development.

3. Inadequate fiscal incentives:

The prevailing incentive structure for research and development is not generating sufficient pull for industries to participate vigorously in R&D (Research and Development) activities.

4. Inverted duty structure still prevalent:

For several sub-sectors, import duty on finished products is lower than that on raw materials. This inverted duty structure does not encourage the growth of domestic capabilities.

5. Higher infrastructure and logistics costs reducing cost competitiveness:

Indian manufacturers face higher power, infrastructure, logistics and transaction costs which further reduce their global competitiveness.

6. Limited ability of MSMEs to develop new products & processes:

The small operating scale of MSMEs (Micro, Small and Medium Enterprises) inhibits capacities to acquire technology or develop new products and processes and the units get caught in a self-feeding and vicious cycle.

Further, there is an absence of institutional mechanisms in public/ private sector to support MSMEs in product/ process development.

7. Inadequate access to capital:

MSMEs also have limited access to capital due to their low scale. They need infrastructure and other support to modernise and increase capacity.

National Capital Goods Policy 2016:

Recognising the significance of capital goods sector for the manufacturing sector and overall economic development, the Government unveiled the National Capital Goods Policy 2016 with the following objectives.

1. Increasing total production:

Achieve a total annual production of Rs. 7.5 lakh crores by 2025 (from the prevailing Rs. 2.3 lakh crores).

2. Increasing employment:

Increase direct domestic employment from the current 1.4 million to at least 5 million and indirect employment from the current 7 million to 25 million by 2025.

3. Increasing domestic market share:

By 2025, meeting 80 % of demand for capital goods in India through domestic production. (Share domestic production was 60% in 2016).

4. Increasing exports:

Increasing exports of capital goods to 40% of total production (Rs 3 lakh crore) by 2025.

5. Improving skill availability:

To significantly enhance availability of skilled manpower in the capital goods sector by training 50 lakh people by 2025 by setting up of institutions.

Scheme for enhancing competitiveness of Indian Capital Goods Industry:

- In 2014, the Government launched Scheme for Enhancement of Competitiveness of the Capital Goods Sector on a pilot basis.
- In January 2022, the Government notified Phase II of the scheme with a financial outlay of Rs. 1207 crore to expand and enlarge the impact created by Phase I pilot scheme.
- Phase II aims at creating a strong and globally competitive capital goods sector and increasing the contribution of capital goods sector to manufacturing GVA to at least 25%

Initiatives under Phase II of the Scheme:

1. Identification of Technologies through Technology Innovation Portals:

Six Web-based open manufacturing technology innovation platforms have been developed by CPSEs (Central Public Sector Undertakings) to bring the country's technical resources and the Industries on to one network to kick start and facilitate identification of technology problems faced by the Industry and crowd source solutions for the same.

Under Phase II of the scheme, the six **Technology Innovation Portals** (TIPs) developed under Phase I shall be promoted and supported.

2. Setting up of four New Advanced Centres of Excellence and augmentation of Existing Centres of Excellence:

Four new advanced Centres of Excellence would be set up for development of futuristic technologies in the capital goods sector.

Government grant will be provided upto 80% of cost of making equipment, machinery hardware and software facilities for the development of new Centres of Excellence. Development of high tech machines not manufactured in the country at present would be supported.

Existing Centres of Excellence would be augmented.

3. Promotion of skilling in Capital Goods Sector:

Government will facilitate development of skilled manpower for the capital goods industry.

4. Setting up of four Common Engineering Facility Centres (CEFCs) and augmentation of existing CEFCs:

Four Common Engineering Facility Centres (CEFCs) would be set up for providing demonstration, awareness, training, consultancy, hand holding and R & D services to industrial units desirous of upgrading the production.

5. Augmentation of Existing Testing and Certification Centres:

The Government of India/Private Industry has created some very good test and certification centres catering to various Capital Goods sub sectors and Industries. These centres would be augmented to address the needs of the Capital Goods Sector and Auto sector for testing of machinery.

6. Setting up of ten Industry Accelerators for Technology Development:

Ten Industry Accelerators for Technology Development would be set up to actively involve local industries in the process of product development, using indigenous technology, in partnership with premium research/academic institutions (Accelerators) in the forefront of industrial innovations.

INFRASTRUCTURE:

Green Corridor Phase II Approved

- In January 2022, the Union Government gave approval for Green Corridor Scheme Phase-II.

Background:

- Renewable energy (solar, wind, and hydro) is clean, cheap and reliable.
- India is bestowed with abundant renewable energy potential which can be harnessed.
- Hence, Government of India is giving huge impetus to augmenting renewable energy. It has a set a target of 175 Giga Watt (1,75,000 Mega Watt) capacity addition by 2022.
- This target has been increased to 500 GW by 2030. India aims at meeting 50 % of energy needs through non-fossil fuels by 2030.
- The immediate targets are developing 1,00,000 MW Solar and 60,000 MW Wind generation capacity by 2022.
- To achieve such huge targets, Government is setting up ultra-mega solar power projects each with a capacity of 500 to 1000 MW (besides promoting Roof top Solar Photo voltaic systems to meet the heating and lighting system in a distributed model)

What is Green Corridor Scheme?

- Energy produced by solar power projects needs to be evacuated and connected to electricity grids.
- Hence, the Government started the Green Corridor Scheme to incentivise setting up of intra-state transmission lines and substations for evacuating solar power and connecting to the grid.

Green Corridor Scheme Phase-I:

- Green Corridor Scheme Phase-I was launched in 2015-16
- It is under implementation in the 8 States with high solar power potential: Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu.
- It aims at grid integration and power evacuation of approx. 24 GW of Renewable Energy.
- Under the scheme 9700 circuit km of transmission lines would be laid for intra-state transmission of renewable energy at an estimated cost of Rs. 10,141 crore. Out of this, Central Financial Assistance (CFA) is Rs. 4,056 crore.

Green Corridor Scheme Phase-II:

- Green Corridor Scheme Phase-II was approved in January 2022.
- Under Phase-II, 10,750 circuit kilometres (ckm) of transmission lines would be laid for intra-state transmission of renewable energy. It will facilitate grid integration and power evacuation of approximately 20 GW of Renewable Energy (RE) power projects in seven States : Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh.
- The total cost of Green Corridor Scheme Phase-II is Rs. 12,031 crores. Centre will extend financial assistance of 33 percent of the project cost (Rs. 3970.34 crore.)
- Centre's assistance which is given in the form of grant will help in reducing the cost of supply of renewable power and thus support the growth of renewable energy sector. It also benefits the end users (consumers) as a result reduced fixed costs in setting up intra-state transmission lines.

SOCIAL SECTOR:

Oxfam Report on Inequality

- In December 2021, Oxfam International, a U.K.-based consortium of 21 charitable organisations, released a report "Inequality Kills" which also had a special focus on the inequalities accentuated by impact of COVID-19.

Major Highlights of the Report:

- The wealth of 10 richest men in the world more than doubled from around US \$ 700 billion to US \$ 1.5 trillion in the first two years of COVID-19 whereas incomes of 99% of humanity fell. Over 16 crore people were forced into poverty
- (10 richest men in the world are Elon Musk, Jeff Bezos, Bill Gates, Larry Page, Sergey Brin, Mark Zuckerberg, Steve Ballmer, Warren Buffett, Larry Ellison, Bernard Arnault & family).

-
- Central banks injected \$16 trillion into economies worldwide, aiming to keep the world economy afloat. Much of that stimulus has gone into financial markets and from there into the net worth of billionaires.
 - Both the current wealth of extremely rich people and the rate at which they are accumulating wealth are unprecedented in human history.
 - Since 1995, the top 1% have captured nearly 20 times more of global wealth than the bottom 50% of humanity.
 - In the USA, wealth concentration at the very top now surpasses the peak of the Gilded Age of the late 19th century, with little sign of abating.

Impact of Inequality due to COVID-19:

- Inequality disproportionately affects the vast majority of people living in poverty, women and girls, racialised and marginalised groups, and those from working-class backgrounds.

Poor:

- The pandemic feeds on inequality, so often killing poor people and the historically disadvantaged at higher rates than those who are rich and privileged.
- In some countries, the poorest people have been nearly four times more likely to die from COVID-19 as the richest people.

Women:

- Women, who have suffered the harshest economic impacts of the pandemic, collectively lost \$800 billion in earnings in 2020.
- Women and girls have faced a significant increase in unpaid care work.
- Women informal workers have been among the most affected economically, facing a "triple crisis" of COVID-19, increased unpaid care work, and insecure and precarious paid work, pushing many further into poverty.

Vaccine Apartheid:

- "Vaccine Apartheid" (unequal access to vaccines between countries) and the lack of universal vaccination programs in many countries as a cause of the emergence of multiple new strains of the coronavirus that has led to the continuation of the pandemic.

Climate Change:

- The richest 1% emit more than twice as much CO₂ as the bottom 50% of the world, driving climate change throughout 2020 and 2021 that has contributed to wildfires, floods, tornadoes, crop failures and hunger.

Recommendations:

1. Governments must centre their economic strategies around greater equality and evolve permanent progressive taxes on capital and wealth to fundamentally and radically reduce wealth inequality.
2. As a one-off measure, all governments should tax the gains made by the superrich during this pandemic period, in order to regain these resources and deploy them in helping the world. For example, a one-off 99% one-off windfall tax on the COVID-19 easy wealth gains

through sale of shares of the 10 richest men alone would generate \$812 billion. This amount is enough to make enough vaccines for the entire world and fill financing gaps in climate measures, universal health and social protection in over 80 countries.

3. These efforts must be accompanied by other fiscal measures, including rich countries channeling significant portions of their collective \$400 billion worth of IMF Special Drawing Rights to vulnerable economies in a way that is debt and conditionality-free.

India Specific Information in the Inequality Report

1. India's Taxation System Pro-rich:

India's taxation system is pro-rich. Some of the pro-rich measures taken by the Government in recent years are abolition of wealth tax, reduction of corporate tax and increase in indirect taxes (example: on fuel: Petrol and Diesel)

(Wealth tax was abolished in 2016-17 Budget and replaced with a surcharge on super rich i.e. those earning more than Rs.50 lakhs and Companies with income of more than Rs. 1 crore.).

2. Inequalities in India:

The combined wealth of the richest hundred Indians on the Forbes list stands at more than half a trillion US dollars.

The number of Indian billionaires grew from 102 in 2020 to 142 in 2021, the worst year yet for India during the pandemic. This was also the year when the share of the bottom 50 percent of the population in national wealth was a mere 6 percent.

In 2020, India's top 10 percent held close to 45 percent of the country's total national wealth.

The richest 98 Indian billionaires had the same wealth (USD 657 billion) as the poorest 555 million people in India, who also constitute the poorest 40 percent.

India had the third highest number of billionaires in the world, just behind China and the United States. It now has more billionaires than France, Sweden and Switzerland combined.

3. Privatisation of Public Goods:

Significance:

The manner in which a government **provides public goods** such as **education, health, social safety, food and drinking water** has a **profound impact on its citizens' quality of life**. Public Goods ensure that all its citizens (including the vulnerable) have access to what is necessary to **guarantee a reasonable quality of life for all**.

Relying on private actors to deliver public good affects equal access. Privatisation of public goods leadsto economic inequality.

Status in India:

The report focused on privatisation of two public goods - education and health - which should have been the obligation of the government to provide to all.

Education:

Private sector has a strong foothold in education

The proportion of India's children attending a government school has now declined to 45 percent whereas this number is 85 percent in the USA, 90 percent in England, and 95 percent in Japan.

Private schools are increasingly characterised by arbitrary fee hikes and gross overcharging, leading to huge out of pocket expenditure for parents.

Public-funded education sees only 32 percent enrolment whereas its private counterparts see 68 percent enrolment.

Impact of COVID-19:

The COVID-19 outbreak increased education inequities in the country by closing schools and shifting education to digital platforms while making the learning process rely more than ever on families, rather than on teachers. This has hit India's marginalised communities hardest. For instance, only 4 percent of rural SC/ST students were able to study online on a regular basis during the pandemic

The pandemic has not only pushed vulnerable sections into poverty, but has also disproportionately affected girls, making them more vulnerable to child marriage, early pregnancy and gender-based violence.

Spending on Education:

Education is critical in the fight against inequality.

Globally, countries with higher mean years of schooling tend to have lower income inequality.

