

CURRENT AFFAIRS

WEEKLY

WEEK - 1
NOVEMBER, 2019

ECONOMY

- ② Stages of Economic Integration

ENVIRONMENT

- ② Annual fishing ban to protect Olive Ridleys in Gahiramatha
- ② Global Snow Leopard and Ecosystem Program (GSLEP)

GEOGRAPHY

- ② Kerala on alert as Maha intensifies into super cyclone off its coast

GOVERNANCE

- ② Targeted PMKVY and Skills Framework

INTERNATIONAL RELATION

- ② India-Saudi Arabia Constitute Strategic Partnership council

POLITY

- ② Naga Peace Deal
- ② Parliamentary reforms
- ② NCRB Crime Report 2017

SCIENCE & TECHNOLOGY

- ② Air-Independent Propulsion (AIP) System
- ② Palladium
- ② Pegasus Spyware
- ② Sentinel-3 World Fire Atlas

PRELIMS

MAINS

RBI's role as Apex Financial Institution

- ② ECONOMY

Air Pollution in India especially Delhi: Causes, Challenges and Way Out

- ② ENVIRONMENT

Dilemmas of Medicalized Pregnancy: An Analysis

- ② ETHICS

Dr. Vikram Ambalal Sarabhai

- ② FAMOUS PERSONALITIES

Multi-Track Diplomacy: Changing, Contours of Diplomacy

- ② INTERNATIONAL RELATIONS

Blurring lines between Judiciary & Executive

- ② POLITY

GS SCORE

An Institute for Civil Services

www.iasscore.in

— Disclaimer —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS ANALYST

WEEK-1 (NOVEMBER, 2019)

CONTENTS

Section - A: MAINS CURRENT AFFAIRS

| Area of GS | Topics in News | Page No. |
|-------------------------|--|----------|
| ECONOMY | • RBI's role as apex financial institution | 06 |
| ENVIRONMENT | • Air Pollution in India especially Delhi: Causes, Challenges and Way out. | 09 |
| ETHICS | • Dilemmas of Medicalized Pregnancy - An Analysis | 12 |
| FAMOUS PERSONALITIES | • Dr. Vikram Ambalal Sarabhai | 14 |
| INTERNATIONAL RELATIONS | • Multi-Track Diplomacy - Changing Contours of Diplomacy | 16 |
| POLITY | • Blurring lines between Judiciary and Executive - An Analysis | 20 |

Section - B: PRELIMS CURRENT AFFAIRS

| Area of GS | Topics in News | Page No. |
|-------------------------|--|----------|
| ECONOMY | • Stages of Economic Integration | 23 |
| ENVIRONMENT | • Annual fishing ban to protect Olive Ridleys in Gahiramatha | 25 |
| | • Global Snow Leopard and Ecosystem Program (GSLEP) | 26 |
| GEOGRAPHY | • Kerala on alert as Maha intensifies into super cyclone off its coast | 27 |
| GOVERNANCE | • Targeted PMKVY and Skills Framework | 28 |
| INTERNATIONAL RELATIONS | • India-Saudi Arabia Constitute Strategic Partnership council | 28 |
| POLITY | • Parliamentary Reforms | 29 |

| | | |
|-------------------------------------|--|-----------|
| POLITY | • Naga Peace Deal | 30 |
| | • NCRB Crime Report 2017 | 32 |
| SCIENCE & TECHNOLOGY | • Air-Independent Propulsion (AIP) System | 34 |
| | • Sentinel-3 World Fire Atlas | 35 |
| | • Palladium | 36 |
| | • Pegasus Spyware | 37 |

SECTION: A
(MAINS)

CURRENT AFFAIRS

RBI'S ROLE AS APEX FINANCIAL INSTITUTION

CONTEXT

- The banking system is crucial in India's economy, and their poor state of health today, is further exacerbating the slump in economic activity across the country. In this context it is important to assess the role of the Reserve Bank of India (RBI) as the apex financial institution.

◎ BACKGROUND

- Credit growth has fallen sharply** in recent months as banks have become wary of lending; even firms have become reluctant to undertake new projects.
- Capital adequacy** for Indian banks is **low**. Capital buffers of India's banking system are among the lowest among the G-20 economies.
- Meanwhile, the **troubles in the shadow banking sector** threaten the health of the banking system, and may prolong a deep financial slump. It could result in a **spike in bad loans** for conventional banks which fund the shadow banks.
- The **'domestic savings rate' is low**. There is sharp **decline in the 'net savings rate of households'**, which have borrowed to maintain consumption levels in period of weak income growth. There is **growing dependence on foreign capital inflows** to fund the Indian commercial sector.

◎ ANALYSIS

RBI as a monetary authority

- RBI's institutional framework underwent a significant change in the early **1990s** after the **liberalisation programme** was launched. Both Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) were reduced, and more importantly the **administered structure of interest rate was abandoned**, and the government was forced to go to the market and borrow at **market determined rates of interest**.
- Switching to market determined interest rates has important implications for the RBI, because now their **Open Market Operations (OMO) became an instrument of credit control**. Also the **'bank rate' and 'repo rate' became policy instruments** because of this change.
- The foreign exchange market also came into active operation because of the switch. The relationship between the foreign exchange market and the domestic money market became intense, and as a consequence, the **monetary policy issues were linked to the rest of the world**.
- The **new monetary policy framework** that came into operation required RBI to maintain

price stability and to contain inflation. In 2016, a **Monetary Policy Committee (MPC)** was set up to bring transparency and accountability in fixing India's Monetary Policy. It set the **inflation target at 4% (plus or minus 2%)**.

- Though it is often argued that with the constitution of MPC, RBI shifted from targeting multiple indicators to just one indicator – inflation; however, matters of inflation are always considered **in tandem with economic growth considerations**.

RBI as a credit controlling authority

- Bank **lending should normally outpace nominal GDP** in an emerging economy, but that's not the case in India right now. The credit gap has been negative since the end of 2013.
- Most of the new deposits that banks have collected since early 2019 have been parked in government securities rather than being lent to enterprises.
- Crisis among non-bank financial companies (NBFCs)**, and fears about the stability of some banks, has declined bank credit (both bank and non-bank) to the private economy as a whole.
- Despite **RBI regularly slashing the repo rate** to increase bank credit and boost demand, the economy has not gained growth momentum. The reasons **why repeated lowering of interest rates does not work are**:
 - monetary policy becomes impotent when interest rates fall near zero;
 - increases in money supply are less than people's expectations;
 - Individuals don't borrow if there is low purchasing power.

RBI as a banking regulator

- The **'board for financial supervision'** enabled RBI to take an integrated view of the problems of the banking system.
- The **policy of bank licensing** as done in the **early 1990s** was very successful. Many licences were given at the time, and most top banks of today are the ones which were licensed in the early 1990s. But for some time there was almost no issue of new licenses.

- The sudden crisis of 2008 **delayed classification of 'non-performing loans' as 'bad loans'**. But the stress on bank and corporate balance sheets only grew, prompting RBI to finally launch a clean-up act in 2015. RBI also put **restrictions on fresh lending** by some of the worst-affected lenders.
- **Governance reforms** in state-owned banks proposed by the **PJ Nayak committee**, which could have otherwise allowed the healthier banks to lend more freely, were put on a halt.
- With constraints of new regulations and weight of bad loans on their books, banks **outsourced part of their lending activity to shadow banks**. These non-banks played a key role in **ensuring credit to risky sectors such as real estate**, even while ensuring that banks did not have to bear a direct exposure to such assets.
- Now, the problems in shadow banking industry **threaten to spill-over onto the banking system** and the responsibility of RBI as a regulator has increased.

RBI as a guardian of exchange rate

- In 1993 RBI shifted from a dual exchange rate system, to a **fully market-determined exchange**

rate system.

- **Before 1991**, India was **dependent on multilateral institutions** for support. After the change in foreign trade policy and the change in exchange rate management, the Balance of Payment (BoP) situation has been managed quite well. As on 23 August 2019, India's total **foreign exchange (Forex) reserves** stand at around **US\$429 billion**.
- Today, the funds crunch in the financial sector would have been worse had not been for **foreign capital inflows**, through either **foreign direct investment (FDI)** or **external commercial borrowings (ECBs)**. Though this source of funding provides relief, but it is also a source of risk.
- If there is a domestic investment revival without a matching revival in domestic savings, India could face **current account pressures** due to increased dependence on foreign capital inflows to fund the Indian commercial sector.
- Though RBI has successfully managed the external sector, there still remains need for the **current account deficit** to be brought down.

Definitions:

- **Capital Adequacy Ratio (CAR):** CAR is a measurement of a bank's available capital expressed as a percentage of a bank's risk-weighted credit exposures. It foretells a bank's ability to **absorb losses using its own capital**.
- **Shadow banking:** Shadow banking refers to **unregulated activities by regulated institutions**. The shadow banking system **creates credit** across the global financial system through a group of financial intermediaries whose members are not subject to regulatory oversight. Examples of intermediaries not subject to regulation **include hedge funds, unlisted derivatives**, and other unlisted instruments, while examples of unregulated activities by regulated institutions include **credit default swaps**.
- **Non-performing loans/Assets (NPAs):** NPA is a loan or advance for which the principal or interest payment remained **overdue for a period of 90 days**. NPAs can be classified as a 'substandard asset', 'doubtful asset', or 'loss asset', depending on the length of time overdue and probability of repayment.
- **Cash Reserve Ratio (CRR):** CRR is a specified **minimum fraction of the total deposits** of customers, which commercial banks have to hold as reserves either in cash or as deposits with the central bank. The aim is to ensure that banks do not run out of cash to meet the payment demands of their depositors. It is a crucial monetary policy tool and is used for controlling money supply in an economy.
- **Statutory Liquidity Ratio (SLR):** SLR is the ratio of liquid assets to net demand and time liabilities (NDTL). Every bank must have a **minimum portion of their NDTL in the form of cash, gold, or other liquid assets** by the day's end. SLR is a monetary policy tool instrumental in ensuring the solvency of the banks and flow of money in the economy. Its increase constricts banks' ability to inject money into the economy.
- **Open Market Operations (OMO):** OMO is the **sale and purchase of government securities and treasury bills by the central bank (RBI)**. The objective of OMO is to regulate the money supply in the economy. It's a monetary policy tool. When RBI wants to increase money supply in the economy it purchases the government securities from the market, and vice versa. OMO is carried out through commercial banks and not public.
- **Bank rate:** The Bank Rate is the rate at which the **Central Bank discounts the bills of commercial banks**. In bank rate there is **no need for collateral security**. The loans are usually **short-term loans** lasting for just a day, or even just overnight. Lower bank rates can help expand the economy by lowering the cost of funds for borrowers, and higher bank rates help to contain inflation.

- **Repo rate:** Repo rate is actually a **repurchase agreement**, and refers to the **rate at which a commercial bank sells security to Central Bank to raise money**. It promises to buy back the same security from RBI at a predetermined date with an interest at the repo rate. It allows the central bank to control liquidity, money supply, and inflation level in the country. To decrease the money supply in the economy, the RBI will hike up the repo rate to discourage banks from borrowing funds. With fewer funds available with them, they have less to offer to the customers.
- **Reverse repo rate:** Reverse repo rate is the **interest offered by RBI to banks who deposit funds into the treasury**. For instance, when banks generate excess funds, they may deposit the money with the central bank. So, the interest earned on the deposited funds is known as the reverse repo rate.
- **Non-bank financial companies (NBFCs):** In India, NBFC is a company registered under the Companies Act, 1956. They are financial institutions that **offer various banking services** like lending, making investments, currency exchange, underwriting etc. Their activities are akin to that of banks; but **do not have a banking license**. Unlike in case of banks, NBFC **cannot accept demand deposits**; NBFCs **do not form part of the payment and settlement system** and cannot issue cheques drawn on it; **deposit insurance facility** of DICGC is **not available** to depositors of NBFCs. These limitations keep NBFCs outside the scope of conventional oversight from financial regulators.
- **Gross Domestic Savings Rate:** Gross Domestic

Saving is GDP minus final consumption expenditure. This rate is expressed as a percentage of GDP. Gross Domestic Saving consists of **savings of household sector, private corporate sector and public sector**. Major reasons for decline in the rate of gross domestic savings include; moderation in profit of the private corporate sector, greater dissaving of public authorities, decline in household savings, in particular, financial savings, largely on account of persistent inflation.

