

## UPSC "PT" DNA (Daily News Analysis)

### World Economic Forum's: Global Gender Gap Report 2021

GS-I | 01 April, 2021

## World Economic Forum's: Global Gender Gap Report 2021

### GS-Paper-1: Social issue and Sociology Optional – UPSC PRELIMS – Mains Application

**Context:** World Economic Forum report is providing essential insight about Gender and its empowerment and status which UPSC candidates can utilize in PT for facts and in Sociology optional and ESSAY writing as a reference of Women's status.

WEF AIMS and Objective: <https://www.weforum.org/>

#### Facts:

It was **first published in 2006** by the WEF. It **benchmarks 156 countries** on their progress towards gender parity in four **dimensions**:

Economic Participation and Opportunity,

Educational Attainment,

Health and Survival and

Political Empowerment.

Over the Index, the **highest possible score is 1** (equality) and the **lowest possible score is 0** (inequality).

#### World Economic Forum

The World Economic Forum is the International Organization for Public-Private Cooperation. It was **established in 1971** as a not-for-profit foundation and is **headquartered in Geneva, Switzerland**. It is independent, impartial and not tied to any special interests. The Forum strives in all its efforts to demonstrate entrepreneurship in the global public interest while upholding the highest standards of governance.

Some **major reports** published by WEF are:

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1. Energy Transition Index
2. Global Competitiveness Report
3. Global IT Report

WEF along with INSEAD, and Cornell University publishes this report.

1. Global Gender Gap Report.
2. Global Risk Report.
3. Global Travel and Tourism Report.

**Aim:** To serve as a compass to **track progress on relative gaps between women and men** on health, education, economy and politics. Through this annual yardstick, the stakeholders within each country are able to set priorities relevant in each specific economic, political and cultural context.

### India's Position:

India has **fallen 28 places 140th among 156 countries** in the World Economic Forum's (WEF) Global Gender Gap Report 2021, becoming the third-worst performer in South Asia. In spite of prog. Like Beti Bachao Beti Padhao, One Stop Centre (OSC) Scheme, Ujjawala Scheme are some of the initiatives launched by the government to address the issue of gender inequality. The principle of gender equality is enshrined in the Indian Constitution in its Preamble, Fundamental Rights, Fundamental Duties and Directive Principles, even though India is scoring the poor rank in South Asia.

*For the 12th time, Iceland is the most gender-equal country in the world. The top 10 most gender-equal countries include Finland, Norway, New Zealand, Rwanda, Sweden, Ireland and Switzerland. According to the report, India has closed 62.5% of its gender gap to date.*

**Overall Ranking:** India is now one of the **worst performers in South Asia**, it is now ranked 140 among 156 countries. In South Asia, Bangladesh ranked 65, Nepal 106, Pakistan 153, Afghanistan 156, Bhutan 130 and Sri Lanka 116. India **had ranked 112<sup>th</sup> among 153 countries** in the **Global Gender Gap Index 2020**.

1. **Political Empowerment:** India has declined on the political empowerment index as well by 13.5 percentage points, and a decline in the number of women ministers, from 23.1% in 2019 to 9.1% in 2021. However, it has still performed relatively well compared to other countries, ranking at **51 in women's**

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participation in politics.

2. **Education Attainment:** In the index of education attainment, India has been ranked at 114.
3. **Economic Participation:** The report notes that the economic participation gender gap actually **widened in India by 3% this year**. The share of women in professional and technical roles declined further to 29.2%. The share of women in senior and managerial positions also is at 14.6% and only 8.9% firms in the country have top female managers. The estimated earned income of women in India is only one-fifth of men's, which puts the country among the bottom 10 globally on this indicator. In Pakistan and Afghanistan, the income of an average woman is below 16% of that of an average man, while in India it is 20.7%.
4. **Health and Survival index:** On this India has **fared the worst, ranking at 155**. The only country to have fared worse is China. The report points to a **skewed sex ratio** as the major factor. It says the ratio can be attributed to norms of son preference and gender-biased prenatal sex-selective practices. China and India together account for about 90 to 95% of the estimated 1.2 to 1.5 million missing female births annually worldwide due to gender-biased prenatal sex selective practices.

### Region Wise Rank:

1. **South Asia** incidentally is one of the **worst performing regions**, followed only by the Middle East and northern Africa.
2. **Largest Gender Gap in Political Empowerment:** The gender gap in political empowerment remains the largest: women represent only 26.1% of some 35,500 parliament seats and just 22.6% of over 3,400 ministers worldwide.
3. In 81 countries, there has never been a woman head of state, as of 15th January, 2021. **Bangladesh is the only country where more women have held head-of-state positions** than men in the past 50 years.
4. **Economic Participation:** The countries with the largest gender gaps in economic participation include Iran, India, Pakistan, Syria, Yemen, Iraq, and Afghanistan.
5. **Timeframe to Close the Gap:** It will take South Asia **195.4 years** to close the gender gap, while Western Europe will take 52.1 years.