India's governmental expenditure on education has stagnated, remaining around 3 percent of GDP between 2014-15 to 2018-19, against the historic target of 6 percent of GDP.

4. Health:

There is chronic neglect of the healthcare system in India.

India's spending on healthcare stands at 3.5 % of its GDP.

Other middle-income countries (MICs) like Brazil (9.51), China (5.35), Russia (5.32) and South Africa (8.25) have allocations much higher than India.

Poor state of public-funded healthcare in the country has pushed the majority of the population to resort to the private sector to obtain healthcare.

Since the 1990s, the dependence of Indians on private healthcare has risen sharply.

Reliance on private medical care risks the exclusion of socially marginalised groups from accessing healthcare, thereby exacerbating existing health inequalities.

Rise in government-financed health insurance schemes:

There is also an exponential rise in government-financed health insurance schemes. This is based on the belief that the private sector has already gained a strong foothold which leads to the government's desire to increasing 'public funding for the purchase of private healthcare.

Ayushman Bharat is undoubtedly the largest health insurance scheme in the world, with an insurance cover up to Rs. 500,000 per family per year, for secondary and tertiary care in hospitals. Its target beneficiaries are BPL households. Despite being publicised as the largest health insurance scheme across the globe, only 25 percent of the beneficiaries eligible have so far enrolled themselves under the scheme.

Impact of privatisation of healthcare:

The impact of privatisation of healthcare and the inadequate prioritisation of the government in strengthening the public healthcare system became visible during the pandemic too. The failure to regulate resulted in massive profiteering by many private health establishments. The rates of health services and facilities for COVID-19 increased manifold, making it difficult for even the middle-class to afford.

5. Social Security:

Expenditure on social security schemes for workers (under the Ministry of Labour and Employment) and the centrally sponsored scheme of National Social Assistance Programme is abysmally low at 0.6 percent of total union expenditure in 2021-22, at Rs. 20,574 crore. These schemes cover the workforce in the organised and unorganised sector, as well as widows, persons with disability and the elderly.

Reviewing budgetary allocations towards social security for these segments of India's population in particular is important because the allocations clearly reflect the commitment of the government to assist the vulnerable.

Recommendations:

1. Reintroduction of Wealth Tax:

Wealth tax should be reintroduced. Resources raised through wealth tax can be used to fund the programmes for recovery from the pandemic.

2. Surcharge for generating revenues for Health and Education Spending:

One percent surcharge should be levied on the rich to generate revenue for investing health and education.

A temporary 1 percent surcharge on the richest 10 percent population could help raise an additional Rs. 8.7 lakh crore, which could be utilised to increase the education and health budget.

3. Social Security:

India also needs to focus on laying the legal groundwork of basic social sector protections for 93 percent of India's workforce.

4. Progressive Methods of Taxation:

Government should revisit its primary sources of revenue generation, adopting more progressive methods of taxation.

Progressive taxation ensures that the tax burden is higher for the wealthy than it is for those with lower incomes. The idea behind such a system is that it allows for the wealthy to in some sense, fund via taxes, a basic standard of living for lower-income families, paying for basics such as shelter, food, health, education and transportation among other things. A progressive taxation system allows low income households to spend a significant portion of their meagre income on cost-of-living expenses, and as such is one of the least distortionary policy tools available to help control the rise in inequality by redistributing the gains from growth.

Government should also redirect revenue towards health, education and social security, treating them as universal rights and as a means of reducing inequality, thereby avoiding the privatisation model for these sectors.

5. One-off Wealth Tax:

Countries such as Argentina have passed a one-off wealth tax on the wealthiest Argentinians which brought in around USD 2.4 billion to help address pandemic costs of the people of Argentina and were levied up to 5.25 percent on their total assets. Indeed, the IMF supports the idea of levying higher taxes on the rich to 'pay for the enormous cost of tackling the COVID-19 pandemic'.

A similar tax on the rich in India would go a long way in generating much-needed resources to fund essential public services like health and education, especially during the pandemic. For instance, a 4 percent wealth tax on 98 richest families in India can take care of the Ministry of Health and Family Welfare for more than 2 years, the Mid-Day-Meal programme of the country for 17 years OR the Samagra Siksha Abhiyan for 6 years. Similarly, estimates suggest that a 1 percent wealth tax on 98 richest billionaire families can finance the Ayushman Bharat scheme for more than 7 years OR the Department of School Education and Literacy of the Government of India for one year.

In another estimate, it was found that by taxing just these super-rich families only 1 percent of their wealth, India could fund its entire vaccination programme cost of INR 500 billion (USD 6.8 billion).

Instead, the burden of taxation in India currently rests on the shoulders of **India's middle class and the poor** and not addressing the proposal for a one-time tax on the wealthy, for COVID-19 recovery, has resulted in the government using the only other available option i.e., raising funds through indirect tax revenue which penalises the poor. The Centre earned nearly Rs. 8.02 lakh crore from taxes on petrol and diesel during the last three fiscal years, of which more than Rs. 3.71 lakh crore was collected in FY20-21 alone.

On the other hand, the reduction of corporate taxes from 30 percent to 22 percent during the year 2019-20 (to attract foreign direct investment) has resulted in a loss of Rs. 1.5 lakh crore, which has contributed to the increase in India's fiscal deficit.

6. Measuring Inequality:

There is an immediate requirement to start disaggregating more public statistics by income and introduce regular collection of data on income and wealth inequality, while ensuring that this data is made freely available in the public domain. At least two surveys should be conducted over a ten-year period, using a reasonably comparable methodology capturing income and wealth inequalities.

WORLD ECONOMY:

World Bank's Global Economic Prospects Report

Global Economic Prospects Report released by the World Bank in January 2022 estimated the global growth to slow down till 2023 due to

- dissipation of pent-up demand and withdrawal of fiscal and monetary support across the world by Governments,
- fresh threats from COVID-19 variants,
- a rise in inflation,
- debt, and income inequality

Details:

- Global growth is expected to decelerate markedly from 5.5 percent in 2021 to
- 4.1 percent in 2022, and
- 3.2 percent in 2023.
- The slowdown in growth will coincide with a widening divergence in growth rates between advanced economies and emerging and developing economies.

Growth in advanced economies:

- It is expected to decline from 5 percent in 2021 to 3.8 percent in 2022 and 2.3 percent in 2023.
- While moderating, this growth will be sufficient to restore output and investment to their pre-pandemic trend in these economies.

Emerging Economies:

- In emerging and developing economies, however, growth is expected to drop from 6.3 percent in 2021 to 4.6 percent in 2022 and 4.4 percent in 2023.
- By 2023, all advanced economies will have achieved a full output recovery. But output in emerging and developing economies will remain 4 percent below its pre-pandemic trend.
- For many vulnerable economies, the setback is even larger: output of fragile and conflict-affected economies will be 7.5 percent below its pre-pandemic trend, and output of small island states will be 8.5 percent below.

Inflation:

- Global inflation is continuously to the upside in recent months. Consumer price inflation stood at 4.6 percent on a 12-month basis in October 2021, up from a pandemic-related trough of 1.2 percent in May 2020.
- The rebound in global demand and activity since mid-2020, together with supply disruptions and rising food and energy prices, have pushed headline inflation to decade highs across many countries.
- Rising inflation - which hits low-income workers particularly hard - is constraining monetary policy.
- The increase in inflation has led various central banks to partially unwind their accommodative monetary policies.

Rising Income Inequalities:

The COVID-19 pandemic has raised global income inequality, partly reversing the decline that was achieved over the previous two decades. **Both income inequalities between countries and within-country income inequalities have widened.**

Income inequalities between countries:

- The recovery from the deep recession triggered by the COVID-19 pandemic has been highly uneven across countries, leaving behind some of the poorest countries.
- Whereas advanced economies are recovering at a solid pace and the vast majority of them are expected to regain their pre-pandemic real per capita income levels in 2022, only about

one-half of emerging market and developing economies (EMDEs) and low-income countries (LICs) are expected to recover their pre-pandemic real per capita income levels over the same period.

- Weak recoveries in emerging market and developing economies (EMDEs) are expected to return between-country inequality to the levels of the early 2010s.

Within-country income inequalities:

- Pandemic has also caused within-country income inequalities.
- Lower-income population groups have been hurt disproportionately, and the pandemic has raised extreme poverty rates.
- Within-country inequality remains particularly high in EMDE regions that account for about two-thirds of the global extreme poor.
- The increase in within-country inequality (measured by Gini coefficient) has been driven by particularly severe job and income losses during the pandemic among low-skilled workers, low-income households, informal workers, and women

Measures Recommended to Address Inequalities:

- To steer the global recovery onto a more equitable development path, the report recommended following measures.

By National Governments:

- To lower within-country inequality, national Governments can initiate
- targeted government support to the most vulnerable groups hit hard by the pandemic - women, low skilled workers, urban informal sector workers, and small enterprises.
- measures to broaden access to health care and education, as well as finance to reduce inequality of opportunity,
- fiscal measures to raise government revenues, and
- productivity-enhancing reforms

Developed Countries:

- The global community (developed countries) can support national efforts by accelerating vaccine provision, debt relief where needed, and maintaining an open and rules-based trade and investment climate.

Why Countries Should Address Inequalities:

- Reducing income inequality is important for many reasons.
- Income inequality is often accompanied by poverty and inequality of opportunity.
- Low-income households face greater challenges in investing in adequate education, thereby **limiting the next generation's job and income prospects.**
- Countries with wider income gaps may face higher **risks to social and political stability.**
- These risks have the potential to **undermine sustained economic growth and development.**

Additional Information:

What is Gini coefficient?

- The Gini coefficient is a measure of income inequality across a population. It is the most frequently used measure of economic inequality.
- It **quantifies the amount of inequality that exists in a population** based on the **dispersion of income** across the entire income distribution. It was developed by the Italian statistician Corrado Gini in 1912.
- The Gini coefficient ranges from 0 to 1 (0 % to 100%).
- 0 (0 %) indicates perfect equality (where everyone receives an equal share).
- 1 (100 %) indicates perfect inequality (where only one recipient or group of recipients receives all the income).
- However, the above-mentioned scenarios are extremely rare in the real world. The coefficient generally ranges from 24% to 63%.
- The Gini coefficient can also be used to measure wealth inequality

RC REDDY IAS STUDY CIRCLE

NATIONAL POLITY

Hate Speeches:

Supreme Court Issues Notices to Uttarakhand Government on Haridwar Hate Speeches

- In January 2022, Supreme Court issued notice to Uttarakhand government on a public interest litigation (PIL) seeking independent investigation into **hate speeches** made at Haridwar Dharma Sansad, a Hindu Religious Conclave.

Details:

- A three day Dharma Sansad, a Hindu Religious Conclave, held in Haridwar witnessed a series of inflammatory and provocative speeches made against Muslims. Based on the video footage, Uttarakhand police filed cases against five of the speakers on charges of promoting enmity between groups and outraging religious sentiments.
- However, considering the nature of inflammatory speeches and delay in filing cases by the Uttarakhand police, a Public Interest Litigation (PIL) was filed in the Supreme Court by Delhi resident Qurban Ali and Senior Advocate Anjana Prakash seeking a direction for "an independent, credible and impartial investigation" by a special investigation team (SIT) into the incidents of hate speeches against a community.

What is hate speech?

- Hate speech is a subject of frequent debate in India.
- But, hate speech has not been defined in any law in India.
- However, legal provisions in certain legislations prohibit select forms of speech.

Legislations around Hate speech:

- Presently, under the Indian Penal Code (IPC), 1860, the following provisions have bearing on hate speech.
- **Section 124A IPC** penalises sedition
- **Section 153A IPC** penalises 'promotion of enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony'.
- **Section 153B IPC** penalises 'imputations, assertions prejudicial to national-integration'.
- **Section 295A IPC** penalises 'deliberate and malicious acts, intended to outrage religious feelings of any class by insulting its religion or religious beliefs'.
- **Section 298 IPC** penalises 'uttering, words, etc., with deliberate intent to wound the religious feelings of any person'.
- **Section 505(1) and (2) IPC** penalises publication or circulation of any statement, rumour or report causing public mischief and enmity, hatred or ill-will between classes.

Law Commission Definition of Hate Speech:

- The Law Commission of India, in its 267th Report defined hate speech as an incitement to hatred primarily against a group of persons defined in terms of race, ethnicity, gender, sexual orientation, religious belief and the like.
- Thus, hate speech is any word written or spoken, signs, visible representations within the hearing or sight of a person with the intention to cause fear or alarm, or incitement to violence.