- **Current Account Deficit (CAD):** CAD is slightly different from Balance of Trade (**BoT**), which measures only the gap in earnings and expenditure on exports and imports of goods and services. While CAD also factors in the payments from domestic capital deployed overseas. **Current Account = Trade gap + Net current transfers + Net income abroad**. A country with rising CAD shows that it has become uncompetitive, and investors are not willing to invest there.
- **Asset Quality Review (AQR):** Typically, RBI inspectors check bank books every year as part of its annual financial inspection (AFI) process. However, a special inspection was conducted in **2015-16**. This was named AQR. In AQR the sample size of loans inspected is much bigger than AFI. These inspections check if asset classification is in line with the loan repayment and given prudential norms. Assets **classification requires concerned loans to be identified and classified as non-performing**.

CONCLUSION & WAY FORWARD

- The mess in India's financial system lies at the heart of India's slowdown today. The opacity around asset quality has led to a spike in the risk premium, nullifying the effect of RBI's successive rate cuts. RBI can undertake an '**asset quality review**' of the

banking sector, similar to the one conducted for banks in 2015, to improve the sector and increase its funding. It would also be a good approach for RBI to open, and **allow new entities** to come into the banking system. This will have a good effect in terms of efficiency and technology induction.

AIR POLLUTION IN INDIA ESPECIALLY DELHI CAUSES, CHALLENGES & WAY OUT.

CONTEXT

- North India is reeling under a wave of severe air pollution accompanied with smog as at least 12 cities regularly recording an Air Quality Index (AQI) of 400 and above, falling in the severe category.

◎ BACKGROUND

- India is among the most polluted countries, with most places in the country exceeding WHO defined safe air quality standards multiple times over. Nearly half of the worst 50 polluted cities in the world are in India.
- The technological advancement and speedy development since India's Independence has come at a great environmental cost. According to the global Environment Performance Index (EPI) 2018, India is ranked at 177 with an EPI of 30.57.
- An estimated 1.2 million deaths in India are caused by air pollution, both outdoors and in households, which is now the second-most serious risk factor for public health in the country after malnutrition, contributing to 6.4 per cent of all healthy years of life lost in 2016.
- It is disheartening to hear that Delhi, the national capital of the country, is being tagged as one of the most heavily polluted capital cities in the world. It is the world's worst city in terms of air pollution, with an unhealthy air quality index for the majority of the year.

◎ ANALYSIS

Causes of severe air pollution in Delhi

- Growing population of the city** - The pressure and haphazard growth of the population is deteriorating the environment.
- There has been **highly haphazard and unplanned development of industries and factories**. Studies have revealed that only about 20% of the industrial units are set up in the approved industrial areas whereas the rest of them are in residential and commercial areas.
- There has been a **huge rise in the vehicular population**, despite the metro railways, aggravating traffic congestion and increasing air and noise pollution. It has also been reported that the number of vehicles plying on the roads of Delhi is more than that of the three metropolitan cities of Mumbai, Kolkata and Chennai taken together.
- There has also been an **ever-increasing number of diesel vehicles** plying on the roads, which are largely responsible for the air pollution.

- It has been reported by the National Environmental Engineering Research Institute (NEERI) that everyday almost **8,000 m tonnes of solid waste is being generated** in Delhi. Plus, we also have the **industrial hazardous and non-hazardous waste**. On an average, every day, the MCDs and the NDMC manage to clear about 5,000-5,500 m tonnes of garbage. This results in the accumulation of more and more garbage in the city.
- There has **been no proper technology or methods to treat solid**, liquid, waste water, industrial and hospital wastes in the city.
- There has been **too much dependence on fossil fuels** like coal-fired power plants, improper use of energy in buildings and the excessive use of biomass for cooking and heating, etc.

Major reasons for extremely poor Delhi air in winters

- Burning of Crop Stubble** - Burning of crop residue by farmers in Northern states of Punjab, Haryana and Uttar Pradesh is considered as the prime reason for a spike in air pollution during the winter months in Delhi and NCR. This is a traditional practice followed by farmers in these states to prepare their fields for sowing crops after harvesting their fields.
- Winter season** - As the winter season sets in, dust particles and pollutants in the air become unable to move. Due to stagnant winds, these pollutants get locked in the air and affect weather conditions, resulting in smog.
- Burning crackers** - Despite the ban on cracker sales, firecrackers are usually a common sight every Diwali. It may not be the top reason for this smog, but it contributes to its build up.

Challenges due to Air Pollution

- There is concrete evidence that air pollution leads to **low birth-weight, tuberculosis, ischemic heart disease, cataracts, asthma and nasopharyngeal and laryngeal cancers**.
- New research has found that air pollution might also affect **cognitive development**. PM2.5 are so small that when inhaled they can enter the bloodstream, and recent medical research indicates that it can

cause the degeneration of blood-brain barriers, leading to oxidative stress, neuro-inflammation and damage of neural tissue.

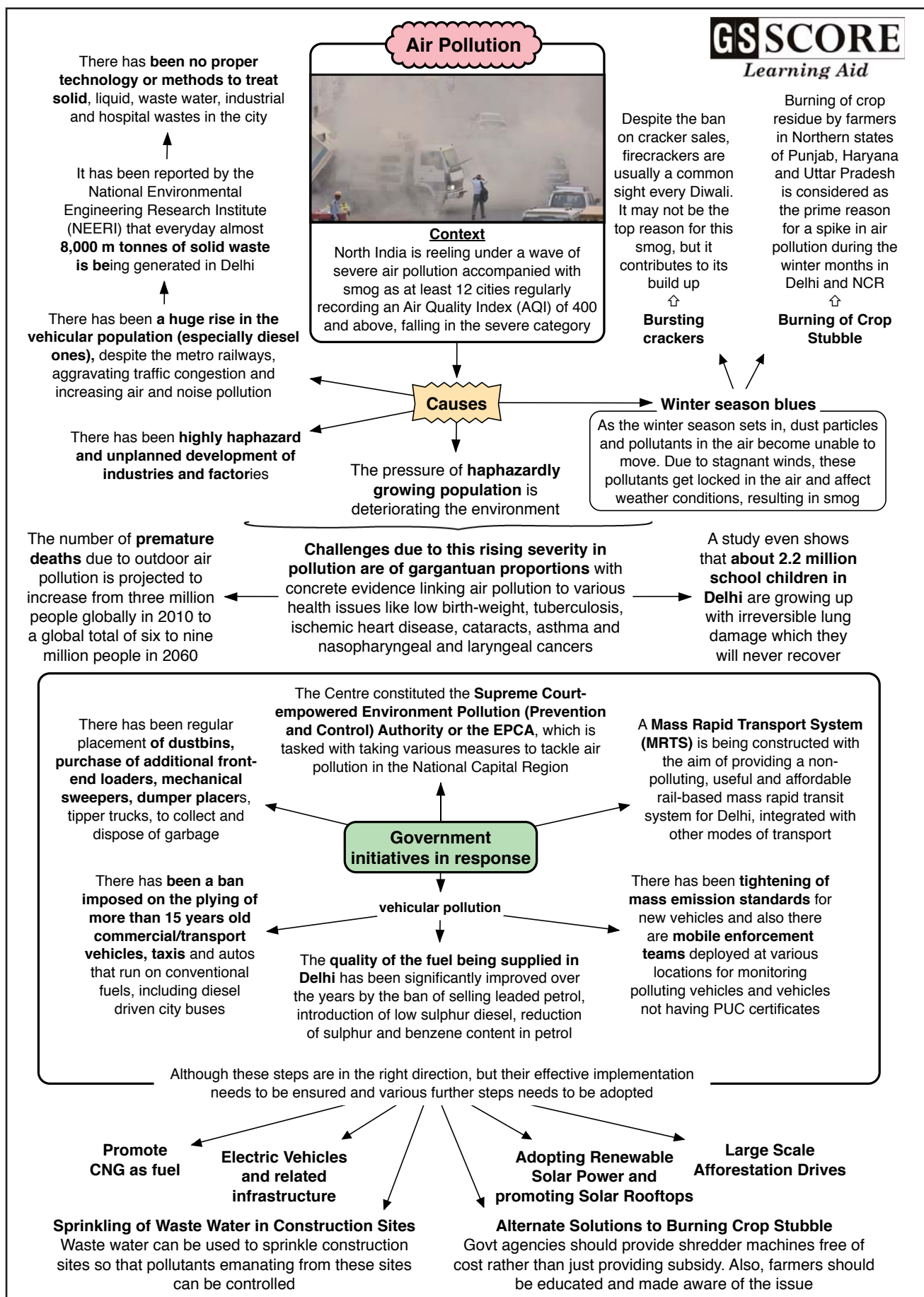
- Air pollution is linked to diseases and **infections that kill around 600,000 children** under five years of age per year.
- A study even shows that **about 2.2 million school children in Delhi** are growing up with irreversible lung damage which they will never recover.
- The number of **premature deaths** due to outdoor air pollution is projected to increase from three million people globally in 2010 to a global total of six to nine million people in 2060.
- The number of cases of **bronchitis** is projected to increase substantially, going from 12 to 36 million new cases per year for children aged six to twelve and from 3.5 to 10 million cases for adults.
- Total **welfare costs of air pollution** in the world is expected to increase from \$3,160 billion in 2015 to \$18,300 – \$25,330 billion in 2060 (as per 2010 PPP exchange rates).

Government initiatives taken to control Delhi Pollution

- There are **mobile enforcement teams** deployed at various locations for monitoring polluting vehicles and vehicles not having PUC certificates.
- A **Mass Rapid Transport System (MRTS)** is being constructed with the aim of providing a non-polluting, useful and affordable rail-based mass rapid transit system for Delhi, integrated with other modes of transport.
- With a view to reducing vehicular pollution, there has **been a ban imposed on the plying of more than 15 years old commercial/transport vehicles, taxis** and autos that run on conventional fuels, including diesel driven city buses.
- There has also been **tightening of mass emission standards** for new vehicles.
- The **quality of the fuel being supplied in Delhi** has been significantly improved over the years by the ban of selling leaded petrol, introduction of low sulphur diesel, reduction of sulphur and benzene content in petrol.
- There has been regular placement of **dustbins, purchase of additional front-end loaders, mechanical sweepers, dumper placers**, tipper trucks, to collect and dispose of garbage.
- The biggest positive step taken by the Delhi government was **to permanently shut down the old, polluting Badarpur coal-fired power plant** in the southeastern outskirts of Delhi. The plant, a major cause of the Capital Region's air pollution, had been shut down every winter for the past three years to scale back pollution.
- The Centre constituted the **Supreme Court-empowered Environment Pollution (Prevention and Control) Authority or the EPCA**, which is tasked with taking various measures to tackle air pollution in the National Capital Region.
- Delhi government regularly comes up with emergency measures **like Odd-Even formula** for vehicles to control rising pollution.