Source: WEF

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### China-Iran increasing ties

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### China-Iran increasing ties

**GS-Paper-2: International issue and Political science Optional – UPSC PRELIMS – Mains Application**

**Context:** China and Iran have signed a 25-year "**strategic cooperation pact**" which includes "political-economic and strategic components". The agreement comes as a major push from China to back Iran to deal with the continuing weight of sanctions reinstated by the US after its withdrawal from the Iranian nuclear deal. In this context, it is very important for India to redesign its strategy in West Asia and the Indian Ocean.

**News:** It will deepen relations between Iran and China and would establish a blueprint for "reciprocal investments in the fields of transport, ports, energy, industry and services. It forms **a part of China's trillion-dollar Belt and Road Initiative**, a plan to fund infrastructure projects and increase its influence overseas.



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Iran has pulled away from restrictions imposed under the deal in order to put pressure on the other signatories — Germany, France, Britain, Russia and China — to provide new economic incentives to offset US sanctions.

### China and Middle East

Iran relies on China as its largest trading partner. Chinese foreign minister, in his recent visit to West Asian nations, proposed a **five-point initiative** for achieving security and stability in the Middle East, advocating "mutual respect, upholding equity and justice, achieving non-proliferation, jointly fostering collective security, and accelerating development cooperation."

Earlier, China and Russia called for the US to unconditionally return to the **Joint Comprehensive Plan of Action** as soon as possible and revoke the unilateral sanctions against Iran. In this context, they proposed "the establishment of a regional security dialogue platform to converge a new consensus on resolving the security concerns of countries in the region."

### India's Concerns

**1. Military Partnership:** China is also concluding a security and military partnership with Iran. China calls for "joint training and exercises, joint research and weapons development and intelligence sharing" to fight "the lopsided battle with terrorism, drug and human trafficking and cross-border crimes". The sizable Chinese investments in Iranian ports development **may eventually be turned into permanent military access arrangements** with Iran.

**1. Strategic Stakes Around the Chabahar Port:** With a growing Chinese presence in Iran, India is concerned about its strategic stakes around the **Chabahar port** project that it has been developing. The port is close to Gwadar port in Pakistan, which is being developed by China as part of its China-Pakistan Economic Corridor that links it to the Indian Ocean through BRI.

**2. Geopolitical Rivalry:** India finds itself caught in the geopolitical rivalry

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between the US & China over Iran. India's dilemma also stems from the fact that robust support from the US is essential when it is locked in a border stand-off with China.

- 3. Impact on Relationship with Other Countries:** Growing Chinese footsteps in Iran will have a long-lasting impact on India's relationship with not only Iran but also on Afghanistan and Central Asian nations.

Source: TH

### India's 2021 economic output-below 2019 level: UN report

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## India's 2021 economic output-below 2019 level: UN report

### GS-Paper-3: Economic issue and Economics Optional – UPSC PRELIMS – Mains Application

**Context:** India, according to the 'Economic and Social Survey of Asia and the Pacific 2021: Towards post-COVID-19 resilient economies', is estimated to record an economic growth of 7 per cent in 2021-22, over a contraction of 7.7 per cent witnessed in the previous fiscal on account of the pandemic's impact on normal business activity.

**News:** India's 2021 economic output, however, is expected to remain below the 2019 level despite a robust reduction in new Covid-19 cases and the start of vaccine roll-out. India entered the pandemic with already subdued GDP growth and investment. Moreover, one of the most stringent lockdowns in the world caused the severe economic disruptions that the country experienced in the year 2020.

A subsequent **change in lockdown policies** and **success in reducing infection rates** supported an impressive economic turnaround in the later months of 2020.

**Challenges:** The report mentions two major challenges for India on its path to faster recovery

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1. Maintaining low borrowing costs, and
2. Keeping non-performing loans in check.

### Observation Regarding Asia Pacific Countries:

1. The socio-economic impact of the Covid-19 pandemic was amplified due to lack of resilience and investments in people and the planet.
2. China's swift and effective response to Covid-19 enabled it to become the only major economy worldwide to achieve a positive annual economic growth rate in 2020.
3. On an average, developing Asia-Pacific economies are expected to grow 5.9% in 2021 and 5% in 2022.
4. The prospect of a K-shaped recovery, characterized by uneven post-pandemic recovery across countries and widened inequality gaps within countries, is highlighted as a primary policy challenge.

### K-Shaped Recovery

- A K-shaped recovery occurs when, following a recession, **different parts of the economy recover at different rates, times, or magnitudes**. This is in contrast to an even, uniform recovery across sectors, industries, or groups of people.
- A K-shaped recovery leads to **changes in the structure of the economy** or the broader society as economic outcomes and relations are fundamentally changed before and after the recession.
- This **type of recovery** is called K-shaped because the path of different parts of the economy when charted together may diverge, resembling the two arms of the Roman letter "K."

### Suggestions:

1. For a more robust and inclusive recovery, the report calls for a more synchronised Covid-19 vaccination programme across countries. There is a need to leverage regional cooperation.
2. It recommends that fiscal and monetary support should be sustained, as premature tightening could increase long-term scars.
3. Continuity in policy support is a must and recovery policy packages should focus on building resilience and investing in the 2030 Agenda for Sustainable Development.
4. To deal with various economic and non-economic shocks, a more integrated

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risk management approach to planning and policymaking is needed.