What are the consequences of hate speeches?

- They **attack on the dignity of the individuals** (their standing as equal members in a society)
- **Loss of dignity and self-worth** of the targeted group members contributes to disharmony amongst groups, erodes tolerance and open-mindedness which are a must for multi-cultural society committed to the idea of equality
- Thus, they **weaken the diversity and pluralism in the country.**
- They also **threaten the unity and integrity of the nation.**
- They are also **against the Preamble to the Constitution** which speaks of **fraternity** (brotherhood among citizens), and equality.

Law Commission's Recommendations on Hate Speech:

- The Law Commission has **proposed that separate offences be added to the IPC to criminalise hate speech quite specifically** instead of being subsumed in the existing sections concerning inflammatory acts and speeches. It has proposed that two new sections, Section 153C and Section 505A, be added.
- **Section 153C** should make it an offence if anyone (a) uses gravely threatening words, spoken or written or signs or visible representations, with the intention to cause fear or alarm; or (b) advocates hatred that causes incitement to violence, on grounds of religion, race, caste or community, sex, gender identity, sexual orientation, place of birth, residence, language, disability or tribe. It proposes a two-year jail term for this and/or a fine of Rs. 5,000 or both.
- **Section 505A** proposes to criminalise words, or display of writing or signs that are gravely threatening or derogatory, within the hearing or sight of a person, causing fear or alarm or, with intent to provoke the use of unlawful violence against that person or another. It proposes a prison term of up to one year and/or a fine up to Rs.5,000 or both.

Parliamentary Standing Committee Recommendation:

- Furthermore, the 189th Report of the Parliamentary Standing Committee on Home Affairs, in 2015, recommended the incorporation of separate and specific provisions in the Information Technology Act to deal with online hate speech. None of the recommendations have been acted upon and this has partly given rise to ambiguity in construing hate speech by various constitutional courts.

LEGISLATURE:

Supreme Court Quashes One-year Suspension of 12 BJP MLAs in Maharashtra

- In January 2022, Supreme Court revoked the one-year suspension of 12 Maharashtra BJP legislators, calling it an "irrational" act which is not in the interest of healthy democracy.

Details:

- 12 MLAs of the opposition Bharatiya Janata Party (BJP) were suspended for a period of one year in July 2021 through a resolution by the Maharashtra Assembly for 'gross disorderly conduct' in the House.
- Suspended MLAs filed petitions in the Supreme Court challenging the Maharashtra Assembly's resolution. The Supreme Court in its judgement delivered in January 2022 revoked the suspension on the following grounds.

1. Irrationality:

Under the Assembly Rules of Business, the Speaker is required to adopt a "graded approach", based on objective and rational standards to ensure that the House functioned smoothly.

Suspension may be resorted to merely for ensuring orderly conduct of the business of the House during the concerned Session. Anything in excess of that would be irrational suspension as this would lead to a situation where the constituency would remain unrepresented in the Assembly.

Punitive Character:

Suspension of members or their withdrawal was meant to protect the House from disturbances or obstruction. The power of suspension was different from the privilege to inflict punishment on a member.

Suspension for a period of one year would assume the character of punitive and punishment worse than expulsion as it creates a de facto vacancy though not a de jure vacancy.

2. Violation of Natural Justice:

There was a gross violation of the principles of natural justice by not allowing the suspended MLAs an opportunity to be heard.

3. Manipulation of the strength of the House:

When ruling Governments have a thin majority (Coalition Government in the present case of Maharashtra), these suspensions for prolonged periods can be used to manipulate the numbers of the Opposition Party in the House in an undemocratic manner.

4. Against the interests of healthy democracy:

Prolonged suspensions would also cripple the Opposition parties' ability to effectively participate in the discussion/debate in the House owing to the constant fear of its members being suspended for longer period. There would be no purposeful or meaningful debates. Debates would be as per the whims of the majority which would not be healthy for the democracy.

SOCIAL ISSUES:***Women:*****Should Marital Rape Be Criminalised**

- In January 2022, the Central Government sought more time in Delhi High Court to formulate its stand on the criminalisation of marital rape under Section 375 of the Indian Penal Code (IPC).
- The Delhi High Court is hearing a batch of petitions challenging the constitutionality of exception in Section 375 of the Indian Penal Code (IPC), which exempts husbands from being prosecuted for rape within marriage.

Details:**What is Rape?**

- Section 375 of the Indian Penal Code (IPC) deals with the 'Rape' offence.
- Under this section, a man is said to have committed rape if he has a sexual intercourse with a woman without her consent.
- The offence of rape is punishable with a minimum imprisonment of 10 years and a maximum of life imprisonment.

What is Marital Rape?

- Section 375 of the IPC provides exemption to the consent in marital relationships i.e. such consent is not needed between husband and wife (provided wife is above 18 years of age).
- If a man has a sexual intercourse with his wife against her consent, it is not considered as rape. This is being termed as marital rape by women rights activists.
- This legal exception protects the men who have forced non-consensual intercourse with their wives.

Why is Exemption Provided?

The Law on rape evolved during the colonial times was based on the following presumptions.

1. Implied Consent:

There is "implied consent" and "expectation of conjugal sexual relationship" in a marriage. The social construct of "marriage," is based on implied physical, sexual, and emotional companionship.

2. Consent is perpetual:

Through marriage a woman gives consent to her husband in perpetuity. She is not supposed to retract her consent. However, this is being seen as an antiquated idea where a woman is treated as property of the man.

3. Responsibility of women:

This is also assumption that a woman is duty-bound or is obligated to fulfil sexual responsibilities in a marriage. Since the husband has a reasonable expectation of sex in a marriage, a woman who is wife cannot deny it.

Why there is demand for criminalisation of marital rape?**1. Violation of Fundamental Rights:**

The exemption given to marital rape violates fundamental rights of women namely Right to Equality (Article 14), Right to Life with Dignity and Right to Privacy (Article 21).

The existence of marital rape exemption takes away married women's right to sexual autonomy, bodily integrity and right to say 'No'.

"Implied consent" in a marriage cannot be considered "irrevocable consent," and a woman must have the freedom and choice to say "No."

Continuation of marital rape exemption encourages the subordination of women within their private lives.

2. Not a reasonable classification:

The exemption also discriminates between married and unmarried women. It creates an unreasonable classification between married and unmarried women and, by corollary, takes away the right of a married woman to give consent to a sexual activity.

3. Outdated Legal Provision:

Marital rape exemption is based on the 17th-century legal principles that regarded women as "property of the husband," with no decision-making power or autonomy. In modern democracies like India, such exemption violated woman's bodily autonomy (Right to Privacy under Article 21) and Right to Equality (Article 14).

Why there is opposition to criminalisation of Marital Rape?

1. Preserving the Institution of Marriage:

The exemption of marital rape as criminal offence is aimed at preservation of the institution of the family.

Criminalising marital rape may destabilise the institution of marriage by false, fabricated and motivated complaints of 'rape' by 'wives' against 'husbands'.

2. Excessive Interference:

The Government is concerned whether removal of marital exemption would amount to excessive interference of State in the institution of marriage.

3. Potential for Misuse:

Making a marital rape a criminal offence may also lead to potential misuse of law by wives.

However, this argument is opposed by the women rights activists stating that a potential for misuse cannot be the reason for not criminalising marital rape. Instead, loopholes which have the potential for exploitation should be plugged.

4. Availability of Alternatives:

Married women who might be subjected to rape by their husbands have other legal recourses such as filing for divorce, a case of domestic violence (under Protection of Women from Domestic Violence Act) or a case under section 498A (cruelty by husband) of Indian Penal Code (IPC).

However, women rights activists counter the above argument stating that existence of alternate remedies cannot validate the exemption from prosecution for rape.

Such idea trivialises the real violation that is inherent in rape. Rape laws aim to protect not just physical safety but also preserve the sexual autonomy of women and deal with the unique nature of rape offence.

How is marital rape treated in other countries?

- The marital rape exception was overturned and made a criminal offence in UK in 1991.
- Canada (1983), South Africa (1993), Australia (1981) enacted laws that criminalise marital rape.

FOREIGN RELATIONS

Srilanka :

Sri Lankan Economic Crisis

Severe shortage of food grains, medicines, fuel, etc. in Sri Lanka and shortage of foreign exchange reserves to import them is called as Sri Lankan Economic Crisis

Extent of economic crisis:

- Sri Lankan Government is struggling to finance import of even essential commodities like food, medicine, and fuel.

Fuel Shortages:

- There is also shortage of fuel (diesel and petrol) and cooking gas in the country as their imports were affected by non-payment of dues.

Power cuts:

- The country is dependent on import of coal and fuel oil to run its thermal power plants. The supply of these raw materials was affected due to non-payment of dues for imports. As a result, the country is experiencing power cuts of more than 10 hours per day.
- Due to shortage of paper, school examinations for students were postponed, and
- major newspapers suspended print editions due to shortage of newsprint.

70 % Reduction in Forex Reserves in 2 Years:

- Foreign currency reserves of Sri Lanka declined by about 70% in the last two years.
- They stood at around \$2.3 billion by February 2022 (from the level of US \$ 7.6 billion at the end of 2019).
- Out of this \$2.3 billion, there are certain amounts that the Central Bank cannot use immediately, such as the gold stock, terms of Sri Lanka with the International Monetary Fund and also 1.6-billion yuan facility that had been granted by the People's Bank of China to Sri Lanka.
- So, the usable foreign reserves at the end of February was about \$400 million, which was not sufficient even to meet imports for one week for the country.
- On the other hand, Sri Lanka has to make external debt payments of about \$7 billion in the year 2022 while continuing to import essential commodities from its dwindling forex reserves.
- The total external debt of Sri Lanka is US \$ 51 billion. Out of this, US \$ 12.5 has been raised through international sovereign bonds (Government securities issued in foreign currency mainly dollars).

What are the reasons for the present crisis?

- The impact of COVID-19 pandemic and some unwise policy decisions of the Government are the reasons for the present economic crisis in Sri Lanka

COVID-19 Impact:

Sectors which generate foreign exchange for the country were severely affected due to the impact of the COVID-19. These are

- Tourism,
- Garments Exports,
- Tea exports,
- Rubber exports, and
- Remittances

Tourism almost came to a halt as COVID-19 led to travel restrictions. Tourism accounts for 12% of Sri Lanka's GDP.

Reduced demand for exports like garments, tea and rubber also due to the impact of COVID-19 in importing countries.

Remittances from workers settled abroad also declined due to COVID-19 as it resulted in job losses of some. Sri Lanka was getting around \$650 million by remittances per month, but that had fallen to \$200 million by February 2022.

Other Reasons for Economic Crisis:

1. Unviable Infrastructure projects:

After the end of civil war with LTTE in 2009, Sri Lanka embarked on a series of infrastructure projects (ports, airports, etc) for economic transformation of the country most of them financed by China. However, most of these projects were economically unviable. Hence, most of them are struggling to recover operating costs. But, Sri Lanka has to spend foreign exchange reserves (dollars) for repayment of these loans.

2. Central Bank Decisions:

The Central Bank of Sri Lanka also liberally extended credit to the Sri Lankan Government which fuelled inflationary pressure in the economy due to higher money supply. The rising demand for goods was met through imports which also contributed to decline of foreign exchange reserves.

(Normally, the Central Bank keeps money supply growth equal to the real economic growth (growth adjusted to inflation) in the economy, plus another 5 to 6 percent to facilitate the transactions. So, if the real economic growth is say 5 percent, the Central Bank would allow the money supply to grow by 11 percent. But, in case Sri Lanka, what happened was the real economic growth has been actually close to zero during 2020 and 2021. Because in 2020, it was negative by 3.6 percent. In 2021, it was positive by 3.7 percent. But the money supply has increased by 40 percent, which led to tremendous inflationary pressure. Inflation stood at 16.8 per cent in February 2022 and 18.7 in March 2022).

3. Tax Reductions:

The present Government headed by Gotabaya Rajapaksa came to power in 2019. During the election campaign, he promised lowering of taxes. After coming to power, he reduced value added tax (VAT) rates from 15% to 8% and raised annual income threshold for waiver of personal income tax from 500,000 LKR (Sri Lankan rupee) to LKR 3,000,000.