◎ WAY FORWARD

- **Alternate Solutions to Burning Crop Stubble** – Farmers need to be provided alternate options. Government agencies should provide shredder machines free of cost rather than just providing subsidy. Also, farmers should be educated and made aware of the harmful effects of crop burning.
- **Adopting Renewable Solar Power and promoting Solar Rooftops** – A lot of government buildings in Delhi have rooftop solar installations which is praiseworthy. This should be further encouraged not just in government buildings but across all kinds of commercial buildings in the city and suburb towns of Delhi NCR. Government can also mandate residential plots measuring above a certain size to install solar rooftops.
- **Public Transport** – Improve public transport systems. Although metro has been a great success, the network is mostly concentrated in Delhi. Also, last mile connectivity and overcrowding remains an issue which prevents a lot of people from using the network. The various agencies involved in public transport infrastructure should work towards improving the efficiency of public transport networks.
- **Promote CNG as fuel** – The government should encourage CNG as a fuel for private vehicles. Most of public transport buses in the capital already use CNG as primary fuel. This should be encouraged for private vehicles as well by providing subsidies and increasing the number of CNG pumps.
- **Electric Vehicles and related infrastructure** – There have been a thrust on electric vehicles in the past few years. The government should develop the necessary infrastructure – the most important of them being charging stations to help wide adoption of these vehicles. Subsidies should also be provided to people who want to buy electric vehicles.
- **Sprinkling of Waste Water in Construction Sites** – Waste water can be used to sprinkle construction sites so that pollutants emanating from these sites can be controlled.
- **Large Scale Afforestation Drives** – The government should identify large tracks that can be planted with trees for green cover across the city. Also, hill ranges like the Aravallis should be preserved and they should be planted with trees.



DILEMMAS OF MEDICALIZED PREGNANCY: AN ANALYSIS

CONTEXT

- The use of pre-natal medical tests is increasing alarmingly in India risking the life and health of both mother and foetus.

◎ BACKGROUND

- Pregnancy has been largely **medicalised** and made technology dependent and doctor-centered.
- Pregnant women and their families feel that they are often **uninformed** of the choices that lie before them as they consent to a battery of tests such as triple markers, 3-D ultrasounds and amniocentesis.
- **Consenting to undergo a prenatal test means accepting the possibility (likely or remote) that your baby may be born with a disability of some kind.**
- **Pre-natal tests and scans can be useful in many ways** and can offer critical information that can **improve the care of mother and baby** and also help some parents make an **informed choice about the future of the pregnancy.**

Ethical Concerns

The major ethical concerns in medicalized pregnancy are:

- **Prenatal testing is tantamount to eugenics** which involves an intentional engineering to eliminate or propagate particular traits in off-springs. It poses an ethical concern that shall we go for engineered babies.
- **Should only 'perfect' or 'healthy' babies have the right to be born is another ethical concern in this regard?**
 - Can we make space for a differently abled person within our family and in our society? When does a disability become unacceptable or intolerable? It is the public discussion of pre-natal sex determination that has ensured social (and legal) censure for the termination of female fetuses. Such a discussion has been by and **large ignored on the subject of disability**, and, in most cases, **termination of fetuses with abnormalities has been accepted without reflection.**
- **Right to Abortion**
 - **Women should have the right to abortion.** Abortion is a very personal decision and a woman may need to make that choice at a particular point in her life. She certainly needs no censure or judgemental gaze; instead she needs support and understanding.

- According to **Medical Termination of Pregnancy (MTP) Act** termination of pregnancy is legal only up to 20 weeks of gestation. **MTP should not restrict the termination of pregnancy by any particular week of gestation.** They could legalise a cut-off at around 24 weeks. Most cardiac, neurological and kidney-related problems surface by then. But even after that cut-off, **MTP could be offered on a case-to case basis** – if a situation arises that is going to give a poor quality of life to a child, who may have to live from birth with multiple surgeries, and who may never really recover from an abnormality. Every such case should be referred to a committee which would take into account the opinions of an obstetrician, paediatrician, paediatric surgeon, lawyer, maybe a lay person too, perhaps another parent.

- **Births have been highly medicalised** and natural births are rarely practiced.
- Medical care for pregnant women generally impact fetuses, whether by design or as a side effect.
- The question of whether it is ever ethically justifiable to override a pregnant woman's autonomous refusal of medical intervention for the sake of the well-being of her fetus.

Case Study

- Niketa Mehta, Bombay, was 24 weeks pregnant when it was diagnosed that baby would have complete congenital heart blockage. The doctors did not abort her child as the MTP law disallows abortions after the foetus is 20 weeks old and Niketa approached Bombay HC which turned down her application. On 27th week of pregnancy, Niketa had a miscarriage. The debate on the right of woman to abortion started in India.
- In the Niketa Mehta case, a foetal 2-D echo, a colour Doppler that picks up any problems within the heart, was used. It is routinely used in patients who are diabetic, have a history of congenital heart disease in the family, or who already have a child with the problem. Or if the ultrasound scan at 18-19 weeks showed some abnormalities. But it can be done only at 23-24 weeks because it is only then that you can see things properly in the heart.

- Basically, after 20 weeks a lot of ultrasound and colour Doppler tests for certain heart, neurological and kidney problems are used. These tests are done to know in advance if the baby has a problem so that at birth the baby can be taken out quickly, and get in a cardiac surgeon immediately. Parents who have conceived after a long time are very keen to continue. So it does depend on how keen the parents are about that particular child and on continuing the pregnancy.
- But in the case of Niketa Mehta, the foetus had too many major heart abnormalities so the chances of the child having a normal, healthy life were very poor.
- Niketa Mehta case brought to the fore that MTP Act regulating abortion must leave space for particular cases which should be determined by independent committees to be set up at various levels. It also started the debate about the right of women to abortion at any time they want.

Various Prenatal Diagnosis Tests

- **Dual Marker and Triple Marker Tests:** These tests look at the level of certain hormones which are 'markers' associated with Down's Syndrome.
- **Ultrasound Tests:** They are used extensively, four-five times in the pregnancy. Here we look for markers for certain abnormalities. In the case of Down's Syndrome, for example, certain physical characteristics suggest that the foetus has this condition. With an ultrasound at 18-19 weeks we can pick up lots of information on structural problems.

- **Invasive Tests:** These test the amniotic fluid, chorionic villus tissue or foetal blood. Sometimes we even do a skin biopsy of the baby. The other tests will give you a probable diagnosis – each one has its own proportion of false positives and false negatives. But when we test the tissue, we are actually looking at the genes, chromosomes, DNA, and this gives us a confirmatory result for certain genetic diseases. Amniocentesis is an example of invasive test.
- One is the age of the patient. But we do the triple marker blood test on all patients. The risk of having a baby with Down's Syndrome is higher as the woman gets older, but that doesn't mean that a younger woman cannot have such a child.

◎ WAY FORWARD

- The pre-natal testing and technology should be used in a more thoughtful and ethical manner.
- Unfortunately in the Niketa Mehta case, the committee did not make a proper suggestion. There should be an independent committee at the Centre, not controlled by any medical college or by anyone else, and local committees at the state and city levels with a similar structure to determine the abortion case to case basis. Of course, it's going to be a big task, but the time has come for us to deal with this.
- The International Federation of Gynaecology and Obstetrics (FIGO) guidelines clearly mention that if a child is severely handicapped and this is going to affect the child's quality of life, then termination at any stage of pregnancy is recommended.
- Engineered babies practice must be banned as it is going to create a social catastrophe in the society.

DR. VIKRAM AMBALAL SARABHAI

CONTEXT

- Nation celebrated Vikram Sarabhai's, the father of the Indian Space Programme, 100th birthday on 12 August 2019. He was an Indian physicist and industrialist who initiated space research and helped develop nuclear power in India.

◎ BACKGROUND

Vikram Sarabhai was an award-winning physicist, industrialist and innovator.

Considered the Father of the Indian space programme, Sarabhai is also credited with **establishing Indian Space Research Organisation (Isro)**.

Born to wealthy industrialists in the city of Ahmedabad in Gujarat on August 12, 1919, Vikram Sarabhai earned his doctorate from Cambridge University.

During his time at Cambridge, he studied cosmic rays and published many research papers on it.

After returning to India, he founded the Physical Research Laboratory (PRL) in Ahmedabad on November 11, 1947, when he was 28 years old.

After PRL, Sarabhai set up the Space Applications Centre in Ahmedabad, and guided the establishment of Isro.

Most important institutions founded by Vikram Sarabhai

- Physical Research Laboratory (PRL), Ahmedabad
- Indian Institute of Management (IIM), Ahmedabad
- Community Science Centre, Ahmedabad
- Darpan Academy for Performing Arts, Ahmedabad (along with his wife)
- Vikram Sarabhai Space Centre, Thiruvananthapuram
- Space Applications Centre, Ahmedabad (formed by merging six institutions established by Sarabhai)
- Faster Breeder Test Reactor (FBTR), Kalpakkam
- Variable Energy Cyclotron Project, Calcutta
- Electronics Corporation of India Limited (ECIL), Hyderabad
- Uranium Corporation of India Limited (UCIL), Jaduguda, Bihar

◎ ANALYSIS

Major contributions of Dr. Vikram Sarabhai in making India space-forward

• Indian Space Research Organization (ISRO):

- ▶ The establishment of the **Indian Space Research Organization (ISRO)** was one of his greatest achievements.
- ▶ He successfully convinced the government of the importance of a space programme for a developing country like India after the Russian Sputnik launch.
- ▶ He started the **Indian National Committee for Space Research in 1962**, which later became the Indian Space Research Organisation (ISRO).

• First rocket launching station:

- ▶ **Dr. Homi Jehangir Bhabha**, widely regarded as the father of India's nuclear science program, **supported Dr. Sarabhai** in setting up the first rocket launching station in India.
- ▶ This center was established at **Thumba near Thiruvananthapuram** on the coast of the Arabian Sea, primarily because of its **proximity to the equator**.
- ▶ The **first flight was a sodium vapour payload** and was launched on 21 November 1963.

• Beginning of satellite broadcasting:

- ▶ Vikram Sarabhai believed firmly in the need for communication and education, especially of those living in rural areas, whom he wanted to reach out to via satellites.
- ▶ In 1966, he requested NASA to design an experimental satellite communication project, known as Satellite Instructional Television Experiment (SITE).
- ▶ The programme aimed to make television and other informational programmes available to rural India. It also helped India gain technical knowledge and experience in the field of satellite communications.
- ▶ The programme was quite a success as it covered over 2,400 villages in 20 districts. The project was also supported by international committees like UNESCO, UNICEF, ITU, and UNDP, and also **led to the birth of All India Radio (AIR)**.
- ▶ It led to the building of **India's first artificial satellite** orbiting the earth. Launched in July

1975, the Aryabhata was launched four years after the death of Sarabhai on the Kapustin Yar, a Russian rocket

Other contributions

- He was the founding director of Indian institute of Management (IIM), Ahmedabad. In 1961, with the help of businessman Kasturbhai Lalbhai he set up an institute of learning.
- He played a crucial role in establishing the Centre for Environmental Planning and Technology University (CEPT University) in Ahmedabad in 1962. University offers courses for undergraduate and postgraduate programs in subjects like architecture, planning and technology.
- He established the Nehru Foundation for Development in 1965 which focus on the current problems of society and individual development.
- Dr. Sarabhai was very interested in science education and founded a Community Science Centre at Ahmedabad in 1966. Today, the Centre is called **the Vikram A Sarabhai Community Science Centre**. It was aimed to promote science and mathematics education among students and public.
- Besides ISRO, Sarabhai also led the Atomic Energy Commission between 1966 and 1971 as its Chairman.
- Sarabhai married world-renowned classical dancer Mrinalini Sarabhai in 1942. The classical dancer and innovator-scientists together established the Darpana Academy of Performing Arts in Ahmedabad.

Vikram Sarabhai's death

Sarabhai passed away on December 30, 1971, at the age of 52. He died in a hotel room in Kerala after witnessing the launch of a Russian rocket and laying the foundation stone of the Thumba railway station earlier the same day.

Vikram Sarabhai's Awards and Honours

For his exemplary work in the field of science, he received **Padma Bhushan in 1966** and the **Padma Vibhushan awarded posthumously in 1972**, the India's most honourable awards.