### Economic and Social Survey of Asia and the Pacific

Produced annually since 1947, the Economic and Social Survey of Asia and the Pacific is the oldest United Nations report on the region's progress.

- The Survey monitors regional progress, provides cutting-edge analyses and guides policy discussion on the current and emerging socio-economic issues and policy challenges to support inclusive and sustainable development in the region.
- Since 1957, the Survey has also contained a study or studies focusing on a significant aspect or challenge relevant to the economies of the Asia-Pacific region.
- The Survey of 2021 studies the impact of Covid-19 pandemic and provides insights for post-Covid-19 resilient economies.

### United Nations Economic and Social Commission for Asia and the Pacific

- The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) is the **regional development arm of the United Nations for the Asia-Pacific region.**
- It has **53 Member States and 9 Associate Members** from Asia-Pacific Region including India.
- Established: **1947**
- Headquarters: **Bangkok, Thailand**
- **Objective:** To overcome some of the region's greatest challenges by providing results-oriented projects, technical assistance and capacity building to member States.

Source: UNESCAP

## EPF tax rules- Social Security

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## EPF tax rules- Social Security

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**GS-Paper-3: Economic issue and Economics Optional – UPSC PRELIMS – Mains Application**

**Context:** The new EPF tax rules will come into effect from April 1, 2021 as announced in the Union Budget of 2021. Highly important for UPSC-PRELIMS and EPFO examination.

**For EPFO PREPARATION:** <https://www.aspireias.com/upsc-epfo>

**Free SOCIAL SECURITY Booklet:** [https://www.aspireias.com/uploads/upladfile/Social\\_security\\_\(2\).pdf](https://www.aspireias.com/uploads/upladfile/Social_security_(2).pdf)

### Existing rule?

If a person contributes more than the limit prescribed under **Section 80C of the Income Tax Act**, he cannot get a tax break on his excess contribution. The earnings on contributions rarely suffered taxation since tax laws pegged tax-free earnings to higher rates than the interest rate on the EPF.

Moreover the person will pay tax on their corpus, only if he withdrew it within 5 years from the comment of the contribution. This taxation framework incentivised employees to use the EPF as their primary retirement saving and it acted as risk-free retirement savings mode.

### What is the new rule?

- The new tax regulation will label a person as a high net worth individual if he misuses EPF by contributing more than Rs 2.5 lakh per annum to the EPF.
- The limit is Rs 5 lakh in cases where employers do not make contributions to the provident fund.

### What is the issue with new rules?

- With the new rule coming into effect, government assumes what is adequate for an individual on retirement.
- The decision on a common threshold of adequacy is incorrect and suffers from the flaw of one-size-fits-all approach.
- Moreover the word '**misuse**' that was used to justify the imposition of the tax is difficult to comprehend.
- This is because EPF is solely a payroll deduction and cannot be contributed in any other manner.



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- The new clause of taxing the amount exceeding the limit prescribed in the act brings the EPF to the borders of double taxation.
- 65% of EPF is invested in government securities and rest is invested in largely in PSU bonds and earnings available to the employee through interest credit mechanism.
- Despite the stickiness of these interest rate declarations and their often being higher than market rates, it is certain that the government does not subsidise this interest rate credit.

### Why it is difficult to administer?

- In addition to these flaws, there are difficulties in administering the new tax rule.
- Due to the changed of threshold from Rs 2.5 lakh to Rs 5 lakh, there can be various interpretations surrounding the applicability to EPF.
- It is also unclear if the interest on such excess contributions is taxed once during the year of contribution or throughout the term of investment in EPF.
- The mechanism of tax communication from the EPFO to the member also remains uncertain.

### Important Points

- The EPF remains a subsidy-free, pay-what-is-earned retirement fund and typifies safety with governance.
- Though pension funds are seen by governments in multiple policy contexts, they should remain, foremost, the retirement funds of the beneficiaries.
- Regulations governing contributions, taxation, investments, administration and benefits should be made in the interest of the beneficiary.
- But it seems that other imperatives dominate the agenda in pension policymaking in India.
- Therefore, the resultant outcomes are sub-optimal from a beneficiary point of view.
- Therefore the policy makers need to relook the new rules and the immediate rollback of it demonstrates the will of the policymakers to encourage retirement savings.

Source: TH

**UPSC "PT" DNA (Daily News Analysis)****Suez Canal Lakes**

GS-I | 02 April, 2021

**Suez Canal Lakes**

Due to the blockage of the Suez Canal, the \$200 billion of India's trade flows with Europe, North America and South America is at risk. So, the Department of Commerce has worked out an action plan to cope with the crisis, including possibly re-routing shipments through the Cape of Good Hope (Re-routing may take 15 additional days' time.)

**More details on SUEZ**

**CANNEL:** <https://www.aspireias.com/daily-news-analysis-current-affairs/Suez-Canal-crisis-Past-to-Present>

**MAPPING****Suez Canal significant?**

- Suez Canal is a critical shipping artery that connects the Mediterranean and Red Seas through Egypt.
- It carries over 12% of world trade by volume.
- A human-made waterway, the Suez Canal is one of the world's most heavily used shipping lanes.
- Built in 1869, it provides a major shortcut for ships moving between Europe and Asia.
- Before its construction, these ships had to sail around Africa to complete the same journey.