Close to 4% of the GDP was lost in taxes foregone.

The COVID-19 pandemic in 2020 made the bad situation worse. Exports of tea, rubber, spices and garments suffered and Tourism arrivals and revenues fell further. The pandemic also necessitated a rise in government expenditures. All this led to fiscal deficit exceeding 10% in 2020 and 2021.

The ratio of public debt to GDP rose from 94% in 2019 to 119% in 2021. As a result, Sri Lanka's ability to raise external debt (which would have brought dollars into the country) got affected

4. Ban on Import of Fertilisers:

Sri Lanka annually spent about \$260 million (or about 0.3% of its GDP) on fertiliser subsidies. Most of the fertilisers are imported. To prevent the drain of foreign exchange reserves, the Gotabaya government in May 2021, banned import of all fertilisers and declared that Sri Lanka would become a 100% organic farming nation

This policy was withdrawn in November 2021 after protests by farmers and warning of yield losses by agricultural scientists. However, the ban on import of fertilisers for 7 months did affect the yields of crops like rice, rubber, and tea. As a result, Sri Lanka began importing rice from India to meeting the domestic demand.

5. 2019 Terrorist Blasts:

In April 2019, Sri Lanka was rocked by deadly blasts by terrorists which killed more than 250 people. Terrorists linked to Islamic State carried out coordinated blasts in 8 places in cities of Colombo, Batticaloa, and Negombo mainly on Churches and high-end hotels on Easter Sunday on April 21, 2019.

The blasts took a heavy toll on tourism industry of Sri Lanka as it became to be seen as unsafe destination for international tourists. Consequently, the number of international tourists fell sharply leading to a decline in foreign exchange reserves.

How is Sri Lanka Tying to Address the Economic Crisis?

- It is seeking assistance from friendly countries like India, China and Bangladesh by way of loans, currency swaps, and credit lines for import of essentials like rice, fuel, medicines (procuring these commodities on credit i.e. on the promise of future payments), and deferment of past loan repayments including International sovereign bonds.

India's Assistance:

- Beginning January 2022, India has extended assistance totalling US \$ 2.4 billion which includes \$ 400 million RBI currency swap, a \$500 million loan deferment, and credit lines for importing **food, fuel, and medicines.**

-
- China is considering Sri Lanka's recent request for further \$2.5 billion assistance, in addition to the \$2.8 billion it has extended since the outbreak of the pandemic.

IMF's Role:

- Sri Lanka was hesitant to seek assistance from International Monetary Fund (IMF) as it extends assistance only with conditions and approaching friendly countries like India, China and Bangladesh. However, continuation of the economic crisis forced Sri Lanka to change its stance, and seek assistance from International Monetary Fund (IMF). It is negotiating with IMF for securing \$ 3 billion financial assistance.
- IMF assists countries facing Balance of Payments (BoP) crisis based on conditions like devaluation of currency (to make exports competitive and reduce imports), reducing fiscal deficit, tax reforms, rationalising Government expenditure, measures to encourage foreign investment to improve competitiveness of the economy, etc.

What Measures can help Sri Lanka in the Long term?

- Diversification of export base along with exports of traditional items like tea, garments, tourism, and rubber.
- Expansion of Manufacturing Sector.
- Apart from tourism, other services like Information Technology, and Business Process Outsourcing have to be developed which can increase foreign exchange earning opportunities for Sri Lanka.
- Sri Lanka should also adopt judicious approach in allowing foreign investments in order to ensure that they ensure a win-win situation for both (investor and the Sri Lankan economy). Otherwise, these projects end up sucking more foreign exchange from the Sri Lankan economy.
- From RCR Reddy IAS Study Circle

India-Central Asia:

First India-Central Asia Virtual Summit

- The **first ever India-Central Asia summit** was held virtually in January 2022 at the initiative of Prime Minister of India Mr. Narendra Modi.
- **Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan** together form the five central Asian Republic countries. These countries were part of former USSR (United States of Socialist Russia) and emerged as independent countries after the breakup of USSR in 1991.

Details:

Significance of Central Asian Republics for India:

1. Geostrategic Location:

Central Asian Republics are located in India's extended neighbourhoods in the north.

In fact, the Central Asian Republics lie at the crossroads of Russia, the Middle East, South Asia and the Far East. Any geopolitical change in the region inevitably extends their impact on several states in the neighbourhood.

2. Abundant natural resources:

As the Central Asian region is rich in oil and natural gas, it has the potential to contribute to energy security of India.

It is also rich in other raw materials like uranium, chromium, lead, zinc, coal, manganese, copper, iron, and gold.

3. Security Interests:

Peace and stability in the Central Asian Republics (CARs) and Afghanistan is important factor for India's security.

Religious extremism and terrorism in Central Asian Republics (CARs) and Afghanistan pose a threat to peace and stability in the extended neighbourhood region through cross-border terrorism.

Hence, India's has long-term strategic interests in forging closer cooperation with the Central Asian states.

4. Drug Trafficking:

Tajikistan and Kyrgyzstan along with Afghanistan are also major producers of opium. There is widespread cultivation of illegal drugs which is a major international menace.

These states are internally unstable and economically weak. Hence, impoverished farming population of this region adopt opium cultivation as it is lucrative option.

Combating drug menace requires closer cooperation with the Central Asian Republics (CARs) along with Afghanistan.

Issues in the India-Central Asian Republics Partnership:

1. Land-locked countries:

Central Asian countries are landlocked. This means merchandise trade cannot be carried on through sea routes. It can be carried on only through land routes from its neighbouring countries and through air cargo.

2. Lack of cooperation from Pakistan and Afghanistan:

For India, the shortest land route to central Asian countries for merchandise trade is through Pakistan and Afghanistan. But trade through this route is not possible due to lack of support from Pakistan due to India-Pakistan border dispute. As a result, trade between India and central Asian countries has to pass through China or Europe.

Hence, India's annual trade with Central Asian Republics is minimal at around US \$ 2 billion. In contrast, China's annual trade with the region stands at US \$ 40 billion.

India does not feature in the list of key trading partners in any of the five Central Asian countries

If trade could be conducted through the shortest route via Afghanistan and Pakistan, India's trade with Central Asian Republics would increase about tenfold or more.

Opportunities for India with Central Asian countries:

1. Trade Route through Iran

India is exploring the development of the trade route via Iran (by developing Chabahar Port) to the Central Asian Republics as well as Afghanistan.

2. Enhancing High-value, Low-volume Trade:

It can also enhance trade in high-value, low-volume commodities via air cargo like pharmaceutical products, coffee, tea, spices, and frozen meat.

3. Foreign Investment:

Indian firms could set up industries in Central Asian countries that produce commodities for the local market there. The goods would then be sold in the local market directly, bypassing the need for transportation through long routes.

4. Oil and Natural Gas:

India can also participate in oil, gas, and minerals exploration in Central Asia. India's share of the find could be sold to China and European countries and the proceeds used to buy goods closer by region. This would solve the problem of transporting India's share of the output of these items to India.

5. Enhancing trade in Services:

Services trade eliminates the need for physical transportation.

Hence, India can enhance trade in services as it has strengths in information technology (IT) services

Services exports from India, especially information technology services, have been increasing steadily since 2000 to countries like Kazakhstan.

Additional Information:

Trade with Central Asian Republics:

- India's annual trade with Central Asian Republics is minimal at around US \$ 2 billion. In contrast, China's annual trade with the region stands at US \$ 40 billion.
- Of the five Central Asian countries, India has had the most trade with Kazakhstan, which is also the largest economy in Central Asia. Turkmenistan is the second most developed economy after Kazakhstan in the central Asian region.

India's Imports from Central Asia:

- Precious and semi-precious stones and jewellery (mostly semi-processed silver), oil, chemicals, iron and steel, machineries, wool, and leather.

India's Major Exports to Central Asia:

- Pharmaceutical products; electrical and mechanical equipment, apparel and clothing, vehicles, ceramic products, coffee, tea and spices.

Map of Central Asian Countries

RC REDDY IAS STUDY CIRCLE



SCIENCE & TECHNOLOGY

SPACE

Somanath appointed as ISRO Chairman

On January 12, 2022, the Appointments Committee of the Cabinet appointed S. Somanath, Director of Vikram Sarabhai Space Centre, as the Chairman of ISRO and as Secretary to the Department of Space, for a combined tenure of three years. Somanath succeeded K Sivan who would complete his tenure on January 14, 2022.

The post of the ISRO chairman, the Space Department Secretary, and the Space Commission chief is held by one person only. The Space Commission is India's highest policy-making body for matters related to space exploration. The PM's Principal Secretary, Cabinet Secretary, National Security Advisor and the Expenditure Secretary are regular members of this 10-member Commission headed by the ISRO chairman.

Dr. Somanath took over the reins of ISRO at a critical juncture when sweeping space sector reforms and critical space missions are set to define the ISRO's future journey. Space sector reforms involve hand-holding the private start-ups so that they emerge as key partners in the sector's development while critical space missions include the Gaganyaan human spaceflight (scheduled in 2023) and Aditya L1, a planned spacecraft to study solar atmosphere.

Reforms in the Indian space sector

In the last few years, the Government of India has undertaken structural reforms as outlined below in the Indian space sector in order to commercialise space technology, and boost private investments in the sector. As part of these reforms, the following key institutions have been set up.

New Space India Limited (NSIL) was set up in March 2019 as a CPSU (Central Public Sector undertaking) under the administrative control of Department of Space (DoS). The NSIL will act as the marketing arm of ISRO to commercially use the Research and Development (R&D) work of ISRO and other agencies working under the DoS. Its main business is manufacturing customised satellites and launch vehicles, providing space-based services including launch services and applications like transponder leasing, remote sensing, space mission management services, and also transferring ISRO's licensed technology to Indian private industry.

Second, the setting up of **Indian National Space Promotion and Authorisation Centre (IN-SPACe)** was announced in June 2020, and it was set up in September 2021 as an autonomous unit under the DoS to enable the private players to independently carry out their space activities (i.e., developing launcher, building satellites, developing applications, establishing ground infrastructure) instead of being simply vendors or suppliers to ISRO as is the case now. For this, the IN-SPACe provides private players with access to the DoS's facilities and expertise. Pawan Kumar Goenka, from the automobile industry (a former MD of Mahindra & Mahindra), has been appointed as the IN-SPACe's first chairman because ISRO does not have the sort of business acumen that is required to substantially raise its share in the global space economy, from its current meagre 2%. Both the PSUs of DoS - Antrix and NSIL - have been led by personnel appointed from among the ISRO's senior staff.

Third, an **Indian Space Association (ISpA)** was launched on October 11, 2021 as a collective voice of private aerospace companies to represent their interests before the IN-SPACe. This

industry body (ISpA) has representatives of ISRO, telecom companies, Geographical Information Service (GIS) providers, manufacturers and other stakeholders of the Indian space program. One of ISpA's main objectives is to supplement the Government's efforts towards making India a global leader in commercial space exploration and space-based communication. Especially space-based communication is crucial to the country's Digital India program where most of the Government services are delivered to the consumer directly.

Why is private sector participation necessary?

Since Independence, **Indian space industry is dominated by public institutions, particularly the ISRO.**

Currently, India constitutes only 2 to 3% of the rapidly growing global space market. Only 2% of this market is for rocket and satellite launch services, which require fairly large infrastructure and heavy investment while the remaining 95% relate to satellite-based services, and ground-based systems. **Indian private industry is unable to compete** in this market because its role has so far been confined to being mere suppliers of components for ISRO's satellites and launch vehicles and because it has no resources or technology to take up independent space projects of the kind that the US companies such as SpaceX have been doing, or to provide space-based services. SpaceX, which designs, manufactures and launches advanced rockets and spacecraft, is developing a constellation of communication satellites, Starlink, for providing space-based internet service in remote areas.

On the other side, **the ISRO is unable to meet the rising demand for space-based services across sectors such as** weather, agriculture, transport, etc. within India. At the same time, **there are several Indian companies waiting to make use of these opportunities.** According to a global report SpaceTech Industry 2021, with 368 private space firms, India is leading whereas China (288), France (269), and Spain (206) are lagging behind. About 27 proposals have reached the Government of India from private companies for developing launch vehicles, building and operating satellites and establishing ground infrastructure. ISRO is ready to help them by offering its facilities to them.