Vikram Sarabhai's legacy

- ISRO announced **Vikram Sarabhai Award** - To pay homage to the father of India's Space program, ISRO has announced an award in the name of Vikram Sarabhai on his 100th birthday. The Vikram Sarabhai Journalism award in Space Science Technology and Research will be given to those journalists who have contributed to the fields of space science, applications and research.
- On July 22, 2019, ISRO **launched Chandrayaan-2**, first lander-rover module from India to travel and land on the moon and study it. It has one of its payloads named after him, **the Vikram Lander**.
- A crater on the moon was named in his honour in 1973 by the International Astronomical Union in Sydney, Australia.
- The Vikram Sarabhai Space Centre, (VSSC), which is Isro's lead facility for launch vehicle development located in Thiruvananthapuram (Trivandrum), is named in his memory.
- Indian Postal department released a commemorative postal stamp on his first death anniversary (30 December 1972)
- Space Science Day is observed in India every year on 12 August
- He was a recipient of the Shanti Swarup Bhatnagar Prize

◎ CONCLUSION

Therefore, we can say that the contributions made by Dr. Vikram Sarabhai are extraordinary in the field of space science. He established several institutions and showed the path of technology to our country. His dedication and hard work can't be forgettable.

MULTI-TRACK DIPLOMACY - CHANGING, CONTOURS OF DIPLOMACY

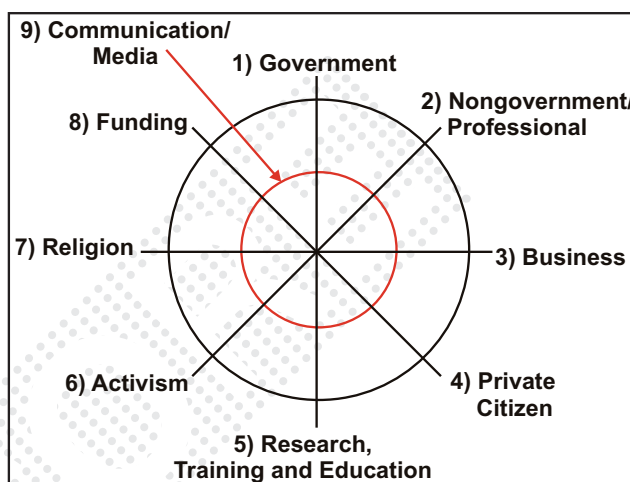
CONTEXT

- The UAE is fast becoming an exceptional case study in international relations and diplomacy, showcasing how a 'small' country can punch above its weight by shaping a dynamic foreign policy vision. In its back-drop, UAE is helping India and Pakistan in easing the tensions through the multi-track diplomacy mechanism.

◎ BACKGROUND

- Multi-track diplomacy is an abstract way to view the process of international peacemaking as a living system.**
- In multi-track diplomacy, all sectors of society are important and need to be involved, supported, listened to, and trained in a shared language of dialogue, conflict resolution, and peace building in order to prevent or end violent conflict. It is an entanglement of interconnected activities, individuals, institutions, and communities that operate together for world at peace.
- Aim:** To show that there are **different types of actors that perform complementary roles in peacemaking.**

Nine Tracks of Multi-Track Diplomacy



◎ ANALYSIS

Why Multi-Track Diplomacy is needed?

- In the last decade, the international community has been faced with more guerrilla warfare, attempts at secession and other types of intra-state violence. The traditional practices of diplomacy (formal meetings between official representatives of states) are ill-equipped to deal with these challenges.
- The tension between India and Pakistan can be eased by employing multi-track diplomacy. Oslo agreement is the product of multi-track diplomacy.

Structure of Multi-Track Diplomacy

- Multi-Track Diplomacy consists of **nine complementary 'tracks'**. These are:
 - ▶ governments
 - ▶ professional organisations
 - ▶ the business community
 - ▶ private citizens
 - ▶ training, research and educational institutions
 - ▶ activists
 - ▶ church organisations
 - ▶ funding
 - ▶ media

Track One: Government, Official Diplomacy

- Track One sets most of the agenda in the field and has leadership and authority over the peacemaking systems at the official level. Most political peace-building (the making of political agreements, decisions regarding use of force) is done by this track.
- An issue for this track is that it tends to be elitist and thus hard to reach. It often shuts itself out from expertise and alternative voices in the field, such as NGOs, specialist groups, identity groups, formal and informal citizen groups. It is male dominated. Track One negotiators should be more prepared for dealing with this through multi-lateral negotiation skills training.
- Examples of Track One organisations:** States, official diplomats, the military, government-run development programs (Governmental Organisations), Inter-governmental organisations such as the UN, UNESCO, NATO, the EU, the OSCE, the WEU, The World Bank, The IMF, the FAO etc.

Track Two: Nongovernmental/Professional and Peacemaking through Conflict Resolution.

- This is the field of **professional non-governmental actors and organisations that try to manage,**

prevent and analyse conflict. They come from vastly different backgrounds. Individuals and organisations in this track do mediation, consulting, problem-solving workshops, conferences etc.

- The single **biggest challenge for this track is money.** Funders are often looking for product, but conflict resolution specialists are often focused on nurturing a process. Examples are: Search for Common Ground (Conflict Resolution), The Institute for Multi-Track Diplomacy, Pax Christi, Life and Peace Institute.
- Other professional organisations without a clear conflict resolution agenda are also included in this track like: Doctors Without Borders (MSF), the Red Cross, Oxfam, Novib and other Development Organisations.

Track Three: Business, or Peacemaking through Commerce

- This is the business world with its potential for peace-building through commerce. The traditional business community is profit-oriented, competitive and conservative. But lately the business community has recognised that peacemaking activities can create more stable environments for business and safety for its employees.
- Issues for the business community often include environmental responsibility and social responsibility for the countries in which it operates: How to balance profitability with responsibility.

Track Four: Private Citizens or Peacemaking through personal involvement

- This includes all attempts by private citizens to do peace-building. This could be through citizen diplomacy (exchange programs), voluntary organisations and development programs, advocacy or special interests groups, professional interest groups and democracy-building organisations.
- This track often includes a wide range of NGOs, local and international. These individuals have a tremendous amount of knowledge of what happens on the ground, although they often have difficulty finding connections with the rest of the peacebuilding system.

Track Five: Research, Training, and Education or Peacemaking through Learning

- This includes research,
 - academic departments, research institutes and think-tanks
 - Training, transfer of practitioner skills such as: mediation, negotiation, conflict resolution, third party facilitation

➤ Education, from kindergarten to Ph.D. programs

- One of the issues of this track is how to produce and transfer relevant information for practical use in conflicts.

Track Six: Activism, or Peacemaking through Advocacy

- This track involves environmental and peace activism from disarmament to human rights and socio-economic justice issues. People involved in this track often try to change attitudes, policies or institutions. Most of their work is stated in terms of opposition to certain situations.
- Often organisations in Track Six are one topic oriented, like [Amnesty International](#) and [Human Rights Watch](#) in regards to Justice and Human Rights.
- An argument could be made for placing Amnesty International under track 2 as well. These organisations engage in a whole range of activities: education, advocacy, organising, supporting, witnessing and protesting.
- Issues for this track include small NGOs relative lack of power, their reputation as 'peaceniks' and way of often defining themselves as 'anti' this or that, as opposed to constructive involvement.

Track Seven: Religion, or Peacemaking through Faith in Action.

- This includes the efforts of religiously based communities and their efforts to make peace, from small church groups to larger religious communities of different denominations.
- In many places they are involved in reconciliation processes with a long-term commitment and thus are very well placed as contacts and confidants of conflicting parties.

Track Eight: Funding or Peacemaking through Providing Resources.

- These are the organisations that provide the financial support for many of the activities that take place on the other tracks, which is a persistent problem.
- Many funding organisations look for measurable results within a limited amount of time (typical funding cycles are 2-3 years), which can be too little time in many peace-building processes.

Track Nine: Communication and the Media, or Peacemaking through Information

- This is the realm where public opinion formation takes place through TV, radio, printed media etc. This track informs the public and engages it in issues of conflict and peace.

- One of the problems related to this field is that the media has a preference for 'bad news' above 'good news'. A successful attempt at preventing an outbreak of conflict, for example the preventive diplomacy between India and Pakistan over Kashmir issue is often not considered 'news' and thus receive criticism in India.

- Of course, depending on the circumstances of a particular conflict, different tracks can be involved in peace-building effort. In some conflicts, it can be people from churches (track 7) that act as intermediaries between the conflict parties, if other third parties do not have a chance of playing this role.

Case-Study – Multi-Track Diplomacy

- An example of Multi-Track Peacebuilding is the secret **Oslo negotiations** between the PLO (Track One) and the Israeli Government (Track One). In the start-up of this process there was co-operation between private citizens (Track Four), Ron Pundik and Yaer Hirshfeld, with FAFO (Norwegian Institute for Applied Social Science) (Track Five). They in turn had close contact with the Norwegian Foreign Ministry who were in contact with the State Department of the USA (both Track One). Because the contacts were facilitated by FAFO, the parties could deny having official contacts and make progress in a way that was not deemed possible with official (only track one) diplomacy.
- The short lines of communication between the Norwegian Foreign Ministry and the different NGOs have made Norwegian involvement in peace-building efforts remarkably successful. It is a very good example of multi-track diplomacy.

CONCLUSION

Multi-track Diplomacy uses a holistic and participatory approach to assess the key variables in deep-rooted conflicts and post-conflict settings. It is focused on identifying and understanding the causes of conflict within a nation. It promotes the breaking down of stereotypes and other barriers to peace by providing conflicting groups with the following skills:

- Transforming the view/perception of the adversary
- Developing mutual understanding between conflicting parties
- Building trust between adversaries
- Reconciling past grievances
- Negotiation
- Creating cultural awareness



Practice Question

- Multitrack diplomacy uses a holistic and participatory approach to assess the key variables in deep-rooted conflicts and post-conflict settings. In the light of the statement analyse how multitrack diplomacy can offset the unfavorable patches in India's relationship with China & Pakistan?

Multi-Track Diplomacy

Context

UAE is fast becoming an exceptional case study in international relations and diplomacy, showcasing how a 'small' country can punch above its weight by shaping a dynamic foreign policy vision. In its back-drop, UAE is helping India and Pakistan in easing the tensions through the multi-track diplomacy mechanism

It consists of 9 complementary tracks as seen in the following figure:

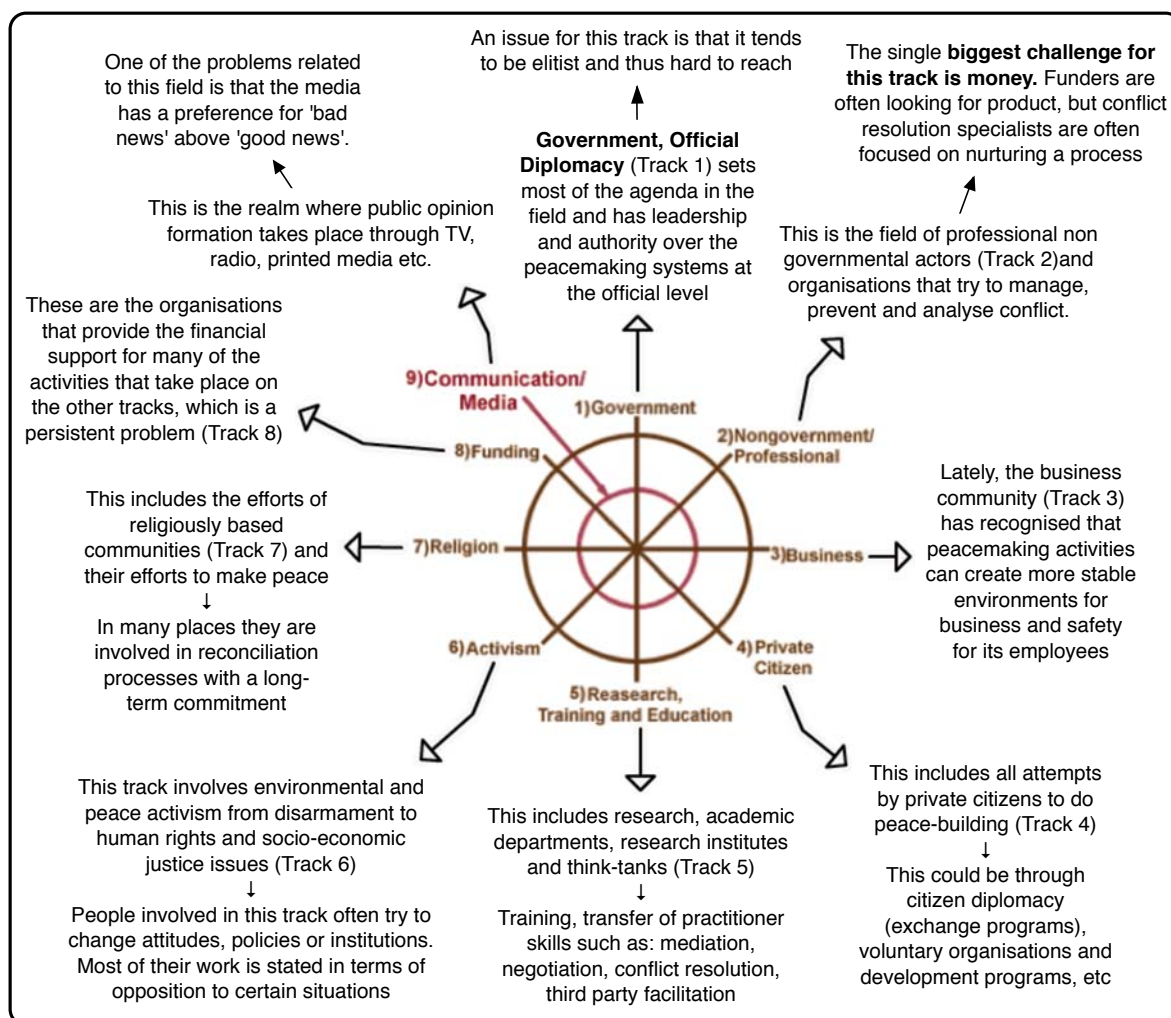
What is it ?

It is an abstract way to view the process of international peacemaking as a living system

It is an entanglement of interconnected activities, individuals, institutions, and communities that operate together for world at peace

All sectors of society are important and need to be involved and trained in a shared language of dialogue and peace building in order to prevent or end violent conflict

The ultimate aim is to show that there are different types of actors that perform complementary roles in peacemaking



Multi-track Diplomacy uses a holistic and participatory approach to assess the key variables in deep-rooted conflicts and post-conflict settings

It is focused on identifying and understanding the causes of conflict within a nation and promotes the breaking down of stereotypes and other barriers to peace by providing conflicting groups with the various skills like

Transforming the view/ perception of the adversary

Developing mutual understanding between conflicting parties

Building trust between adversaries

BLURRING LINES BETWEEN JUDICIARY AND EXECUTIVE

CONTEXT

- Madras High Court is hearing a PIL which asks the court to declare the linking of Aadhaar with a government identity proof, as mandatory for registering email and social media accounts. A series of such hearings/judgements suggest a trend that courts have continually expanded the scope of issues considered in PILs. These trend warrant critical questioning.

◎ BACKGROUND:

- Madras High Court's recent Public Interest Litigation (PIL) hearing shows that courts are **not only considering questions of law, but** have started to deliberate on **policy questions with wide-ranging impact** (like; Should Aadhaar be linked with social media accounts?)
- This suggests a growing trend of **populist impulses of judicial overreach** by the courts.
- Under the **'doctrine of separation of powers'**, the political system of a nation divides its power between legislature, executive and judiciary.
- Article 50** under directive principles of state policy **separates judiciary and executive.**
- In India, **'separation of functions is followed, and not of powers'** and hence, the principle is not abided in its rigidity, as in the US. Instead, India's separation of the three organs is based more on the **principle of 'checks and balance'**.
- While a balance of power check aims to avoid concentrating too much power in any one body of government. It also **generates tension between the three arms of government.**

| Judicial Review | Judicial Activism | Judicial Adventurism/overreach |
|--|---|---|
| Judicial review is a type of court proceeding in which a judge reviews the legality of a decision or action taken by a public body. Judicial review challenges the way in which a decision has been made, rather than the rights and wrongs of the conclusion reached. | Judicial activism denotes an active role taken by the Judiciary to dispense social justice. Instruments like; Suo-moto cases, PIL, new doctrines etc., which have no constitutional backing, are actively used to fill in legislative gaps. | Judicial Overreach/ adventurism refer to an extreme form of judicial activism. It is when judiciary crosses the territory pertaining to Legislature or executive; thus disrupting the balance of powers between the three organs of the government. |

- In case of **judicial overreach**, court's often **follow a populist impulse and over indulgence in matters of popular interest.** It leads to grandiose executive judgements dealing with aspects of the country's governance.
- For example, in the **'T.N. Godavarman versus Union of India'** case, the **Supreme Court defined a 'forest'** in the absence of a definition in the Forest Act and, in doing so; it took over the governance of the forests in India."
- Examples of judicial overreach in matters of popular interest:**
 - Imposition of patriotism: Mandatory playing of National Anthem in cinema halls.
 - Proactive censorship: Directing CBFC to re-certify the movie Jolly LLB 2.
 - Cancellation of 2G telecom licences: Directing allocation of natural resources through auction only.

Rule of locus standi

Under **Article 32**, a writ can be issued if and only if it hampers or affect the fundamental rights of an aggrieved party or a person; i.e. for redressal, a person has to approach to the court and no other party or person can appeal on his behalf. Rule of locus standi requires the party or person to demonstrate to the court his connection to the case.

Public Interest Litigation (PIL)- Relaxation of rule of locus standi

PIL means a legal action initiated in a court of law for the enforcement of public interest or general interest by which a party's legal rights or abilities is affected. Rule of Locus standi gave way to the emergence of PIL in India. While rule of locus standi required the party to establish his connection to the case, PIL can be used by anyone on the concerned

party's behalf, as the affected party may not be aware of their rights or may not be financially strong enough or as the case may be.

PIL further relaxed (misused)

PIL was a revolutionary concept aimed at solving the grievances of those who go unnoticed or are unrepresented. However with the passage of time, PIL has been used for corporate gain, political advantage or personal interest. It is a travesty of justice for the resources of the legal system to be consumed by an avalanche of misdirected petitions.

Critical analysis:

Judiciary's Argument

- Article 142 of the Constitution makes **Judicial Activism** possible. It allows the Supreme Court to "make such order as is necessary for doing complete justice" in a case.
- Courts often come to their rescue arguing that they over-indulge because the legislature and executive do not do their job; that judiciary has to step-in to fill in the vacuum of a **governance deficit**. Following cases are pointed as examples where court intervention has delivered larger social justice (as directed by article 142):
 - Union Carbide/Dow lawsuit (settling civil claims against Union carbide, for the Bhopal gas tragedy).
 - Taj Trapezium Case (restricting polluting industries around the Taj Mahal area).

Cost of Judicial Overreach

- However, Indian history is also replete with examples where the **costs of such judicial interventions have outweighed their gains**. Following are a few examples:
 - PILs filed by M.C. Mehta led to **Delhi's urban transformation**. This also resulted in large-scale deindustrialization of the city, as "green judges" ordered the relocation of 168 large industries, **rendering thousands jobless**.
 - Similarly, **Delhi's vehicular pollution case** led to the conversion of all public transport vehicles to CNG from diesel or petrol, resulting in a sudden **drop in public transport supply and an increase in private vehicles**.
 - SC ruling on PIL which **banned the sale of liquor at retail outlets** within 500m of any state/national highway. For state governments, this led to massive **loss in revenue collection**. It resulted in **loss of business** for hotels and restaurants. It indirectly resulted in **loss of jobs** for enterprises in the supply chain.

- Misuse of PIL:** According to a World Bank working paper, claimants of **PIL from advantaged classes have a 73% probability of winning** a fundamental rights claim, compared to **47% for non-advantaged classes**.
- Hence it seems that judicial overreach may have a disproportionately **large financial burden on state exchequer as well pressure on judiciary that amounts to pendency of cases later**.
- Procedural supremacy has suffered**, and this creates doubts over the competence of our courts in assessing policy interventions.

Brief history of how roles of the executive and judiciary have got blurred?

- The **first constitutional amendment** (1951) started the long-drawn battle between the executive and the judiciary.
- It inserted **Ninth Schedule to protect** land reform and other laws present in it **from the judicial review**. It set the precedent of amending the constitution to overcome judicial pronouncements to implement the programmes and policies of the government.
- The judiciary fought back in '**Golaknath vs. State of Punjab**' case. Government retaliated through the **24th amendment**.
- Finally, it was settled in the '**Kesavananda Bharti vs. State of Kerala**' case that amendments which tend to affect the '**basic structure of the Constitution**' are subject to **judicial review**.
- But **to gain popular legitimacy**, the SC responded by **mimicking Government's populism**:
 - The rule of locus standi was relaxed;
 - Technical barriers were removed;
 - Evidence could be gathered by a court-appointed commission;
 - Lax procedural requirements.

◎ WAY FORWARD

- As the doctrine of separation of powers is not codified in the constitution, the judiciary must evolve a set of guidelines that lays down a procedure in consonance with the executive so that it does not delve into issues which are beyond its domain of expertise. If at all such a necessity arises, the mandate of the Supreme Court's recently constituted in-house think tank, 'Centre for Research and Planning', could be enlarged to encompass the necessary academic rigour required for issues related to governance.

SECTION: B
(PRELIMS)

CURRENT AFFAIRS

To Attempt
Weekly Current Affairs Test, Visit

www.iasscore.in

STAGES OF ECONOMIC INTEGRATION

◎ CONTEXT

- The Regional Comprehensive Economic Partnership (RCEP) is a proposed FTA of which India aims to be a part of. The BREXIT proposal has also created pressure on India to form FTAs with the UK. In this context it is important to consider the meaning of FTA, and various other stages of economic integration.

◎ ABOUT

Independent Economy

- In order to implement the **principle of economic self-sufficiency**, one must build an independent national economy.
- If an independent national economy is to be built, the economy must be developed in a **diversified and integral manner**. It requires development of **heavy industry and light industry and agriculture simultaneously**.
- It is necessary to establish reliable and independent sources of **raw materials and fuel**. **Technical independence** is also necessary.
- An independent economy is opposed to foreign economic domination and subjugation; but it **does not rule out international economic cooperation**.

Preferential Trade Area

- A preferential trade area/agreement (PTA) is a trading bloc that gives **preferential access to certain products from the participating countries**.
- This is done by **reducing tariffs** but not by abolishing them completely. A PTA can be established through a trade pact. It is the first stage of economic integration.
- Today simple PTA has evolved into **bilateral PTAs** and **Mega-PTAs**. Mega-PTA is wide regional trade agreements, such as the Transatlantic Trade and Investment Partnership (TTIP) or Trans Pacific Partnership (TPP).
- These tariff preferences create **departures from the normal trade relations principle**.

Free Trade Area

- A Free Trade Area (FTA) is a group of countries who have mutually agreed to **limit or eliminate trade barriers** - tariffs or quotas - among them.
- FTAs tend to **promote free trade and the international division of labor**, allowing countries to increase specialization in their respective comparative advantages.
- To develop a FTA, participating nations must **develop rules for how the new FTA** will operate and decide upon the following:
 - Customs procedures that each country will follow
 - Tariffs, if any, that will be allowed and their costs
 - Trade dispute resolution mechanism
 - Transportation of goods
 - Intellectual property rights protection and management
- FTA rules decide the scope and degree of **how "free" trade will actually be**.
- **Advantages:** FTAs can benefit consumers, who get increased access to less expensive and/or higher quality foreign goods. Population may also see increased living standards.
- **Disadvantages:** Producers can struggle with increased competition, but they might also acquire a greatly expanded market of potential customers or suppliers.
 - Some **jobs may be lost** as production moves to areas with comparative advantage.
 - Outcomes of FTA may represent the influence of pressure groups, and **rent-seeking** behaviors may increase.