**Why is the Suez Canal blocked now?**

- The vessel blocking Suez is the Ever Given, a Panama-registered container ship.
- It was on its way to Rotterdam in the Netherlands from China.
- The 2018-built vessel, which is 400-m long and 59-m wide, got stuck here due to a mishap caused by bad weather.
- It was passing northwards through the Suez Canal in order to enter the Mediterranean Sea.

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- The ship weighing 2 lakh tonnes ran aground and got stuck sideways across the canal.
- It is suspected of being hit by a sudden strong wind, causing the hull to deviate and accidentally hit the bottom and run aground.
- It is thus blocking the path of other ships waiting to cross through on both sides.
- None of the crew members was injured.
- The Suez Canal Authority (SCA) is now trying to refloat the Ever Given using rescue and tug units.
- Diggers are also trying to free the ship from the canal's bank, where it is lodged.

### Suez Canal

- Opened in 1869, it is an artificial sea-level waterway in Egypt.
- It connects the Mediterranean Sea to the Red Sea through the Isthmus of Suez in Egypt, and divides Africa and Asia.
- It offers watercraft a more direct route between the North Atlantic and northern Indian oceans, avoiding the South Atlantic and Indian oceans.
- It extends from the northern terminus of Port Said to the southern terminus of Port Tewfik at the city of Suez.
- It provides the shortest maritime route between Europe and the lands lying around the Indian and western Pacific oceans.

### Cape of Good Hope

- The Cape of Good Hope is a rocky headland on the Atlantic coast of the Cape Peninsula in South Africa.
- There is a misconception that the Cape of Good Hope is the southern-most point of Africa. But the Cape Agulhas is the southern-most point.
- The currents of the Atlantic and Indian Oceans meet at the point where the warm-water Agulhas current meets the cold-water Benguela current and turns back on itself.
- That oceanic meeting point fluctuates between Cape Agulhas and Cape Point (about 1.2 kms east of the Cape of Good Hope).

Source: TH

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### Purple Revolution

GS-I | 02 April, 2021

## Purple Revolution

**Council of Scientific and Industrial Research-Indian Institute of Integrative Medicine, Jammu announced phase 2 of purple revolution under Aroma Mission, after the success of the phase 1 in Doda, Jammu.** Under the purple revolution, the farmers in Doda district had their incomes quadrupled after shifting from maize to lavender cultivation.

First-time farmers were given free lavender saplings and those who have cultivated lavender before were charged Rs. 5-6 per sapling. The farmers will get help from IIIM-Jammu to sell their produce.

Farmers could reach the four distillation units set up by CSIR-IIIM Jammu in Doda for extraction of lavender oil.

- At present, large-scale lavender cultivation is limited to J&K but governments in Himachal Pradesh, Arunachal Pradesh and Uttarakhand are also encouraging their farmers to take up lavender.

**Purple Economy:** Lavender oil sells for at least Rs 10,000 per litre. Lavender water can be separated from lavender oil. It is used to make incense sticks. Hydrosol is formed after distillation from the flowers. It is used to make soaps and room fresheners.

### Aroma Mission

- In 2016, the Centre launched Aroma Mission to boost cultivation of plants for essential oils which have aromatic medicinal properties.
- The mission supports domestic aromatic crop based agro economy to move from imported aromatic oils to homegrown varieties.
- Nodal laboratory - CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow.
- Participating laboratories - CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur; CSIR-Indian Institute of Integrative Medicine (CSIR-IIIM), Jammu etc.

Source: PIB

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### CIISCO Algorithm- Aditya-L1 Solar probe – UPSC Prelims S&T

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### CIISCO Algorithm- Aditya-L1 Solar probe – UPSC Prelims S&T

Coronal Mass Ejections (CMEs) Identification in Inner Solar Corona (CIISCO) algorithm will be used in India's first solar mission, Aditya-L1. **CIISCO was developed by the Aryabhata Research Institute of observational sciences (ARIES) and Royal Observatory of Belgium.**

This new algorithm will be used to detect and track the accelerating Coronal Mass Ejections (CMEs) in the lower corona of the Sun. Previously, Computer Aided CME Tracking Software (CACTus) based on a **computer vision algorithm** was used to detect and characterise such eruptions.