Thus, ISRO has moved from a supply-driven model to a demand-driven model for maximum utilisation of space technology for e-Governance. **This will benefit ISRO not only commercially but also strategically** because too much of ISRO's resources are currently consumed by routine or commercial activities and there is no reason why ISRO alone should be launching weather or communication satellites. As the NSIL takes over ISRO's routine or commercial activities and the IN-SPACE governs participation of private players in the Indian space sector, ISRO can, like NASA, focus more on advanced R&D, space exploration and human spaceflight. In the coming years, ISRO is to launch ambitious missions (i.e., to the Moon, to the Sun, and a human spaceflight, and, possibly, a human landing on the Moon).

Supreme Court upholds the NCLT order to liquidate Devas Multimedia

On January 17, 2022, dismissing the petition of Devas Multimedia, the Supreme Court upheld **an order of the National Company Law Tribunal (NCLT) to liquidate Devas Multimedia on the ground that the firm was created in a fraudulent manner, aimed at just siphoning funds from India to various foreign accounts.**

On May 25, 2021, the NCLT had ordered liquidation of Devas Multimedia. In September 2021, this NCLT order was upheld by the National Company Law Appellate Tribunal (NCLAT) but was subsequently challenged by Devas Multimedia in the Supreme Court.

The SC noted that what started out as Devas (Gods) ultimately turned out to be Asuras (Demons). Devas, once touted as an outfit set to revolutionise digital media and broadcasting services via satellite, ended up as a case of fraud and corruption on CBI investigation.

In order to understand the rationale behind the NCLT's order for liquidating Devas, we need to get into the commercial relationship (Devas-Antrix contract) between Devas Multimedia and the ISRO's commercial arm, Antrix Corporation.

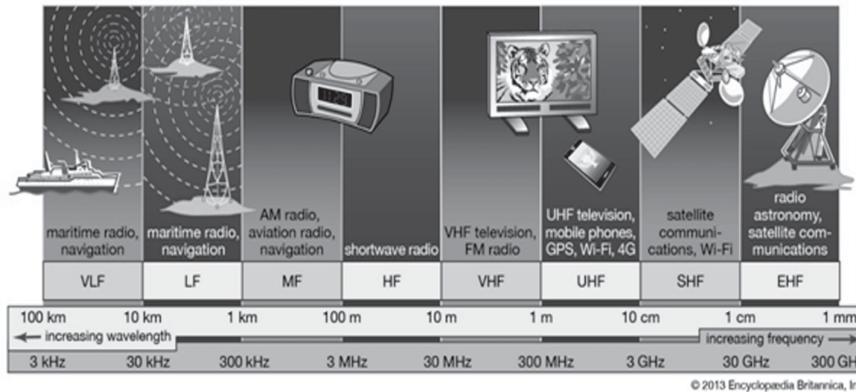
What is the Devas-Antrix contract?

Devas Multimedia Pvt Ltd was incorporated under the Companies Act 1956 on December 17, 2004 by former ISRO employees and a month later (on January 28, 2006), this telecom company signed a contract with Antrix Corporation. Under the contract, ISRO would have to build and launch two communication satellites - GSAT-6 and GSAT-6A - and lease the corresponding S-band spectrum to Devas, which in turn would use it for providing its satellite-based mobile Internet. Consistent with this is its name "DEVAS" (Digitally Enhanced Video and Audio Services).

Why was it cancelled?

The then UPA government cancelled the Antrix-Devas agreement in February 2011 citing "force majeure" (i.e., inability to fulfil a contract under unforeseeable circumstances). The decision was taken in the midst of raging controversy over the 2G spectrum scam and after a leaked draft audit report of CAG which had pointed out serious financial and procedural irregularities in the Devas-Antrix contract.

Though the final CAG report and other panel probes did not find any evidence of bribery, it was alleged that that the Devas-Antrix contract involved allocation, without competitive bidding, of S-band spectrum (exclusively used by the defence purposes) for a pittance causing a loss of nearly Rs.2 lakh crore to the Government. The ISRO failed to inform the Union Cabinet that GSAT-6 and GSAT-6A were customer-specific satellites that would be predominantly used for commercial application developed by Devas.



CIRCLE

S-band is a frequency band of radio waves between 2Ghz and 4Ghz. The 2.5 GHz band (2500-2690 MHz), a part of S-band, is extremely useful for mobile broadband services. It has been put up for auction in many countries fetching their governments billions of dollars. In India, most of this spectrum (150 Mhz) was given to the Department of Space and the rest (20 Mhz) to BSNL and MTNL. BSNL and MTNL were asked to pay Rs.12,847 crore for their 20 Mhz. Of the 150

MHz of space that ISRO owned in the S-band spectrum, Devas was allowed the use of 70 MHz for just ₹1,000 crore.

What led to Devas' liquidation?

Invoking the contract's arbitration clause at many international tribunals and courts, Devas and its foreign shareholders challenged the cancellation of Devas-Antrix contract and won three compensation awards between 2015 and 2020: \$562 million from the tribunal of International Chamber of Commerce, \$111 million from the Permanent Court of Arbitration, and \$132 million as part of the India-Germany Bilateral Investment Treaty. But India has not paid any money and challenged the awards multiple times.

Meanwhile, Devas was suspected of committing various fraudulent activities. It was incorporated with an authorised share capital of Rs.1 lakh divided into 10,000 equity shares with a face value of Rs. 10 each. But after its contract with Antrix, Devas was able to sell its equity shares to foreign investors at the rate of Rs.1.26 lakh per share. After showcasing the foreign investment inflow of Rs. 579 crore into India, Devas transferred Rs. 488 (85%) of it to the US for creating wholly-owned subsidiaries, for business support and for litigation services.

In 2016, under Sections 420 and 120B of **IPC** read with Sections 13(1)(d) and 13(2) of the **Prevention of Corruption Act, 1988**, the CBI filed a chargesheet against the officials of Devas, ISRO and Antrix for indulging in a criminal conspiracy to cause undue gain to themselves or others by abusing their official positions and by causing a loss of about Rs. 578 crore to the Government through the contract. In 2018, under the **Prevention of Money Laundering Act, 2002**, Enforcement Directorate (ED) filed a chargesheet against a former MD of Antrix and officials of Devas. The ED, under the Revenue Department, is responsible for enforcing economic laws and fighting economic crime.

While the probe into the nature of Devas' fraud was pending, Antrix, in January 2021, filed a plea in the NCLT to liquidate Devas on the ground that it was formed with the fraudulent intent of colluding with Antrix's former officials. In May 25, 2021, the NCLT ordered liquidation of Devas which was upheld by NCLAT in September 2021 and by the Supreme Court on January 17, 2022. Antrix had defended the NCLT order arguing that its contract with Devas spoke of 3 components - Devas Technology, Devas Services and Devas Device - none of which had existed at the time of the contract or its termination or even on the date of liquidating the company.

The SC observed, "we do not know if the action of Antrix in seeking liquidation of Devas may send a wrong message to investors, but allowing Devas and its shareholders to reap the benefits of their fraudulent action, may send another wrong message, namely that by fraudulently bringing into India an investment of Rs. 579 crore, the 133 investors can hope to get crores of rupees, even after siphoning off Rs. 488 crore from that investment".

What does the SC's order mean for the arbitration awards and the Government?

Instead of the compensation awarded by arbitration tribunals, Devas has been able to get court rulings, in Quebec and Paris, allowing it to seize assets owned by the Indian government in Canada and France. Devas will continue to push for seizing more assets in other countries.

India has already appealed in Indian as well as US courts against the arbitration awards and seizure orders. Armed with the SC order, India can now argue in international courts that since the contract itself has proven to be a fraud, the awards need to be revoked in the light of fresh evidence.

Conclusion:

The Devas case is **not just an economic fraud but a serious security breach**. A change in the holding pattern of a company can result in serious breach of national security, not to mention financial loss. The Government and its agencies dealing in strategic assets must exercise greater caution.

China's Chang'e-5 lunar lander finds first on-site evidence of water on moon

According to a study published in the journal *Science Advances* on January 7, 2022, China's Chang'e-5 lunar lander had detected signs of water in lunar soil and rocks at its landing site. However, the water found was not much, at roughly 120 parts per million (or 120 grams water per ton) in the soil and 180 parts per million in a light rock.

According to the study, the results are consistent with the analysis of the lunar soil sample that Chang'e-5 had returned to Earth in December 2020. While the returned samples were a mixture of granules both on the surface and beneath, the lander has now detected water on the surface.

According to the study, it was the solar wind that contributed to the most humidity of lunar soil as it brought hydrogen that makes up the water, but the water in the rock may have originated from the lunar interior. In fact, the moon had turned drier within a certain period, owing probably to the degassing of its mantle reservoir.

This is the first-ever on-site evidence of water on the moon.

By measuring the spectral reflectance of the soil and the rock, the lunar lander detected water on the spot for the first time. Previously, water on the moon was first definitively detected remotely from orbit by Chandrayaan-1 mission using NASA's Moon Mineralogy Mapper instrument.



What is Chang'e 5?

It is the Chinese National Space Administration's (CNSA) **lunar sample return mission** that was launched on November 24, 2020 from the Hainan Island in China. The mission was monitored in collaboration with the European Space Agency.

The Chang'e-5 mission comprises a lunar orbiter, a lander and an ascent probe that will lift the lunar samples back into orbit and return them back to Earth. A probe comprising all these elements was sent into orbit around the Moon. These elements then separated and on December 1, 2020, the Lander/Ascender landed in the Mons Rumker area of the vast volcanic plain called Oceanus Procellarum (Ocean of Storms) on the near side of the moon. The lander system drilled the soil and rock samples. The ascender vehicle carried the samples (in a sealed container) back into lunar orbit from where they were transferred to an Earth-return module. About 1,731 grams of samples from the moon landed in the Inner Mongolia region on December 17, 2020. This is the same location used to bring Chinese astronauts home.

Named after the Chinese Moon goddess, Chang'e-5 is China's third successful lunar landing but the only one to lift off again from the moon. It is also the **world's first lunar sample-return mission since the Soviet Union's Luna 24 in 1976**. The samples brought by Chang'e-5 from the Moon's volcanic region are thought to be billions of years younger than those obtained by the U.S. and former Soviet Union, offering new insights into the history of the moon and other bodies in the solar system.

Back to the moon:

Chang'e-5 is part of the CNSA's Chang'e lunar exploration program aimed at laying the technological groundwork for future human landings on the moon. In fact, the Moon is suddenly at the centre of a new space rush. **Artemis Program** is a US-led international space program

aimed at landing the first woman and the next man on the moon's south pole by 2025 and building sustainable human presence there by 2028.

DEFENCE

Global Nuclear Powers vow to stop the Spread of Nuclear Weapons

On January 3, 2022, five global nuclear powers - USA, UK, France, Russia and China - pledged to prevent spread of atomic weapons and avoid nuclear conflict, in a rare joint statement ahead of reviewing a key nuclear treaty later this year. The Nuclear Non-Proliferation Treaty (NPT), which is to be reviewed every five years, was scheduled to be reviewed on January 4, 2022 but was postponed to later part of this year due to the COVID-19 pandemic.

Noting that a nuclear war cannot be won and must never be fought, the nuclear powers said, "we believe strongly that the further spread of nuclear weapons must be prevented". They also said, "we also affirm that nuclear weapons - for as long as they continue to exist - should serve defensive purposes, deter aggression, and prevent war. We each intend to further strengthen our national measures to prevent unauthorised or unintended use of nuclear weapons".

The political statement is significant because tensions between Russia and the USA have gone up to a level rarely seen since the end of Cold War due to the Russian invasion of Ukraine. Earlier, China's tensions with the USA have also increased over the island of Taiwan. China considers Taiwan as a part of its territory and has vowed to seize it one day, by force if necessary.

What is Nuclear Non-Proliferation Treaty (NPT)?

The Treaty on the Non-Proliferation of Nuclear Weapons (also called 'the Non-Proliferation Treaty or NPT) is an international treaty **to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy, and to promote the goal of nuclear disarmament.**

Under the NPT, **a nuclear weapon state** which is signatory to the treaty should not transfer its nuclear weapons to anybody and should not assist non-nuclear weapon state in obtaining or producing nuclear weapons, whereas a **non-nuclear weapon state** which is a signatory to the treaty, should pledge not to acquire nuclear weapons and not to seek assistance in their manufacture. The non-nuclear weapon state should also pledge to accept the IAEA's safeguards to verify that their nuclear activities serve only peaceful purposes. The IAEA (International Atomic Energy Agency) is a UN's specialised agency that promotes peaceful use of nuclear energy and inhibits its use for military purpose.