- FTAs may actually **distort patterns of international specialization and division of labor** by biasing and limiting trade toward trade blocs, as opposed to allowing natural market forces to determine patterns of production and trade across countries.

Customs Union

- A Customs Union (CU) involves the **removal of tariff barriers between members**, and acceptance of **a common (unified) external tariff against non-members**.
- Countries that are part of a CU only need to make a single payment (duty), once the goods have passed through the border. Once inside the union goods can move freely without additional tariffs. **Tariff revenue is then shared** between members.
- **Advantage:** A common external tariff effectively removes the possibility of arbitrage and is one of the fundamental building blocks of economic integration.
- **Disadvantage:** CU members are **not free to negotiate individual trade deals with non-members**. For example, if a member wishes to protect a declining or infant industry it cannot do so through imposing its own tariffs.

Common Market

- A common (or single) market is the most significant step towards full economic integration.
- A common market is the **extension of free trade** from just tangible goods, **to include all economic resources**. This means that **all barriers are eliminated** to allow the **free movement of goods, services, capital, and labour**.
- **Tariffs and all non-tariff barriers are also reduced** and eliminated.
- For a common market to be successful there must also be a significant level of **harmonisation of micro-economic policies**, and **common rules regarding product standards, monopoly power and other anti-competitive practices**.
- There may also be common policies affecting key industries, such as the Common Agricultural Policy (CAP) and Common Fisheries Policy (CFP)

Economic Union

- An Economic Union is a type of trade bloc which is composed of a **common market with a customs union**. It has **common trade policy towards non-members**, although members are free to pursue **independent macro-economic policies**.
- The member countries have common policies on product regulation, freedom of movement of goods, services and factors of production (capital and labour) and a common external trade policy.
- The **European Union (EU)** is the best known Economic union, and came into force on November 1st 1993, following the signing of the Maastricht Treaty (formally called the Treaty on European Union.)

Monetary Union

- Monetary union is the first major step towards macro-economic integration, and enables economies to converge even more closely.
- In monetary union, **members adopt a single, shared currency**, such as the Euro for the Euro-17 countries, and the East Caribbean Dollar for 11 islands in the East Caribbean.
- This means that there is a common exchange rate, a common monetary policy, including interest rates and the regulation of the quantity of money, and a single central bank, such as the **European Central Bank or the East Caribbean Central Bank**.

Fiscal Union

- A fiscal union is an agreement to **harmonise tax rates, to establish common levels of public sector spending and borrowing, and jointly agree national budget deficits or surpluses**.

- The majority of EU states agreed a fiscal compact in 2012. Though it is a less binding version of a full fiscal union.

Economic and Monetary Union

- Economic and Monetary Union (EMU) is a key stage towards complete integration, and involves a **single economic market, a common trade policy, a single currency and a common monetary policy.**

Complete Economic Integration

- Complete economic integration involves a **single economic market, a common trade policy, a single currency, a common monetary policy, together with a single fiscal policy**, including common tax and benefit rates – in short, complete harmonisation of all policies, rates, and economic trade rules.

ANNUAL FISHING BAN TO PROTECT OLIVE RIDLEYS IN GAHIRAMATHA

◎ CONTEXT

- The Odisha forest department will ban fishing between November 1, 2019-May 31, 2020, in the state's Gahiramatha marine sanctuary to protect Olive Ridley turtles.

◎ ABOUT

- Gahiramatha, in the state's Kendrapada district, was declared a marine sanctuary in 1997. Known as the world's largest Olive Ridley rookery, the animals come in their lakhs in the waters surrounding the sanctuary in November for mating. The females lay eggs in March.
- Trawlers and boatmen have been directed not to fish within 20 kilometres of the coastline.
- 16 turtle protection camps have already been established including three offshore camps at Agaranashi, Barunei and Babubali islands to protect turtles in the sanctuary.
- The Wild Life Protection Act, 1972 and its latest amendments in 2006 provide legal protection to all the sea turtle species occurring in the state.

Odisha's Gahirmatha

- The mass nesting of Olive Ridley sea turtles started at Odisha's Gahirmatha Marine Sanctuary in Kendrapara district.
- The sanctuary has is considered to be the world's largest rookery of sea turtles.
- Nearly 80,000 sea turtles came ashore at the Nasi-1 and Nasi-2 islands of the sanctuary for Arribada, a Spanish term for mass nesting.
- The beach gets littered with thousands of nesting turtles; as a result, there is little space for laying eggs for other turtles. Many are laying eggs in the same pits dug by others. In the process, thousands of turtle eggs are being destroyed.

Olive Ridley sea turtles

- The name for this sea turtle is tied to the color of its shell an olive green hue.
- They are currently the most abundant of all sea turtles.
- Their vulnerable status comes from the fact that they nest in a very small number of places, and therefore any disturbance to even one nest beach could have huge repercussions on the entire population.
- Generally found in coastal bays and estuaries, but can be very oceanic over some parts of its range. They typically forage off shore in surface waters or dive to depths of 500 feet (150 m) to feed on bottom dwelling crustaceans.

- The olive ridley inhabits tropical and subtropical waters of the Pacific, Indian and Atlantic Oceans.
- Sea turtles are a fundamental link in marine ecosystems and help maintain the health of coral reefs and sea grass beds.
- All stages of a sea turtle's life are affected by environmental conditions such as temperature even the sex of offspring. The warmer the nest beach conditions, the more female hatchlings that emerge from the eggs.
- Warmer sea surface temperatures can also lead to the loss of important foraging grounds for marine turtles, while increasingly severe storms and sea level rise can destroy critical nesting beaches and damage nests.

GLOBAL SNOW LEOPARD AND ECOSYSTEM PROGRAM (GSLEP)

◎ CONTEXT

- On October 22nd 2019, India for the first time held the Global Snow Leopard and Ecosystem Program (GSLEP) at Delhi, under the aegis of ministry of environment, forest and climate change (MoEF).

◎ ABOUT

The Global Snow Leopard and Ecosystem Protection Program (GSLEP):

- It seeks to **address high-mountain development issues using the conservation of the charismatic and endangered snow leopard as a flagship.**
- The **GSLEP is a range-wide effort** that unites range **country governments, nongovernmental and inter-governmental organizations, local communities, and the private sector** around a shared vision to conserve snow leopards and their valuable high-mountain ecosystems
- The GSLEP is a high-level inter-governmental alliance of all **the 12 snow leopard range countries.**
- The snow leopard countries namely, **India, Nepal, Bhutan, China, Mongolia, Russia, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan.**
- It majorly **focuses on the need for awareness and understanding of the value of Snow Leopard for the ecosystem.**
- The GSLEP Program (2019) was organized by the Ministry of Environment, Forest and Climate Change at New Delhi.
- The Steering Committee meetings of GSLEP is **currently chaired by Nepal and co-chaired by Kyrgyzstan.**

India: First Snow Leopard Survey

- **The inaugural session of the 4th steering committee** meeting of the Global Snow Leopard & Ecosystem Protection (GSLEP) Program **also marked the launch of the First National Protocol on Snow Leopard Population Assessment, to mark the occasion of International Snow Leopard Day (23rd October).**
- The first National Snow Leopard Survey of the nation has been developed by scientific experts in association with the Snow Leopard States/UTs namely, **Ladakh, Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.**
- The use of technology such as camera traps and scientific surveys will help to estimate the numbers.

Snow Leopard

- The snow leopard inhabits the higher Himalayan and trans-Himalayan landscape in the five states of Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.
- This area contributes to about 5% of the global snow leopard range.
- Snow leopards are categorized as 'Vulnerable' by IUCN and in the Schedule I of the Indian Wildlife (Protection) Act 1972.
- They are listed in Appendix I of the Convention on International Trade in Endangered Species (CITES) and the Convention on Migratory Species (CMS), revealing the need for the highest conservation status to the species, both globally and in India.

Other conservation efforts launched by India are:

- **Project Snow Leopard (PSL):** It promotes an inclusive and participatory approach to conservation that fully involves local communities.
- **SECURE Himalaya:** Global Environment Facility (GEF)-United Nations Development Programme (UNDP) funded the project on conservation of high altitude biodiversity and reducing the dependency of local communities on the natural ecosystem. This project is now operational in four snow leopard range states, namely, Jammu and Kashmir, Himachal Pradesh, Uttarakhand, and Sikkim.

KERALA ON ALERT AS MAHA INTENSIFIES INTO SUPER CYCLONE OFF ITS COAST

◎ CONTEXT

- The Kerala State Disaster Management Authority (KSDMA) set up 11 shelter camps in the state as cyclonic storm Maha in the Arabian Sea intensified into a severe cyclonic storm. It urged fishermen not to venture into the sea, putting several districts on yellow alerts.

◎ ABOUT

- Storm not likely to hit state directly. However, there would be heavy wind and rain.
- The India Meteorological Department (IMD) stated that the storm was over Lakshadweep and adjoining southeast Arabian Sea, moving north-north westwards.
- It intensified into a severe cyclonic storm and lay cantered over east-central Arabian Sea and adjoining Lakshadweep area, about 325 kilometre west-northwest of Kozhikode.
- With the cyclone intensified, the IMD forecast wind at 100-110 kilometre per hour, gusting 120 kmph over east-central Arabian Sea.
- Lakshadweep is likely to receive extremely heavy rainfall and the IMD issued a "red message" for the island.

Cyclone Maha

- Cyclone Maha, the fourth cyclone this year in the Arabian Sea, is set to intensify further into a 'Severe Cyclonic Storm'
- The depression that had developed in the Comorin Sea, gained strength and turned into a cyclonic storm.
- An Orange alert has already been issued in four districts of Kerala —Ernakulam, Thrissur, Malappuram and Kozhikode.

- **Cyclone Kyarr**, the first super cyclonic storm in Arabian Sea in last 12 years, gradually weakens, stated IMD.
- The cyclone is very likely to weaken into a "Deep Depression"

TARGETED PMKVY AND SKILLS FRAMEWORK

◎ CONTEXT

- The government plans to revamp its skills framework, including a more targeted Pradhan Mantri Kaushal Vikas Yojana.

◎ ABOUT

- The Skill development and entrepreneurship ministry has released its 2025 Vision statement to help enhance the scale of skilling in the country, in line with vision of making India the skills capital of the world.
- It plans to revamp its skills framework, including a more targeted Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
- It aims to set a dedicated 'National Institute of Skill Development' to centralise skill training and funding. The structure and functions of the institute are yet to be decided.
- A dedicated institute for skill development could serve as a common umbrella, collectively evolving into a think tank for knowledge production and capacity building for skill and entrepreneurship development in the country.
- NSDC (National Skills Development Corporation) will cease to play the role of an implementor PMKVY and focus on its other three roles- creating sustainable ecosystem for skill development, incentivising skill development programmes, and providing services such as innovation and funding.
- The ministry is looking to enhance the role of 'sector skills councils' to assess demand generation in the informal sector.
- Participation from states and MSMEs, we will now be increased to account for local context and skilled needs of the informal sector.

Evolution

- In 2015 the government had rolled out a 'National Policy for Skill Development and Entrepreneurship', aiming at policy prescription to make India the skills capital of the world through Skills India Mission, to be reviewed in five years.
- Since a comprehensive skills policy is already under place, the new framework intends to supplement this with a five-year vision to achieve desired results.

INDIA-SAUDI ARABIA CONSTITUTE STRATEGIC PARTNERSHIP COUNCIL

◎ CONTEXT

- PM Modi announced the formation of the India-Saudi Strategic Partnership Council that will be led by the leaderships of both countries. The announcement was made in the Saudi capital Riyadh where PM Modi paid a visit recently.