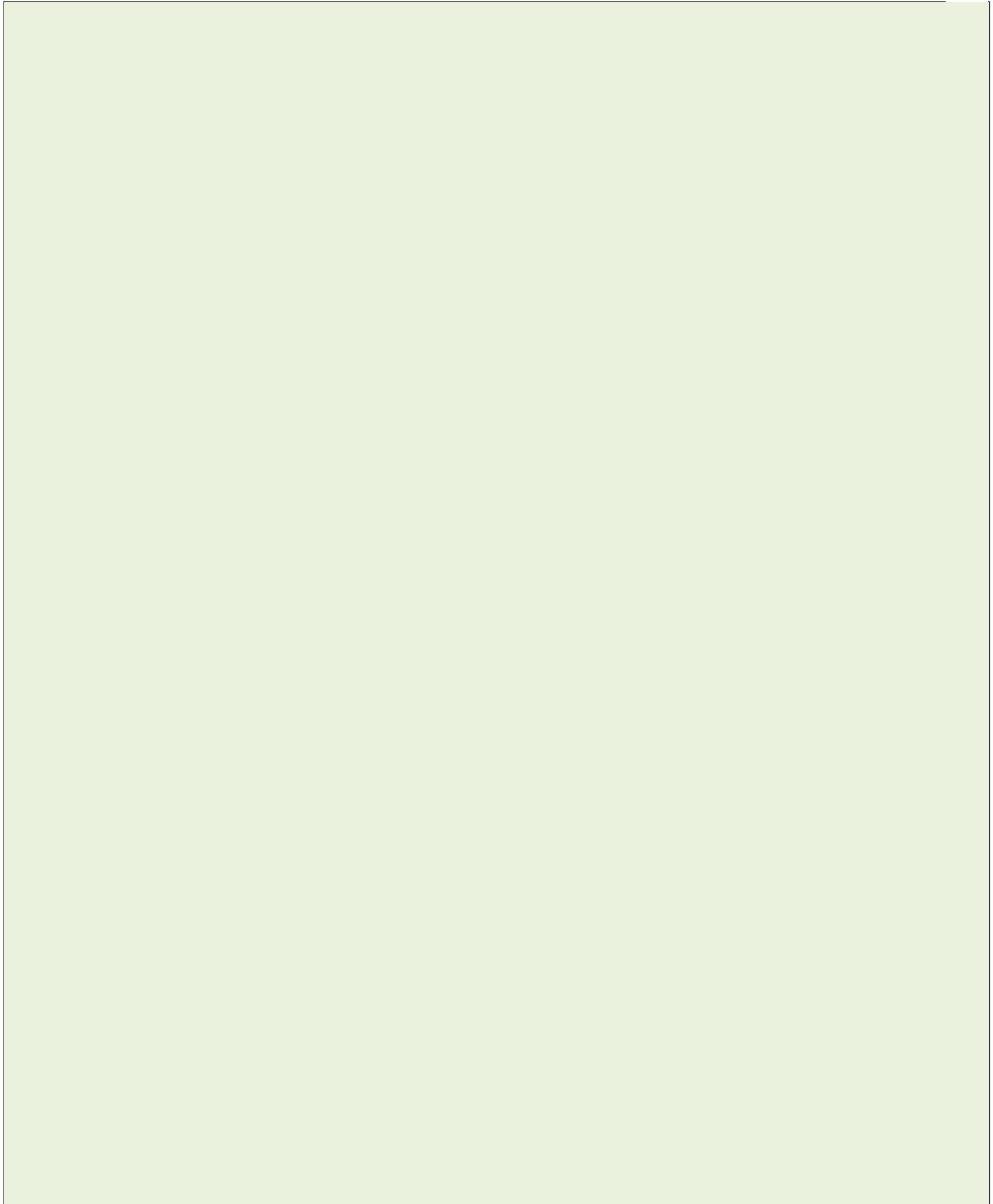
This vision algorithm detects the CMEs automatically in the outer corona where these eruptions cease to show accelerations and propagate with a nearly constant speed. However, this algorithm could not be applied to the inner corona observations due to the vast acceleration experienced by these eruptions.

#### Coronal Mass Ejections

- Coronal Mass Ejections (CMEs) that comes from the Sun are huge bubbles of gas threaded with magnetic field lines.
- They cause various disturbances to the space environment, and cause geomagnetic storms, satellite failures, and power outages.



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**What are the observations expected from Aditya L1?**

Observations on the following:

Sun's photosphere (soft and solid X-rays)

Chromosphere (UV) and

Corona (visual and NIR)

### Lagrange Point 1

- Lagrange Points, named after Italian-French mathematician Joseph-Louis Lagrange, are positions in space **where the gravitational forces of a two-body system (like the Sun and the Earth) produce enhanced regions of attraction and repulsion.**
- The L1 point is about 1.5 million km from Earth, or about 1/100th of the way to the Sun.
- L1 refers to Lagrangian/Lagrange Point 1, one of 5 points in the **orbital plane of the Earth-Sun system.**
- These can be used by spacecraft to **reduce fuel consumption** needed to remain in position.
- A Satellite placed in the halo orbit around the Lagrangian point 1 (L1) has the major advantage of continuously viewing the Sun without any occultation/eclipses.
- The L1 point is home to the **Solar and Heliospheric Observatory Satellite (SOHO)**, an international collaboration project of **National Aeronautics and Space Administration (NASA)** and the **European Space Agency (ESA).**

### Other Missions to the Sun

1. NASA's **Parker Solar Probe's** aim is to trace how energy and heat move through the Sun's corona and to study the source of the **solar wind's acceleration.** It is part of NASA's '**Living With a Star**' programme that explores different aspects of the Sun-Earth system.
2. The earlier **Helios 2** solar probe, a **joint venture** between **NASA** and space agency of erstwhile **West Germany**, went within 43 million km of the Sun's surface in **1976.**

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Source: IE

### Large Hadron Collider

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## Large Hadron Collider

### GS-Paper-3: S&T– UPSC PRELIMS – Mains Application

**Context:** Large Hadron Collider **beauty Experiment**. The LHCb experiment at CERN (European Council for Nuclear Research) has announced the results of their latest analysis of data. LHCb is an experiment set up to explore what happened after the Big Bang that allowed the matter to survive and build the Universe we inhabit today.