The NPT was signed in 1968 by the USA, the UK and the Soviet Union (now Russia) and 59 other states. France and China signed the NPT in 1992 after the end of Cold War. Brought into force in 1970, the treaty is reviewed every five years. Though the NPT was conceived only for a 25 year-period, it was, in May 1995, extended indefinitely. With 191 signatory States, the NPT has the **highest number of adherent countries than any other arms control treaty** -- significantly successful in its main goal of nuclear non-proliferation. Only 3 UN member States (India, Pakistan and Israel) have refused to sign the NPT, and one country (North Korea) signed in 1985 and withdrew from it in 2003.

However, **the NPT is inherently unequal** as it binds the non-nuclear States to give up development of nuclear weapons while allowing the established nuclear states to keep theirs. Also, the NPT defines a nuclear-weapon state as one that built and tested a nuclear explosive device before January 1, 1967 - the USA, the UK, Russia, France and China - and these NPT-recognised nuclear States are also the permanent members of UNSC. Thus, it creates a club of

nuclear-haves & a larger group of "nuclear have-nots". This is why **India did not sign the NPT** and adopted a No-First-Use policy, still it supports a time-bound programme of global verifiable non-discriminatory nuclear disarmament.

Though unequal, the NPT has been accepted by most countries because, especially at the time of signing, most non-nuclear states had neither the capacity nor the inclination to follow the nuclear path, and they were well aware of the dangers of proliferation. In addition, it was understood in 1968 that, in return for their special status, the nuclear states would help the non-nuclear states develop civilian nuclear power, and also that the nuclear states would make their best efforts for disarmament.

IAF Chopper Crash Inquiry Rules Out Mechanical Failure, Sabotage or Negligence

The IAF said on January 14, 2022, "the tri-service inquiry into the Mi-17V5 helicopter crash that killed Chief of Defence Staff (CDS) Bipin Rawat and 13 others submitted its preliminary findings. While ruling out mechanical failure, sabotage or negligence as a cause of the accident, the inquiry attributed the crash to unexpected weather change that caused spatial disorientation of the pilot resulting in the CFIT".

The CFIT (**Controlled Flight into Terrain**) is an unintentional collision with terrain (the ground, a mountain, a body of water, or an obstacle) while an aircraft is under positive control. Most often, the pilot or crew is unaware of the looming disaster until it is too late. CFIT most commonly occurs in the landing phase of flight.

The IAF Mi-17V5 helicopter carrying Rawat, his wife, and 12 others including his staff crashed in the Nilgiris in Tamil Nadu when it was enroute to the Defence Services Staff College, Wellington from Sullur. A tri-services inquiry was ordered by the IAF headed by Air Marshal Manvendra Singh to investigate the crash.

What are flight recorders?

According to the IAF, **Flight Data Recorder (FDR)** and **Cockpit Voice Recorder (CVR)** were analysed besides questioning all available witnesses to determine the most probable cause of the accident. There are two types of flight recording devices: the FDR preserves the recent history of the flight based on several parameters while the CVR preserves the recent history of the sounds in the cockpit (area near the front of an aircraft where a pilot controls the aircraft), including the pilot's conversation.

According to the DGCA rules, all aircrafts including helicopter in India must carry an FDR and a CVR. The two devices can survive the conditions of a severe aircraft crash and helps the investigation into the crash. For example, they can withstand a temperature of over 1000°. In case the aircraft crashes into water, a flight recorder's underwater locator beacon sends an ultrasonic sound that can be detected by sonar equipment. The under-water beacon sends the sound for 30 days till its battery runs out.

BrahMos's Extended Range Variant Test Fired

On January 11, 2021, an extended range sea-to-sea variant of the BrahMos supersonic cruise missile was test-fired by the DRDO from INSVishakapatnam, the recently commissioned indigenous 'guided stealth missile destroyer'. The test certifies the accuracy of the ship's combat system and also validates a new capability the missile provides the Navy with.

Named after India's Brahmaputra and Russia's Moskva rivers, BrahMos missile which can carry conventional or nuclear warheads is a product of an Indo-Russian joint venture, BrahMos Aerospace. Its land, air and anti-ship variants of the missile are already in service with the Armed Forces, while its submarine-launch variant was successfully tested in 2013 and is yet to be inducted into the Navy. The Army's BrahMos missile batteries have been deployed in Ladakh and Arunachal Pradesh.

Why was BrahMos' range initially capped at 290 km?

The cruise missiles like BrahMos including all its variants are known as the 'standoff range weapons' which are fired from a range sufficient to allow the attacker to evade defensive fire from the adversary. The range of the missile was originally capped at 290 km due to Russia's obligation under the Missile Technology Control Regime (MTCR). Following India's entry into the MTCR in June 2016, Russia and India decided to extend the range BrahMos initially to 450 km and then to 600 km. BrahMos with extended range upto 450 kms has been already tested several times including the latest test.

The MTCR (Missile Technology Control Regime), formed by G7 countries in 1987, is an informal political understanding, among 35 member states including most of the world's key missile manufacturing countries, for controlling the spread of high-end missile technology and unmanned delivery systems (that could be used for chemical, biological and nuclear weapons) by restricting their export of missiles and related technologies that can deliver a



payload of at least 500 kg to a range of beyond 300 km. While Russia joined the group in 1995, India joined it in 2016. Hence, till 2016, Russia had not been allowed to engage in joint production of beyond-300 km range missiles with non-member states such as India.

BrahMos: India's defence exports

On January 28, 2022, **Philippines** signed a \$374.96 million deal with BrahMos Aerospace Private Ltd. for the supply of shore based anti-ship variant of the BrahMos supersonic cruise missile. The deal includes the delivery of three BrahMos missile batteries, training for operators and maintainers as well as the necessary Integrated Logistics Support (ILS) package.

This is the first export order for the missile and also the biggest defence export contract of the country. It is an impetus to the GoI's efforts to achieve a domestic manufacturing turnover of \$25 billion or ₹1,75,000 crore (including exports of Rs. 35,000 crore) in aerospace and defence goods and services by 2025, a goal of the draft Defence Production and Export Promotion Policy 2020.

Philippines is looking at India for a whole range of military hardware as part of largescale military modernisation. For instance, Hindustan Aeronautics Limited (HAL) has received interest from Philippines Coast Guard to supply 7 Dhruv Advanced Light Helicopters and 8 Dornier Do-228 aircraft under the \$100mn Line of Credit extended by India earlier.

In fact, South East Asia has emerged as a major focus for India's defence exports as ASEAN countries have territorial issues with China in the South China Sea. Vietnam, Indonesia and

Philippines wish to procure Indian missiles for defending their coastline. The next export order for BrahMos is likely to be concluded soon, as negotiations with Indonesia and Thailand are in advanced stages.

ENVIRONMENT:

Forests:

India State of Forest Report 2021

'India State of Forest Report 2021' was released in January 2022.

Details:

- It is a biannual report released by the Forest Survey of India (FSI), an organisation under Ministry of Environment, Forests and Climate Change. It monitors the India's forest and tree cover resources
- The first 'India State of the Forests Report' was released in 1987.

What is the Significance of Forests?

Forests and tree cover are vital to the existence of life on earth.

1. Forests play an important role in the mitigation of the impacts of climate change.
2. They act as natural sinks for carbon dioxide which is a major contributor to climate change (global warming).
3. They also serve as source of habitat for diverse flora and fauna (plants and animals) thereby protecting the biodiversity on earth.
4. Forests have an important role in controlling floods. Firstly, they absorb more rainwater due to dense tree cover which have deep roots. Second, trees also act as barrier to the flow of rain water thereby controlling floods.
5. Forest cover also has impact on the climate of a region. Reduction of forest cover leads to rise in temperature, reduced rainfall, and consequently droughts.

Various services provided by forests are classified into following categories.

1. **provisioning services** such as food (fruits, honey, etc), water, timber;
2. **regulating services** such as climate and water quality regulation;
3. **supporting services** such as nutrient cycling, soil formation; and
4. **cultural services** such as recreation and spiritual benefits.

Major Findings of the 2021 Report:

- **Total forest and tree cover of the country:** 80.9 million hectare
- **Percentage of geographical area of the country:** 24.62 %.
- As compared to the assessment of 2019, there is an increase of 2,261 sq km in the total forest and tree cover of the country. Out of this, the increase in the forest cover has been observed as 1,540 sq km and that in tree cover is 721 sq km.
- Increase in forest cover has been observed in open forest followed by very dense forest.
- Northeastern states, which together account for 23.75 per cent of India's total forest cover and are among its biggest biodiversity hotspots, saw a decrease of 1,020 sq. km of forest cover between 2019 and 2021.

-
- Arunachal Pradesh, Nagaland and Manipur saw the highest loss of forest cover among all eight Northeastern states - 257 sq. km, 235 sq. km, and 249 sq. km, respectively.

Top three states showing increase in forest cover:

1. Andhra Pradesh (647 sq km)
2. Telangana (632 sq km) and
3. Odisha (537 sq km).

States with Largest Area under Forest Cover:

1. Madhya Pradesh
2. Arunachal Pradesh,
3. Chhattisgarh,
4. Odisha, and
5. Maharashtra

Top five States In terms of forest cover as percentage of total geographical area:

1. Mizoram (84.53%),
2. Arunachal Pradesh (79.33%),
3. Meghalaya (76.00%),
4. Manipur (74.34%)
5. Nagaland (73.90%).

States with Forest and Tree Cover of above 33 percent:

- National Forest Policy 1988 aims at bringing at least 33 % of geographical area in the country under Forest and tree cover.
- (Forest cover is defined as any piece of land over 1 hectare with a tree canopy cover of more than 10 per cent, including plantations like bamboo, tree orchards, and oil palm.
- Tree cover refers to patches of trees in an area less than one hectare, including isolated trees outside recorded forest areas.)
- As per the 2021 report, 17 states/Union Territories in India have above 33 percent of the geographical area under forest cover.
- Out of these states and UT's, five states/UTs namely Lakshadweep, Mizoram, Andaman & Nicobar Islands, Arunachal Pradesh and Meghalaya have more than 75 percent forest cover while 12 states/UTs namely Manipur, Nagaland, Tripura, Goa, Kerala, Sikkim, Uttarakhand, Chhattisgarh, Dadra & Nagar Haveli and Daman & Diu, Assam, Odisha, have forest cover between 33 percent to 75 percent.

Mangrove Cover:

- Total mangrove cover in the country is 4,992 sq km.
- An increase of 17 sq Km in mangrove cover has been observed as compared to the previous assessment of 2019.

- Top three states showing mangrove cover increase are Odisha (8 sq km) followed by Maharashtra (4 sq km) and Karnataka (3 sq km).

Carbon Stock:

- Total carbon stock in country's forest is estimated to be 7,204 million tonnes.
- There is an increase of 79.4 million tonnes in the carbon stock of country as compared to the last assessment of 2019.
- The annual increase in the carbon stock is 39.7 million tonnes.

Data on Forest and Tree Cover in the Country (2021 Report):

| Class | Area (Sq. km) | % of Geographical Area |
|-----------------------------|---------------|------------------------|
| Very Dense Forest | 99799 | 3.04 |
| Moderately Dense Forest | 306890 | 6.33 |
| Open Forest | 307120 | 9.34 |
| Total Forest cover | 713789 | 21.71 |
| Tree Cover | 95748 | 2.91 |
| Total Forest and Tree Cover | 809537 | 24.62 |

Indian Forests in Comparison with other Countries (2020):

| S.No | Country | Forest Area (000 Hactares) | % of World Forest Area | % Country Area under Forests |
|------|-----------|----------------------------|------------------------|------------------------------|
| 1. | Russia | 815312 | 20 | 49.8 |
| 2. | Brazil | 496620 | 12 | 59.4 |
| 3 | Canada | 346928 | 9 | 38.7 |
| 4 | USA | 309795 | 8 | 33.9 |
| 5 | China | 219978 | 5 | 23.3 |
| 6 | Australia | 134005 | 3 | 17.4 |
| 7 | Congo | 126155 | 3 | 55.6 |
| 8 | Indonesia | 92133 | 2 | 49.1 |
| 9 | Peru | 72330 | 2 | 56.5 |
| 10 | India | 72160 | 2 | 24.3 |
| | Total | 2620316 | 66 | |

IUCN Red List:

Red Sanders Placed in 'Endangered Species' Category in IUCN Red List

- In January 2022, the International Union for Conservation of Nature (IUCN) placed the Red Sanders (commonly called Red Sandalwood) in the 'endangered' category in its Red List. It is the most smuggled wood in the country.