◎ ABOUT

- A key takeaway of the PM visit to Saudi Arabia is the Strategic Partnership Council.
- 12 MoUs on issues such as preventing narcotics trafficking, renewable energy, training of diplomats, defence industry production, security collaboration, Haj related cooperation, Atal Innovation Mission, bilateral air services and the use of RuPay cards in Saudi Arabia were inked.
- Apart from defence, the two sides are keen to enhance maritime security cooperation and are considering joint naval exercises in 2020
- India and Saudi Arabia firmed their strategic partnership by signing an agreement to form a council headed by Prime Minister Modi and King Salman.
- It would enable regular monitoring of the progress of the strategic partnership.

- The council will have two parallel mechanisms under it — one to look at political and diplomatic ties and the second to supervise commercial and energy ties.
- This is a major development since Saudi Arabia is now only the fourth country with whom India has an inter-governmental mechanism headed by the prime minister. Germany, Russia and Japan are the other three.

Recent Developments:

- Crown Prince of Abu Dhabi was the Chief Guest of the 2017 Republic Day of India.
- India was designated as the Guest of Honour country at Abu Dhabi Music and Art festival 2018.
- India and UAE signed an MOU for cooperation in Africa.
- India UAE had their first bilateral Naval exercise in March 2018 named 'Gulf Star 1', which took place off the coast of Abu Dhabi.
- India UAE signed a currency swap agreement in December last year which will boost trade and economic relationships between two countries and reduce India's dependence on the US dollars.
- Abu Dhabi National Oil Company (ADNOC) has signed an agreement to explore storing Crude oil in the Indian Strategic Reserve in Padur.
- ADNOC also filled up 1.5 million tonnes of crude oil in Mangalore strategic reserve, the only foreign and private player so far to have invested in storing in Indian strategic reserve.
- Abu Dhabi government allotted land for the construction of the first Hindu Temple in Abu Dhabi. There are two Hindu temples in the UAE, both in Dubai.
- UAE and India signed an MOU in the field of manpower exploring the possibility of linking their respective e-platforms for the benefit and welfare of Indian workers going to UAE.
- India and UAE are fast-tracking food corridor.
- This will entail investment by UAE in the Indian agriculture sector benefiting farmers and creating additional jobs in food processing logistics etc.
- It will also help in food security for the UAE.
- The UAE is one of the biggest overseas markets for Indian cinema apart from the UK and the USA.

India-Saudi Arabia Relations:

- Trade and cultural links between ancient India and Arabia dating back to the third millennium BC.
- By 1000 AD, the trade relations between southern India and Arabia flourished and became the backbone of the Arabian economy.
- Arab traders held a monopoly over the spice trade between India and Europe until the rise of European imperialist empires.
- India was one of the first nations to establish ties with the Third Saudi State.
- During the 1930s, India heavily funded Nejd through financial subsidies.

PARLIAMENTARY REFORMS

◎ CONTEXT

- Recently, vice-president of India stresses need for parliamentary reforms.

◎ ABOUT

- **A parliamentary system is a form of democratic governance where the executive derives its legitimacy from its ability to command the confidence of the legislature, typically a parliament, and is also held accountable to that parliament.** India has adopted parliamentary democracy.

- There are **flaws in the structure as well working of the parliamentary system** as we witnessed them since 1947.
- There are **flaws in the first past the post system as many candidates win with less than 50 per cent voter support** base but there is no better alternative. Similarly, the presidential system of government is not suited to India.
- The debate of replacing parliamentary system with the presidential system has been old and the **Swaran Singh committee in 1975** did not permit it.
- There is a **need for reorientation on the part of MPs and more so a pressing need for parliamentary reforms** to restore the trust of the people in parliamentary institutions.

Why need of Parliamentary Reforms?

- The problems in the parliamentary system include
 - the declining number of sittings of legislatures,
 - persistent disruptions,
 - declining quality of debates,
 - growing number of legislatures with criminal records,
 - high degree of absenteeism,
 - inadequate representation of women,
 - increase in money and muscle power in elections,
 - lack of inner democracy in functioning of the political parties among others.

Naidu's 16-Point Agenda for Parliamentary Reform

- Naidu laid out 16-point agenda as the way forward for parliamentary reforms, which includes
 - to review anti-defection law to address "grey areas" that led to the expulsion of legislators
 - a review of the "Whip System which was stifling reasonable dissent within parties even over non-consequential matters".
 - to fix longer tenures for Standing Committees to ensure their effective functioning
 - to improve the representation of women,
 - stronger rules with regard to attendance,
 - regular reports on the performance of legislators,
 - the need to make effective interventions with regard to criminality and unethical conduct among legislators,
 - the need for simultaneous elections
 - the government needs to be responsive to the views and concerns of Opposition while among other interventions.

NAGA PEACE DEAL

◎ CONTEXT

- NSCN(IM), the largest Naga armed group, has conceded to a peace accord without a separate Naga constitution and with a 'conditional' flag.
- This development comes just as the October 31 deadline set by the Centre for a final settlement with Naga armed groups was about to lapse.

◎ ABOUT

- Nagaland Peace Accord is the accord signed-in on 3 August 2015 by the Government of India and the National Socialist Council of Nagaland (NSCN) to end the insurgency.

Naga Peace Talks- Pre- Independence:

- The Naga peace talks refer to talks undertaken between the Indian government and the various stakeholders in Nagaland to resolve decades-old disputes. Some of these issues date back to the colonial era.
- The demand for a Greater Nagaland, or Nagalim— covering Nagaland, its neighboring states and even parts of Myanmar— has been an important part of Naga nationalism.
- It's a demand being made for decades, and was first crystallized via the formation of a Naga Club in 1918 which told the Simon Commission in 1929 "to leave us alone to determine for ourselves as in ancient times".
- The Naga National Council (NNC) that came up in 1946, declared Nagaland an independent state on August 14, 1947.
- The NNC resolved to establish a "sovereign Naga state" and conducted a "referendum" in 1951, in which "99 per cent" supported an "independent" Nagaland.

Naga insurgent demand over the years-

- The Naga movement has been asserting a distinct ethnic identity and demanding an independent homeland.
- The NSCN was formed in the aftermath of the Shillong Accord of 1975, signed between the government of India and the Naga National Council (NNC).
- The NSCN had started life demanding the creation of "Greater Nagaland" or "Nagalim". This would be a sovereign Naga territory, wedged between India and Myanmar. It would consist of the Naga-dominated areas of Manipur, Assam and Arunachal Pradesh, as well as parts of Myanmar.
- In 1997, the NSCN (IM), signed a peace treaty and started a dialogue with the Union government.
- In 2015, government signed a "framework agreement" with the group – which was publicised as a major breakthrough by both sides.

Further Agreements and The Ceasefire:

- In North-East several insurgent groups are active for decades and have been demanding independent and autonomous states based on ethnicity.
- In 1964, a Nagaland Peace Mission was formed which signed a ceasefire with A.Z. Phizo, only to last till 1968.
- In 1975, the Shillong Accord was signed in which the Naga National Council (NNC) agreed to give up arms and accept the Indian Constitution.
- The NSCN (I-M) signed a ceasefire agreement with the government till April 27, 2016.

What's in peace accord?

- NSCN – IM has been derecognized as a militant organization and talks have been initiated with the government.
- GOI is open to discuss the Naga territorial issue within the existing boundaries of the neighboring states of Manipur, Assam etc which are being claimed as part of Greater Nagalism.
- Key issues that have been put under consideration includes AFSPA, demographic changes due to cross border migrations and other tribals like Meitei who are diluting the local populations in the Naga areas.

Recent Talks-

- The scope of the talks has been broadened since October 2017, when six other Naga armed groups joined negotiations. Having signed ceasefires, these now called

themselves Naga National Political Groups and operated as one bloc. They include the NSCN (Kitovi Zhimomi), the Naga Nationalist Council, the Federal Government of Nagaland, the NSCN (Reformation), the National Peoples Government of Nagaland (Non-Accord), the Government Democratic Republic of Nagaland (Non-Accord). Later, the Khango Konyak-led faction of the NSCN (Khaplang) also joined talks.

NCRB CRIME REPORT 2017

◎ CONTEXT

- The National Crime Records Bureau (NCRB) released its 2017 data for crime in India on October 21.

◎ ABOUT

National Crime Record Bureau

- NCRB, headquartered in New Delhi, was set-up in 1986 under the Ministry of Home Affairs to function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators.
- It was set up based on the recommendations of the National Police Commission (1977-1981) and the MHA's Task Force (1985).
- NCRB brings out the annual comprehensive statistics of crime across the country ('Crime in India' report).
- Being published since 1953, the report serves as a crucial tool in understanding the law and order situation across the country.

What are the categories of the data?

- The NCRB has introduced more than three dozen new categories and sub-categories of crimes under various heads.
- At least four categories where significant diversification of data can be seen are –
 - Crimes against women and children
 - Atrocities against Dalits
 - Cases of corruption
 - Time taken by police and courts to take cases to their conclusion
 - For the first time, the NCRB has introduced categories of cyber crimes against women and children.
 - In the case of Dalits, the NCRB has for the first time published data on offences registered solely under the SC/ST (Prevention of Atrocities) Act.
 - The further categorisation under this includes insult, land grab and social ostracism.
 - The NCRB has also recorded cases of disproportionate assets against public servants. The other heads include abetment, criminal intimidation, simple hurt, credit/debit card and online frauds, Internet crimes through online gaming and kidnapping for begging among others.
 - Importantly, for the first time, the NCRB has dwelt on not just pendency of cases (with the police and courts) but also the period of such pendency.

KEY FINDINGS OF THE REPORT:

The data, delayed by about a year, presents some interesting findings.

- Data that was supposed to be published under the new sub-heads of mob lynching, murder by influential people, killing ordered by khap panchayats and murder committed for religious reasons is missing.

- A new category of offences under the aegis of “**Anti-National Elements**”, shows that the **maximum number of offences were committed by Left Wing Extremist (LEW) operatives, insurgents in the Northeast and terrorists.**
- **Crime Registration and Rate:**
 - In 2017, there was an increase of 3.6% in registration of cases over 2016.
 - Delhi witnessed the highest crime rate in the country with 1,050 Indian Penal Code (IPC) crime incidents per lakh of the city's population.
 - This was over four times the national average of 238.
- **Crime Against Women:**
 - The number of **crimes committed against women increased by 6% over the year 2016.**
 - Majority cases were registered under ‘Cruelty by Husband or His Relatives’ followed by ‘Assault on Women with Intent to Outrage her Modesty’.
 - **The maximum cases were registered in Uttar Pradesh (UP) followed by Maharashtra and West Bengal.**
- **Crime Against SC/STs:**
 - The incidents registered under the Scheduled Caste Prevention of Atrocities Act **saw an increase from 5,082 incidents reported** in 2016 to 5,775 in 2017.
 - **Incidents of crime related to Scheduled Tribes dipped from 844 in 2016 to 720 in 2017.**
- **Riots:**
 - Out of the total 58,880 incidents of rioting reported, communal and sectarian riots accounted for 723 and 183 incidents respectively.
 - There were 805 riots due to caste conflict and 1909 riots due to political reasons.
 - **Maximum incidents were reported from Bihar, followed by Uttar Pradesh and Maharashtra.**
- **Cyber Crimes:**
 - **Fraudulent transactions and sexual exploitation** were the most reported cyber crimes in India in 2017.
 - **Cyber frauds** accounted for the **highest number of individual reports** on cybercrime, **followed by** cases of **cybercrime in the form of sexual exploitation.**
 - **Assam**, which has recorded higher number of cyber crimes than other states in the region, sexual exploitation and personal revenge were the prime reasons.
 - **Bengaluru topped the list** among **metropolitan cities** across the country **in terms of number of cyber crimes registered.**
 - Bengaluru was followed by Mumbai and Jaipur.
- **Offences against the state:**
 - As compared to 2016, there has been a 30 percent rise in incidents of offences against the state. **Sedition, waging war against country and damage to public property are among the offences included under this category.**
 - Interestingly, **the maximum number of such offences were recorded from Haryana while the minimum number of such cases were recorded from Jammu and Kashmir (J&K).**
 - Haryana registered 13 cases of sedition— second after Assam, which registered 19— while only one case of sedition was recorded in J&K.