Fourteen billion years ago, the Universe began with a bang. Crammed within an infinitely small space, energy coalesced to form equal quantities of matter and antimatter. But as the Universe cooled and expanded, its composition changed. Just one second after the Big Bang, antimatter had all but disappeared, leaving the matter to form everything that we see around us — from the stars and galaxies to the Earth and all life that it supports.



### Imp Points:

- Physicists at the Large Hadron Collider (LHC) in Switzerland might have discovered a brand new force of nature.
- LHC is the world's largest and most powerful particle accelerator. It is present in the European Council for Nuclear Research's (CERN's) accelerator complex and was first started up on 10 September 2008.
- It has a 27-kilometre ring of superconducting magnets with a number of accelerating structures to boost the energy of the particles along the way.
- It is designed to produce proton-proton collision, to be followed by collisions between lead nuclei. Higgs Boson is called the god particle.

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- Inside the accelerator, two high-energy particle beams travel at close to the speed of light before they are made to collide. The beams travel in opposite directions in two separate beam pipes kept at ultrahigh vacuum.
- They are guided around the accelerator ring by a strong magnetic field maintained by superconducting electromagnets.
- Much of the accelerator is connected to a distribution system of **liquid helium**, which cools the magnets, as well as to other supply services.

### What is the new finding?

- CERN scientists are excited enough to reveal that if the anomaly they had detected was confirmed.
- Because, if confirmed, it would require a new physical process, such as the existence of new fundamental particles or interactions.

### What is this excitement all about?

It is necessary to delve into the world of elementary particles to understand this.

#### (1) Particle zoo

Until now it is believed that the electron, muon and tauon and their antiparticles, though they differ in mass, behave similarly in particle interactions.

- Broadly speaking, elementary particles are classified into the particles called baryons – which include protons, neutrons and their antiparticles the antiprotons etc.
- The "middle mass" particles, roughly speaking, are called the mesons and they include members such as the K and B particles.
- We then have the leptons, which include the electron and its cousins the muon and tau particles and the anti-particles.
- At a still smaller scale, there are tiny particles called quarks and gluons.
- There are six flavours of quarks: up, down, truth, beauty, charm and strange. They too have antiquarks associated with them.

In this particle zoo, while the baryons are made up of combinations of three quarks, the mesons contain two quarks, more accurately a quark and antiquark pair, and the leptons are truly fundamental and are thought to be indivisible.

#### (2) Colliding particle beams

By interactions here, is meant the following:

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- If a huge particle accelerator such as the LHC were to accelerate beams of hadrons (such as protons) to very high speeds, a fraction of that of light, and then cause them to collide.
- Basically, smash through the repulsive nuclear forces and shatter them, the hadrons would break up into constituents which would recombine to form short-lived particles, which would decay into stabler states.
- Roughly speaking, during this process, they are imaged in a huge multistorey detector and the number of specific processes and particles are counted.

### (3) Lepton universality principle

- One such process that was measured was the decay of a meson B (which contained the beauty quark) into K-meson (which contains the strange quark) and a muon-antimuon pair, and this was compared with the decay of B into K and an electron-antielectron pair.
- The expectation is that the ratio of the strengths of these two sets of interactions would be just one.
- This is because the muons are not essentially different from the electrons as per the Standard Model, the presently accepted theoretical model of all elementary particle interactions.
- This is called the lepton universality principle.

**More Article on**  
**LHC:** <https://www.aspireias.com/daily-news-analysis-current-affairs/Particle-physics-Large-Hadron-Collider-experiment>

Source: TH

## Biodiversity Heritage Sites in India: UPSC PRELIMS

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## Biodiversity Heritage Sites in India: UPSC PRELIMS

### GS-Paper-3: Environment– UPSC PRELIMS – Mains Application

**Context:** BHS are areas that are unique, ecologically fragile ecosystems - terrestrial, coastal, and inland and marine waters - having rich biodiversity.



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**Maharashtra government declared an area at Amboli in Western ghats in Sindhudurg district as a Biodiversity Heritage Site (BHS).**

**More Envi Information:** [http://www.wiienviis.nic.in/Database/bhs\\_8650.aspx](http://www.wiienviis.nic.in/Database/bhs_8650.aspx)

BHS are areas that are unique, ecologically fragile ecosystems - terrestrial, coastal, and inland and marine waters - having rich biodiversity.

- The biodiversity comprises of any one or more of the components like,
  1. Species richness - Wild and domesticated species or intra-specific categories,
  2. High endemism,
  3. Presence of rare, endemic and threatened species, keystone species, species of evolutionary significance,
  4. Presence of wild ancestors of domestic/cultivated species or land races or their varieties,
  5. Past pre-eminence of biological components represented by fossil beds and having cultural or aesthetic values.
  6. Area with significant cultural, ethical or aesthetic values; important for the maintenance of cultural diversity

### As per the Section 37 of the Biological Diversity Act, 2002,

State Governments can notify in the official gazette, in consultation with 'local bodies', areas of biodiversity importance as BHS.