Details:

What is IUCN Red List?

- International Union for Conservation of Nature's (IUCN) is a devoted organisation set up in 1948
- Governments and civil society organisations are members of the IUCN. At present it has membership of more than 1400 organisations.
- IUCN also played a fundamental role in the creation of key international conventions, including the Ramsar Convention on Wetlands (1971), the World Heritage Convention (1972), the Convention on International Trade in Endangered Species, (1974) and the Convention on Biological Diversity (1992).
- Since 1964, IUCN has been maintaining a list of threatened species (animal, fungus and plant species).
- The 'IUCN Red List of Threatened Species' is the world's most comprehensive information source on the extinction risk of animals, fungi and plants.
- The Red List has **seven levels of conservation**: Least concern, Near Threatened, Vulnerable, Endangered, Critically endangered, Extinct in the wild, and Extinct. Each category represents a different threat level.

Threatened Species:

The following 3 categories are clubbed under 'Threatened Species' by IUCN

- Critically Endangered
- Endangered
- Vulnerable

Division of Threatened Species into above 3 categories is based on the following criteria.

- Population reduction
- Restricted Geographic Range
- Small population size & decline
- Very small or restricted population
- Extinction possibility analysis.

About Red Sanders:

- Red sanders was placed under **endangered category** in the IUCN Red List in 1997. In 2018, it was placed under near threatened category. But in 2022 January, it was placed again in "endangered category" based on the fresh evidence. IUCN updates its RED List every year more than once based on the available evidence.
- Endangered species face the risk of extinction if adequate measures are not taken for its conservation.
- Red sanders is commonly called red sandalwood and its scientific name is 'Pterocarpus santalinus'.
- It is endemic tree species found in some hill ranges in southern part of Eastern Ghats in Andhra Pradesh.

-
- **Hill Ranges where Red Sandalwood:** Seshachalam, Veligonda, Lankamala and Palakonda Hill ranges
 - **Districts located in these hill ranges:** Kadapa, Nellore, Chittoor and Prakasham.
 - **Area Distribution:** It is distributed in very limited area of about 5.83 Lakh Hectares.

Why Red Sanders has been placed in 'Endangered' category?

- Red Sanders is found in its present geographic range since the 16th century and largely retained its geographic range despite harvesting.
- But, there is a severe decline in the population of the species in the recent decades as it has been over harvested mainly due to illegal trade of these species as there is a high global demand for the species.
- Over the last three generations, the species has experienced a population decline of 50-80 per cent. Trees of harvestable size and maturity are scarce and make up for less than 5 % of the trees in the wild.
- The species in high demand in countries like China and Japan as it used in making of **high value products**.
- The wood from the species is strong and durable (It does not develop cracks). Hence, it is used for **furniture** manufacture in China.
- In Japan, it used in making **musical instruments**.
- It is also used in cosmetic products.
- Apart from China and Japan, Red Sanders is also in demand in other countries like Malaysia, Myanmar,

Red Sanders placed under Appendix II of CITES

- Red Sanders has been placed under Appendix II of CITES
- **CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora)** is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species.
- When a species is placed under Appendix II, its trade is controlled in order to avoid utilization incompatible with their survival.
- An export permit may be issued by the Country of origin only if the specimen was legally obtained; the trade will not be detrimental to the survival of the species; and an import permit has already been issued.

Recommendations made by IUCN for conservation of Red Sanders:

The harvest of red sanders is legally restricted in Andhra Pradesh. However, there is illegal harvest and trade of red sanders due to its demand globally. A tonne of Red Sanders costs between Rs 50 lakh to Rs 1 crore in the international market.

Hence, IUCN recommended following measures for the conservation of red sanders species.

1. Enhanced Patrolling:

Patrolling should be enhanced to check smuggling (illegal movement for trade) of red sanders.

2. Encouraging Cultivation in Plantations:

The cultivation of the red sanders species in plantations should be promoted and monitored to facilitate the legal trade.

(There is no ban in India on cultivation of any kind of wood in the private lands but permission from forest department is needed to sell that wood).

Allowing cultivation of the red sanders species in plantations **would relieve some of the pressure on the wild red sanders population.**

However, growing of red sanders is a slow process. It would take around 25 years for the red sanders tree to fully grow into a mature tree.

BIOTECHNOLOGY

Pig Heart Transplantation into Humans

On January 7, 2022, David Bennett, a 57-year-old from Baltimore, Maryland, U.S. became the world's first person to receive a heart transplanted from a genetically-modified pig. Surgeons at the University of Maryland Medical Center transplanted the pig's heart into Mr. Bennett suffering from terminal heart failure.

The transplantation of living cells, tissues or organs from one species to another, especially from animals to humans is called '**xenotransplantation**'. Since this procedure - transplantation of a pig heart into a human - is an experimental procedure, doctors sought an emergency authorisation from the U.S. FDA (Food and Drug Administration). Approval was granted because Mr. Bennett's condition - heart failure and an irregular heartbeat - made him ineligible for a routine human heart transplant, an artificial ventricular assist device and he had no other option.

Why is xeno transplantation becoming more acceptable?

There is a huge shortage of human organs donated for transplant, driving scientists to try to figure out how to use animal organs instead. Last year, nearly 4,000 people in the U.S. received human donor hearts, but the need is far more. The highest demand is for kidneys. According to the Indian Ministry of Health, out of the 0.18 million renal failures in India every year, only about 6000 renal transplants are carried out in the country. About 25,000-30,000 liver transplants are needed annually in India but only about 1,500 are being performed. Even though 50,000 people suffer from heart failure and need a heart transplant, only 10-15 heart transplants are carried out in India each year.

Why were the pigs chosen?

A person's human immune system rejects anything that is foreign to the person's body. Prior attempts at xenotransplantation have failed, largely because patients' bodies rapidly rejected the animal organ. In 1984, Baby Fae, a dying infant, lived 21 days with the heart of a baboon, a primate.

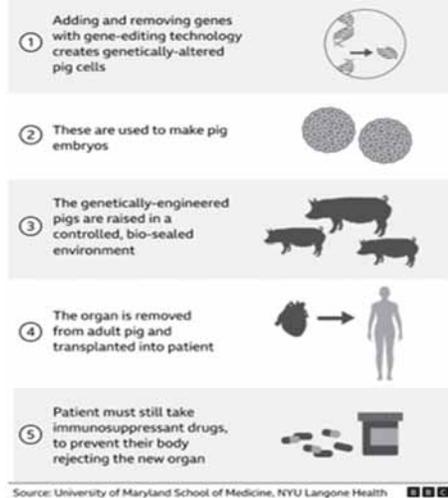
Over the years, scientists have turned from primates to pigs, tinkering with their genes to reduce the risk of organ's rejection by the human body. Despite their immune system being different from humans, pigs have been preferred as ideal for xenotransplantation because the pigs are anatomically similar to humans and their breeding in farms is also widespread and cost-effective. Several biotech companies are developing pig organs for human transplant; the one used for the latest transplant came from Revivicor, a regenerative medicine company and subsidiary of United Therapeutics in the US.

Why and how were the pigs genetically modified?

The pig whose heart was used in the latest transplant had been genetically modified to remove a sugar (on the pig's cell surfaces) that is responsible for immediate rejection of its organ by the human body. This involved removal of 4 genes from the pig's cells and addition of 6 human genes to the cells.

The advent of genome-editing tools such as **CRISPR/Cas9**, which allows precise removal of specific genes, has made gene modification simpler, fast and accurate. A genetically modified pig cell is fused with a pig ovum that has its DNA removed. The ova that contains only the genetically engineered genome start dividing to become pig foetuses. This is the same technique that was used to clone Dolly, the sheep. The embryos are then implanted into surrogate mother pigs. Their development till birth takes just 114 days (gestation period), unlike humans. After the pig is born and grown, its organ is removed just before surgery of the patient and transplanted into the patient's body.

Genetically engineering pigs as organ donors



Lessons and Challenges:

David Bennett died on March 9, 2022 and doctors did not reveal the exact cause of Bennett's death. Rejection, infection and other complications are risks for transplant recipients. Bennett's experience has shown that the genetically modified pig heart can function well within the human body while the human body's immune system is adequately suppressed.

Pigs have long been used in human medicine, including use of pig's skin for treating human skin burns and implantation of pig heart's valves for replacing the damaged human heart's valve. But transplanting entire organs is much more complex than using highly processed tissue. Before enotransplantation of pig's organs become a reality, besides scientific challenges, there are several ethical challenges to overcome such as violation of animal rights for human transplants.

NeoCov: What is this virus and should we be worried

According to a the yet-to-be peer-reviewed study published in the preprint repository BioRxiv on January 25, 2022, NeoCov, a type of coronavirus, that spreads among bats in South Africa may pose a threat to humans in future if it mutates further. But the WHO has said that further studies are required to ascertain NeoCov's threat to humans.

About coronaviruses:

Coronaviruses are a large family of viruses, most of which circulate among animals such as pigs, camels, bats and cats. It is possible that these viruses may spill over to humans, a process called zoonotic transfer/spill-over. Many major infectious diseases, including COVID-19, are widely thought to be a result of this zoonotic spill-over. A number of such human coronaviruses have been identified previously, which mostly cause mild, seasonal infections in humans. Only three coronaviruses have been known to cause serious disease in humans. These are:

-
1. **Severe Acute Respiratory Syndrome (SARS)** emerged in 2002 and resulted in a potentially life-threatening form of pneumonia. It is believed to have spilt over to humans from small mammals. Due to strict screening and quarantine of air travellers, there have been no new cases of SARS since 2004.
 2. **Middle East Respiratory Syndrome (MERS)** was first identified in 2012 and continues to cause sporadic and localised outbreaks. Originally transmitted to humans from camels, MERS starts with fever and cough and develops into pneumonia.
 3. **SARS-CoV-2** that caused COVID-19 was first identified in China in December 2019 and declared a global pandemic by the WHO on March 11, 2020.

What is NeoCov and should we be worried?

NeoCov is not another variant of SARS-CoV-2 but is very similar to the MERS Coronavirus. It was first identified in 2011 and found to infect a bat species (called Neoromicia), mostly found in Africa.

According to the study published in BioRxiv, in its current form the virus cannot infect humans but through further mutation and adaptation, the coronaviruses like NeoCov could gain the ability to infect humans because, given the expanding human population and encroachment of animal habitats, the interactions between humans and animals continue to increase and accelerate the zoonotic spill-over events.

Genomic surveillance of human and animal viruses is therefore the key to understanding the viruses, and possibly provide early warning to zoonotic spill-over events.

Global Research on Antimicrobial Resistance (GRAM) report: The Lancet

Based on estimates from 204 countries and territories, the new Global Research on Antimicrobial Resistance (GRAM) report was published in The Lancet (a weekly peer-reviewed medical journal) on January 20, 2021.

Aimed at generating accurate and timely estimates of the magnitude and trends in antimicrobial resistance (AMR) burden across the world, the research report is a strategic partnership between the University of Oxford Big Data Institute and the Institute for Health Metrics and Evaluation (IHME), a Washington-based global health research institute.

Claiming to be the most comprehensive estimate, till date, of the global burden of bacterial antimicrobial resistance (AMR) in 2019, the GRAM report says: "Bacterial AMR has emerged as a leading threat to public health in 21st Century. A major challenge to tackling AMR is to understand the true AMR burden, particularly in locations where surveillance is minimal and data are sparse. So, no comprehensive estimates have so far been published covering all locations, a range of pathogens and pathogen-drug combinations."

Findings of the report:

1. In 2019, 12.7 lakh deaths were caused directly by AMR (these would not have occurred had the infections been drug-susceptible), which is now a leading cause of death worldwide, higher than HIV/AIDS or malaria. While the death rate was the highest in Western sub-Saharan Africa, over 389,000 people died in South Asia as a direct result of AMR in 2019.
2. Common infections such as lower respiratory tract infections, bloodstream infections, and intra-abdominal infections are now killing lakhs of people every year because the bacteria that cause them have become resistant to their treatment drugs. This includes historically treatable illnesses, such as pneumonia and foodborne ailments.