AIR-INDEPENDENT PROPULSION (AIP) SYSTEM

◎ CONTEXT

- Defence Research and Development Organisation (DRDO) programme to build a fuel cell-based Air Independent Propulsion (AIP) system for Indian Naval Submarines has crossed several milestones in technology maturity.

◎ ABOUT

- Air Independent Propulsion (AIP) has a force multiplier effect on the lethality of a diesel-electric submarine as it enhances the submerged endurance of the boat, several folds.
- Fuel cell-based AIP has merits in performance compared to other technologies.

AIP-

- It is any technology which allows a non-nuclear submarine to operate without the need to access atmospheric oxygen (by surfacing or using a snorkel).
- It can augment or replace the diesel-electric propulsion system of non-nuclear vessels.
- It is based on the combustion of stored oxygen and ethanol to augment battery-powered propulsion.

◎ SIGNIFICANCE

- AIP significantly improves stealth because it enables a submarine to generate electricity for services and battery charging and propulsion while completely submerged.
- AIP systems also generate electricity, powering a submarine to operate and also generate oxygen, lighting and amenities for crew.
- The Non-nuclear submarines running on battery power or AIP can be virtually silent.
- Nuclear submarines constantly pump coolant generating some amount of noise. On the other hand, non-nuclear battery operated or AIP submarines are silent.

What is the Air Independent Propulsion (AIP) technology used in submarines?

- Submarines are essentially of two types: conventional and nuclear. Conventional submarines use a diesel-electric engine, and must surface daily for oxygen for fuel combustion. If fitted with an Air Independent Propulsion (AIP) system, the sub needs to take in oxygen only once a week.
- While many naval powers, including India, have acquired nuclear-powered submarines for deep-sea operations, conventional diesel-electric variants are considered useful for coastal defence. The latter are optimised for stealth, and their weapons and sensors provide for effective operations close to the shore.
- Because diesel-electric submarines require to come to the surface frequently to charge their batteries, their underwater endurance time is less. 'Air-independent' propulsion technology helps to make the diesel generator less dependent on surface air.

How it works?

- The **Air Independent Propulsion system** enhances the submerged endurance of the submarines several times. As compared to other technologies fuel cell AIP has merits in performance.
- The fuel cell air independent propulsion converts chemical energy from fuel cell into electricity through chemical reaction of positively charged hydrogen ions with oxygen or other oxidizing agent.

Supplementary Notes:

The AIP System-

- AIP is usually implemented as an auxiliary source, with the traditional diesel engine handling surface propulsion.
- Most such systems generate electricity which in turn drives an electric motor for propulsion or recharges the boat's batteries.
- The submarine's electrical system is also used for providing "hotel services"—ventilation, lighting, heating etc.—although this consumes a small amount of power compared to that required for propulsion.
- AIP can be retrofitted into existing submarine hulls by inserting an additional hull section.
- AIP does not normally provide the endurance or power to replace atmospheric dependent propulsion, but allows longer submergence than a conventionally propelled submarine.
- A typical conventional power plant provides 3 megawatts maximum, and an AIP source around 10% of that. A nuclear submarine's propulsion plant is usually much greater than 20 megawatts.

PALLADIUM

◎ CONTEXT

- **Palladium is now the most valuable of the four major precious metals, with an acute shortage driving prices to a record high.**

◎ ABOUT

- Palladium is a **lustrous white material**, one of the six **platinum-group metals** (along with ruthenium, rhodium, osmium, iridium and platinum itself).
- Palladium, platinum, rhodium, ruthenium, iridium and osmium form a group of elements referred to as the platinum group metals (**PGMs**). These have similar chemical properties, but **palladium has the lowest melting point** and is the **least dense** of them.
- **Ore deposits** of palladium and other PGMs are **rare**. The most extensive deposits in South Africa, United States, Canada, Russia.
- Palladium is primarily mined in **Russia and South Africa**, and mostly **extracted as a secondary product** from operations that are focused on other metals, such as platinum or nickel.
- Palladium symbol is Pd and atomic number is 46. It was discovered in 1803 and was **named after the asteroid Pallas**.
- An **acute shortage** driving prices to a record. A **key component in pollution-control devices for cars and trucks**, the metal's price doubled in little more than a year, making it more expensive than gold.
- About **85% of palladium is used in the exhaust systems** (catalytic converters) in cars, where it helps turn as much as 90% of toxic pollutants into less-harmful noxious substances (nitrogen, carbon dioxide and water vapor). It is also used in **electronics, dentistry and jewellery**.
- Palladium is a **key component of fuel cells**, which react hydrogen with oxygen to produce electricity, heat, and water.
- **Recycling is also a source**, mostly from scrapped catalytic converters. The numerous applications and limited supply sources result in considerable investment interest.

Why is Palladium expensive?

- Despite growing demand of Palladium, the **supply has not kept pace**.
- Since Palladium is a **by-product** to platinum or nickel mining, it means output tends to lag **price gains**.

- Palladium usage is increasing as governments, especially China, has **tightened regulations to crack down on pollution from vehicles**, forcing automakers to increase the amount of Palladium use.
- Palladium **use in hybrid vehicles** is also a growing source of demand.
- **Speculators are also driving up Palladium prices**. Since 2018, hedge funds have increased bets that prices will rise. There were net-outflows in palladium-backed exchange-traded funds as investors withdrew metal, and then leased it out to users at lucrative rates, driving prices up.
- There is also **evidence of stockpiling in China**, the biggest buyer in the automotive sector.

Is palladium usually this volatile?

- **Precious metals used in small quantities** by the auto industry have a history of price spikes when demand outstrips supply.
- In the decade following 1998, **platinum** soared more than 500% as a shortage caught the attention of speculative buyers.
- **Rhodium** rallied more than 4,000% over a similar period before carmakers found ways to use less.
- Palladium itself jumped nine-fold from its lows in 1996 to a peak in 2001 as users worried Russian sales would slow.

Gainers and losers

- South Africa's **platinum miners**, who dig it up alongside their primary metal, are the biggest gainers of Palladium prices rises.
- On the other hand, due to high prices carmakers have to pay more for the metal, and may eventually pass the increase on to **consumers**.

Can automakers use an alternative?

- Palladium's rise relative to platinum might prompt some carmakers to **shit to platinum**.
- But there is **uncertainty** regarding such a switch since more technological advances are needed before Platinum can match the performance of existing palladium based catalytic converters.
- **Electric cars** don't burn fuel, don't have exhaust pipes and don't use palladium, and can be a good alternative for the current Palladium using automobile industry. But since a complete electrification of the world's automotive fleet is many years in the future, this shift away from Palladium seems distant possibility.

PEGASUS SPYWARE

◎ CONTEXT

- WhatsApp sued an Israeli firm, the NSO Group in a court in San Francisco for using its platform to spy on journalists and human rights activists worldwide.

◎ ABOUT

- The surveillance was carried out on journalists and human rights activists worldwide on Whatsapp using a spyware tool called Pegasus, which has been developed by the NSO Group.
- NSO Group is an Israeli based cyber-security company that specialises in surveillance technology.
- WhatsApp is the world's most popular messaging app, with more than 1.5 billion users worldwide. It is owned by Facebook.

- About a quarter of those users (more than 40 crore) are in India, WhatsApp's biggest market.
- It claims to help governments and law enforcement agencies across the world fight crime and terrorism.
- WhatsApp accused NSO of using its servers to send malware to approximately 1,400 mobile phones and devices (Target Devices) for the purpose of conducting surveillance of specific WhatsApp users (Target Users).
- The surveillance was carried out between April and May 2019 on users in 20 countries across four continents.
- Will Cathcart, the head of WhatsApp told that the surveillance targeted at least 100 human-rights defenders, journalists and other members of civil society across the world.

What is Pegasus?

- Pegasus works by sending an exploit link, and if the target user clicks on the link, the malware or the code that allows the surveillance is installed on the user's phone.
- A presumably newer version of the malware doesn't even require a target user to click a link.
- Once Pegasus is installed, the attacker has complete access to the target user's phone.
- The first reports on Pegasus's spyware operations emerged in 2016, when Ahmed Mansoor, a human rights activist in the UAE, was targeted with an SMS link on his iPhone.
- The Pegasus tool at that time exploited a software chink in Apple's iOS to take over the device. So, Apple pushed out an update to fix the issue.
- Pegasus delivers a chain of zero-day exploits to penetrate security features on the phone and installs it without the user's permission.
- Zero-day exploit is a completely unknown vulnerability about which even the software manufacturer is unaware, and thus there is no patch or fix available for it.
- In the cases of Apple and WhatsApp, neither was aware of the security vulnerability, which was used to exploit the software and take over the device.
- In May 2019, the Pegasus was being used to exploit WhatsApp and spy on potential targets.
- WhatsApp issued an urgent software update to fix the security bug that was allowing the spyware to exploit the app.

Cyber Security again in Question

- Pegasus can send back the target's private data, including passwords, messages, live voice calls, etc., from popular mobile messaging apps.
- The target's phone camera and microphone can be turned on to capture all activity in the phone's vicinity, expanding the scope of the surveillance.
- Pegasus has the ability to access password-protected devices, being totally transparent to the target, leaving no trace on the device without arousing suspicion in more alert users.
- It has a self-destruct mechanism in case of risk of exposure, and ability to retrieve any file for deeper analysis.

SENTINEL-3 WORLD FIRE ATLAS

◎ CONTEXT

- According to the data from its Sentinel-3 World Fire Atlas, the European Space Agency (ESA) has announced that compared to August 2018, there were almost five times as many wildfires across the world in August 2019.

© ABOUT

- The Sentinel-3 World Fires Atlas Prototype product has been developed by European Space Agency to provide **continuity** to the **ESA Along Track Scanning Radiometers (ATSR) World Fire Atlas**, which produced monthly global fire maps from 1995 to 2012.
- It uses a method that enables it to identify all active fires at night.

Latest Data-

- The ESA's Copernicus Sentinel-3 mission recorded 79,000 fires in August 2019 as compared to just over 16,000 fires detected in August 2018.
- The data revealed that 49% of the fires were detected in Asia, around 28% were detected in South America, 16% in Africa, and the remaining were recorded in North America, Europe and Oceania.
- August and September 2019 were also the months during which fires in the Amazon rainforest were at the centre of worldwide attention.
- A detailed analysis of the August 2019 fires, however, shows that it was Asia that accounted for nearly half of these fires.

How they are mapped:

- The Sentinel-3 World Fire Atlas uses a method that enables it to identify all active fires at night.
- The sensors on satellites measure thermal infrared radiation to take the temperature of Earth's land surfaces.
- This information is used to detect and monitor the heat emitted by the fires.
- The Sentinel-3 World Fire Atlas uses the satellite data to plot the number of fires occurring monthly. Though it cannot pick up all fires due to satellite overpass constraints and cloud coverage.

Significance:

- Quantifying and monitoring fires is important for the study of climate.
- Forest fires have a significant impact on global atmospheric emissions, with biomass burning contributing to the global budgets of greenhouse gases, like carbon dioxide.

About Sentinel-3

- It covers the southern countries of the ESA member states.
- This new prototype uses Sentinel-3A and Sentinel-3B data and contains two dedicated channels (F1 and F2) for fire and high temperature events.
- Sentinel-3 is a multi-instrument mission to measure sea-surface topography, sea- and land-surface temperature, ocean colour and land colour with high-end accuracy and reliability.
- It is based on a constellation of two satellites: Sentinel-3A and Sentinel-3B.
- The mission is part of the European Commission Copernicus programme for Earth Observation.

About Copernicus Programme-

- Copernicus is the most ambitious Earth observation programme till date. This initiative is headed by the European Commission (EC) in partnership with the European Space Agency (ESA).
- The programme aims to provide accurate, timely and easily accessible information to improve the management of the environment, understand and mitigate the effects of climate change and ensure civil security.
- The Sentinels will provide a unique set of observations, starting with the all-weather, day and night radar images.