State Government in consultation with the Central Government may frame rules for the management and conservation of BHS.

State Governments can frame schemes for compensating or rehabilitating anyone economically affected by such notification.

State Biodiversity Boards (SBB) may invite suggestions for declaration of BHSs, through the Biodiversity Management Committees (BMCs) and other relevant community institutions.

Areas having any of the following characteristics may qualify for inclusion as BHS.

Biodiversity Heritage Site (BHS)	District/State
Nallur Tamarind Grove	Bangalore, Karnataka
Hogrekan	Chikmagalur, Karnataka
University of Agricultural Sciences, Bengaluru	Karnataka
Ambaraguda	Karnataka
Glory of Allapalli	Maharashtra

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Tonglu BHS and Dhotrey BHS under the Darjeeling Forest Division	Darjeeling, West Bengal
Mandasaru	Odisha
Dialong Village	Manipur
Ameenpur lake	Telangana
Majuli	Assam
Gharial Rehabilitation Centre	Lucknow, Uttar Pradesh
Chilkigarh Kanak Durga	West Bengal
Purvatali Rai	Goa
Naro Hills	Madhya Pradesh
Asramam	Kerala

### Schistura Hiranyakeshi

- It is a new small freshwater fish species discovered near Amboli in Sawantwadi tehsil of Sindhudurg district.
- It is a rare sub-species of Schistura, a freshwater loach.
- Named after the Hiranyakeshi River near Amboli village, this fish is a colourful fish that lives in water and streams in an abundance of oxygen.
- It was important to conserve this species as it might face extinction due to fishing activities.

Source: ENVIS

### Jammu and Kashmir Lakes

GS-III | 02 April, 2021

### Jammu and Kashmir Lakes

Srinagar's Dal Lake along with five other ones in Jammu and Kashmir are to be declared protected wetlands.

### Wetland

**Information:** <https://www.aspireias.com/upsc-related-facts-and-data/Ramsar-sites-Wetlands-in-India-Quick-facts>

## UPSC "PT" DNA (Daily News Analysis)

**Other lakes - Wular Lake, Nigeen Lake in the Kashmir region; Sanasar Lake, Manasbal Lake and Purmandal lake or Chotta Kashi (in Samba district) in the Jammu region.**

The decision was taken in the meeting of the Jammu and Kashmir Wetland Authority, chaired by Chief Secretary.

Chief Secretary asked the Forest Department to profile various wetlands of Jammu and Kashmir and recommend their notification under,

Environment Protection Act, 1986 and  
Wetland (Conversation & Management) rules.

Forest Department is the nodal department for the preparation of digital inventory, documentation and development of a geo-spatial database on wetlands.

Source: ENVIS

## Apophis Asteroid and Asteroid research programmes

GS-III | 02 April, 2021

### Apophis Asteroid and Asteroid research programmes

#### GS: Paper-3: Space-based missions: Prelims-Personality Test

First detected in 2004, Apophis is now officially off National Aeronautics and Space Administration's (NASA's) asteroid "risk list". **This has ruled out any chance of Apophis smacking Earth in 2068**, and don't show any impact risk for at least the next 100 years.

**Asteroids** or planetoids or minor planets are made up of metals and rocks. They revolve around the sun and are too small to be called planets. Asteroid belt is located roughly between the orbits of the planets Jupiter and Mars. The mass of all the asteroids is less than that of Earth's moon.

## UPSC "PT" DNA (Daily News Analysis)

### Asteroids

These are **rocky objects that orbit the Sun**, much smaller than planets. They are **also called minor planets**. According to NASA, 9,94,383 is the count of known asteroids, the **remnants from the formation of the solar system over 4.6 billion years ago**.

Asteroids are **divided into three classes**.

1. First, those found in the **main asteroid belt** between Mars and Jupiter, which is estimated to contain somewhere between 1.1-1.9 million asteroids.
2. The second group is that of **trojans**, which are asteroids that share an orbit with a larger planet. NASA reports the presence of Jupiter, Neptune and Mars trojans. In 2011, they reported an Earth trojan as well.
3. The third classification is **Near-Earth Asteroids (NEA)**, which have orbits that pass close by the Earth. Those that cross the Earth's orbit are called **Earth-crossers**.

More than 10,000 such asteroids are known, out of which over 1,400 are classified as **potentially hazardous asteroids (PHAs)**. PHAs are currently defined based on parameters that measure the asteroid's potential to make threatening close approaches to the Earth. Specifically, all asteroids with an Earth Minimum Orbit Intersection Distance (MOID) of 0.05 au or less and an absolute magnitude (H) of 22.0 or less are considered PHAs.

### Sentry

- It is NASA's highly automated collision monitoring system that continually scans the most current asteroid catalog for possibilities of future impact with Earth over the next 100 years.
- Whenever a potential impact is detected, it will be analyzed and the results will be immediately published in the 'asteroid risk list', except in unusual cases where independent confirmation is sought.