-
3. E coli, K pneumoniae, S aureus, A baumannii, S pneumoniae, P aeruginosa and M tuberculosis are the 7 leading pathogens that caused the deaths attributable to AMR in 2019. Resistance to fluoroquinolones and β -lactam antibiotics (ie, carbapenems, cephalosporins, and penicillins)-often considered first line of defence against severe infections -accounted for above 70% of deaths attributable to AMR across pathogens.
 4. While all these 7 drug-resistant bacteria, are part of the WHO's list of antibiotic-resistant "priority pathogens" that pose the greatest threat to human health, vaccines are only available for two (S pneumoniae and M tuberculosis) and only these two have been the focus of major global health intervention programs.

What does the report suggest as the way forward?

The report suggests immediate actions for policy-makers to save lives and protect health systems.

- " Greater action to control infections, globally, nationally and within individual hospitals,
- " Expansion of access to vaccines, clean water and sanitation,
- " Reducing the use of antibiotics unrelated to treating human disease, such as in food and animal production.
- " More thoughtful use of antibiotics - expanding access to life saving antibiotics and minimising their use where not necessary to improve human health.
- " Increased funding for developing new antimicrobial drugs targeting 'priority pathogens' such as K. pneumoniae and E. coli.

What is antimicrobial resistance (AMR)?

According to WHO, the AMR is a situation where antimicrobial drugs become ineffective because pathogens such as viruses, fungi and bacteria undergo genetic mutations and become resistant to the antimicrobial drugs. This makes infections harder to treat and raises the risk of disease spread.

For example, antimicrobial chemicals - antibiotic, antiviral and antifungal drugs as well as soaps and disinfectants - get into the sewage from homes and hospitals. Ordinary bacteria in the sewage mix with these chemicals, get genetically modified and develop resistance to the chemicals. These antibiotic-resistant bacteria find their way into waterways, food chain and thus into humans and animals.

Microbes undergo genetic changes and AMR occurs naturally over time. But the process is accelerated by the misuse and overuse of anti-microbials or anti-biotic drugs, lack of access to clean water, sanitation and hygiene (WASH) for both humans and animals; poor infection control in health-care facilities and farms; poor access to quality, affordable medicines, vaccines and diagnostics.

INFORMATION TECHNOLOGY

Code of Practice for Securing Consumer Internet of Things

On January 5, 2022, in order to secure Consumer Internet of Things (IoT) devices, Telecommunication Engineering Centre (TEC), under the Department of Telecom, released a report "Code of Practice for Securing Consumer Internet of Things (IoT)" as a baseline requirement aligned with global standards and best practices. This report is meant for IoT device manufacturers, Service providers/ system integrators and application developers etc.

What is meant by Internet Of Things (IoT)?

It is a network of physical objects (or things ranging from ordinary household objects to sophisticated industrial tools) that are interconnected through the internet. Physical objects that are embedded with sensors, software, and other technologies are connected through the internet for collecting and exchanging data among themselves.

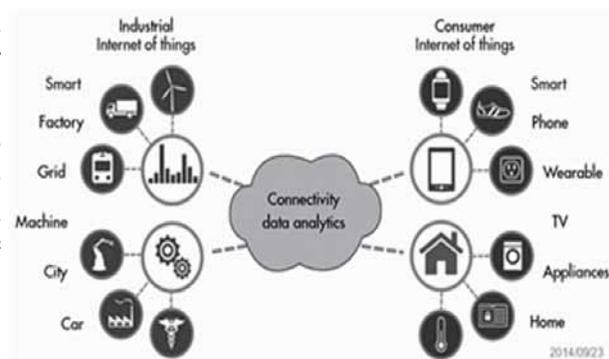
The term 'IoT' is mainly used for things that are not generally expected to have an internet connection, and that can communicate with the network (of which they are part) independently of human action. For this reason, a PC is not generally considered as an IoT device and nor is a smartphone though it has sensors. However, a light bulb that can be switched on using a mobile app is an IoT device and a smartwatch or other wearable device might also be considered as an IoT device.



In fact, the IoT is the next stage of the Internet's evolution. While social media and mass data collection have connected us all in ways most could never have imagined, the IoT will bring an even greater level of connectedness - especially between humans and machines. Although the phrase 'Internet of Things' was coined by Kevin Ashton in 1999, it took another decade for the technology to catch up with the vision. Adding RFID (radio frequency identification) tags to costly pieces of equipment to track their location was one of the first IoT applications. Since then, the cost of adding sensors and an internet connection to objects has continued to fall, making it possible to connect nearly everything to the internet.

What are the IoT's applications?

The IoT offers enormous beneficial opportunities for industry, consumers and society. The IoT was initially most interesting to manufacturing or other businesses where its application is known as **Industrial IoT or IIoT**. The machine-to-machine (M2M) communication in industries has enabled wireless automation and control of production processes. Connected vehicles and smart cities (with numerous sensors spread across the city) could change how we build and manage our public spaces.



However, the emphasis is now on filling homes and offices with connected IoT devices and turning them into smart homes and smart offices, thereby making life more productive and comfortable. For example, an application installed in our smartphone can be used to access all the connected objects in our smart home. Such internet of things, personally used by a consumer, is known as **Consumer IoT or CIoT**.

What are the technologies that make IoT possible?

The IoT is, in fact, the result of recent advances in several emerging technologies such as sensors, mobile communication technologies (especially 5G), artificial intelligence or machine learning, cloud computing, edge computing.

A **sensor** is a device that detects and responds to some type of input (light, heat, motion, moisture, pressure and a range of other physical phenomena) from the physical environment. It collects the data relevant to the "thing" in which it is embedded, and sends the data to other devices in the network.

Although IoT devices use a variety of methods to connect and share data, most of them use wireless connectivity. While the IoT devices in homes and offices will use WiFi and bluetooth, those in industrial settings will use LTE-M (a type of LTE, built for Machine-to-Machine communication). In particular, **5G** mobile network enables fitting as many as one million 5G devices into one km² area, making large-scale industrial IoT applications possible. The IoT devices generate vast amount of data which

might be about an engine's temperature or about whether a door is open or closed or about the reading from a smart meter. All this IoT data are collected, stored and analysed by the **artificial intelligence** (AI) systems. While AI involves building machines that perform tasks that require human intelligence, **machine learning** is a subset of AI which allows a machine to automatically learn from past data without explicitly programming the machine.

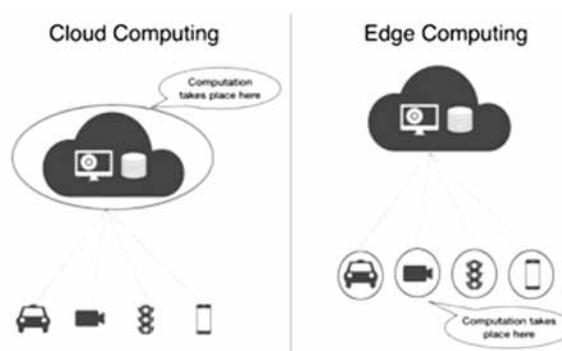
Cloud computing technology is used for remote data storage and management of IoT device - making the data accessible to multiple devices in the network. However, as the IoT develops, an IoT device will be made to more than just send or receive data - more processing could be done on the IoT device itself with only useful data sent to the cloud. Such computation at the edges of an IoT network is called '**edge computing**' and it reduces communication latency and improving response time.

What is the need to secure Consumer IoT?

Most companies engaged in the IoT - device makers, software companies and network operators - are at the trial stage right now, largely because the necessary technology - sensor technology, 5G and machine-learning powered data analytics - are still themselves at an early stage of development. But it is projected that there may be 26.4 billion IoT devices in service globally by 2026. Out of this about 20% will be on cellular technologies. Ratio of Consumer and Industrial IoT devices may be 45% : 55%.

In view of IoT's anticipated growth, ensuring end-to-end security for connected IoT devices is key to the success of IoT in general and CIoT in particular. The privacy of user data is another concern, especially in sectors such as healthcare. Hence, the IoT end points (the objects at the edges of an IoT network that collect data send it back for analysis) must comply with certain security standards. For this, the DoT (Department of Telecom) has accepted the TRAI's two recommendations which are as follows:

1. Device manufacturers should be mandated to implement "**security by design**" principle while manufacturing the M2M devices so that end-to-end encryption can be achieved.



-
2. A **National Trust Centre (NTC)** should be set up for certification of M2M devices and of applications - hardware and software.

For implementing these recommendations, the Telecom Engineering Centre (TEC) is working with several stakeholders and as part of this process, the TEC released the Code of Practice for Securing Consumer Internet of Things (IoT). UK, Australia and the US had already released such codes of practice.

How does the Code seek to secure CIoT?

Addressing the stakeholders including the IoT device manufacturers, IoT service providers/system integrators, mobile app developers and retailers, the Code prescribes baseline security requirements some of which are as follows:

1. All IoT device default passwords shall be unique per device and/or require user to choose a password, during device provisioning.
2. IoT device manufacturers, IoT service providers and mobile app developers should provide a dedicated point of contact for security researchers and others to report security issues.
3. Software components in IoT devices should be securely updateable.
4. IoT devices need to store security parameters such as keys & credentials, device identity, etc.
5. In case the device collects or transmits personal data, such data should be securely stored, etc.

Cookies and Freedom of Consent

On January 6, 2022, the **CNIL(Commission Nationale Informatique and Liberties)**, France's data protection authority, fined Google and Facebook a combined amount of 210 million Euros for not complying France's data privacy law. The CNIL said that Facebook, Google's French homepage, and YouTube websites failed to provide its users with a 'disable' cookies option similar to the 'enable' button.

According to the CNIL, these websites made it harder for users to refuse cookies by requiring them to make several clicks and take a circuitous route to disable cookies. The fact that the users can not refuse cookies as easily as they can accept the cookies restricts their freedom of consent.

Cookies: What and Why?

Cookies are **small files of information that a website's server generates and sends to a user's web browser when the user visits the website.**

The cookies are stored in the browsers and this helps the website remember the user's actions or preferences during the user's visit to the site and **customise the user's experience** on that website. Without cookies, a user would have to login again after the user leaves a site or rebuild shopping cart if the user accidentally close the page. Using cookies, a website **can also track user's browsing history on that site.** Shopping sites use cookies to track items the users previously viewed, allowing the sites to suggest other goods the users might like.

How dangerous are they?

Most cookies are perfectly safe as they can not infect computers with viruses or other malware. Most cookies are generated by the websites themselves to enhance the performance of their

webpages. In fact, they have become essential for internet browsing. But the danger lies in their ability to track users' browsing history thus threatening their privacy.

Especially, **third-party cookies** are more troubling as they are generated by the websites other than the site the user is accessing. Visiting a site with 10 ads of other websites may generate 10 cookies, even if users never click on those ads. Thus, third-party cookies let advertisers or analytics companies track a user's browsing history across the web on any sites that contain their ads.

What is the controversy?

But what happened in the latest case of Google and Facebook is related to first-party cookies (generated by the website the user is accessing. And it was also about how large companies make it hard for its users to deny tracking.

When a user visits a website, the websites that use cookies prompt the user to either accept or refuse cookies on that website. But the CNIL determined that google.com, youtube.com and facebook.com do not provide users with an option to refuse cookies which is as simple as an option to accept them.

While complaints against Facebook and Google over similarly problematic consent issues continue to languish at the Irish Data Protection Commission (DPC), France has taken a step forward and set a precedent.

Need for cookie law in India:

India, like France, should draft rules to protect its citizens from being stalked by large tech firms. But, India has no comprehensive personal data protection law.

While the use of cookies without the user's consent could be subsumed under **Section 43 of the IT Act, 2000** in the absence of any explicit legislation, companies can circumvent the law by finding technical loopholes. For instance, the Section deals with a 'computer virus' that can potentially contaminate an electronic device. But cookies do not harm the computer like the malware.

The draft **Personal Data Protection Bill (PDP)**, 2019, which is likely to be passed by the Parliament during the Budget session 2022 is also not up to the mark on regulating cookies. The Bill defines 'personal data' as any information about a natural person who can be directly or indirectly identified. This allows businesses to argue that their web cookies inherently cannot spot a natural person. Personal data may be better defined as personal information, which can be used to trace a natural person.

RC REDDY IAS STUDY CIRCLE