### Asteroid Impact and Deflection Assessment (AIDA)

- It is the first international space mission to demonstrate asteroid impact hazard mitigation by using a kinetic impactor to deflect an asteroid and measure the deflection.
- This mission that targets a double asteroid called Didymos is cooperation between NASA's Double Asteroid Redirection Test (DART) mission and

## UPSC "PT" DNA (Daily News Analysis)

European Space Agency's (ESA's) Hera.

1. **DART (to be launched in 2021)** would slam into the smaller asteroids of the Didymos system in 2022.
2. **Hera (to be launched in 2024)** would measure the impact crater produced by DART collision and study the change in the asteroid's orbital trajectory. It will arrive at the Didymos system in 2027.

AIDA will help in studying asteroid strength, surface physical properties and internal structure.



## UPSC "PT" DNA (Daily News Analysis)

**asteroid.** Psyche spacecraft will **land on the asteroid in early 2026.** As the composition of Psyche is very similar to earth's own core, its study will also **give an insight to earth's violent history** of collisions and accretion that created it.

### OSIRIS-REx

**NASA's OSIRIS-REx spacecraft** briefly touched **asteroid Bennu**, from where it is meant to collect samples of dust and pebbles and deliver them back to Earth in 2023.

#### What is the OSIRIS-REx mission?

**OSIRIS-Rex** stands for Origins, Spectral Interpretation, Resource Identification, Security-Regolith Explorer.

1. This is **NASA's first mission meant to return a sample from the ancient asteroid.**
2. Launched in 2016, it reached its target in 2018.
3. The departure window for the mission will open up in 2021, after which it will take over two years to reach back to Earth.

#### Asteroid Bennu:

The asteroid was discovered by a team from the NASA-funded **Lincoln Near-Earth Asteroid Research team in 1999.**

Scientists believe that it was **formed in the first 10 million years of the solar system's formation**, implying that it is **roughly 4.5 billion years old.**

1. Because of Bennu's age, **it is likely to contain material that contains molecules that were present when life first formed on Earth**, where life forms are based on carbon atom chains.
2. Because of its **high carbon content**, the asteroid **reflects about four per cent of the light that hits it**, which is very low when compared with a planet like Venus, which reflects about 65 per cent of the light that hits it. **Earth reflects about 30 per cent.**
3. It classified as **a Near Earth Object (NEO)**, might strike the Earth in the next century, between the years 2175 and 2199.

## UPSC "PT" DNA (Daily News Analysis)

Japan Aerospace Exploration Agency (JAXA) has decided to make a **crater on asteroid 1999 JU3 (Ryugu)** to collect underground samples. This is part of the **Hayabusa 2 mission** launched in December 2014, to explore asteroid 1999 JU3 (Ryugu). The purpose of drilling is to collect samples for possible clues to the origin of the solar system.

### Hayabusa 2

- **Hayabusa 2 was launched in December 2014 and is planned to complete a mission of six years.**
- It arrived at Ryugu in July 2018 and **will spend 18 months studying the asteroid before making its return to Earth in December 2020.**
- The mission builds on the original Hayabusa mission that was launched in 2003 and successfully linked up with asteroid Itokawa in 2005.
- It returned samples to Earth in 2010 marking the first time sample materials from an asteroid were brought back to Earth.

### Why Study Asteroids?

- Asteroids, like comets, are primitive bodies that can be considered to be the **building blocks of the early solar system**. They hold a record of the birth and initial evolution of the solar system.
- Larger planets like Earth went through a more complex evolution over which the pristine materials were melted and altered significantly. Due to this change, the materials found on large planets do not hold information into their early stages of formation.
- **Comets and asteroids, formed early in the evolution of the Solar System, retain a record of when, where and in what conditions they were formed. Exploration of these primitive bodies is essential in gaining insight into the formation of the Solar System.**

Source: TH

**Dindori Millets Project- Agriculture UPSC**

GS-III | 02 April, 2021

## UPSC "PT" DNA (Daily News Analysis)

### Dindori Millets Project- Agriculture UPSC

**GS: Paper-3: Agriculture and Dry Land area Development: Prelims- Personality Test**

**Context:** 2023 will be observed as the International Year of Millets after India's proposal to the Food and Agricultural Organization (FAO) was approved. In the last six decades, millets have seen a drop in area despite green evolution in the 1960s; however, the productivity seems to go up with the help of high-yield varieties and better technologies.

International Fund for Agricultural Development (IFAD) has supported an initiative to revive kodo millet and kutki (little millet) cultivation in Dindori district of Madhya Pradesh.

- The IFAD project was started in 2013-14, with women-farmers from 40 villages - mostly from the Gonda and Baiga tribes - growing these two minor millets.
- The identified farmers were supplied good-quality seeds and trained by Jawaharlal Nehru Agricultural University in Jabalpur and the local Krishi Vigyan Kendra.
- They were trained on field preparation, line-sowing and application of compost, zinc, bavastin fungicide and other specific plant protection chemicals.
- Further, a federation of the farmers' self-help groups undertook procurement of the produce and also its mechanical de-hulling.
- [Mechanical de-hulling is the traditional time-consuming manual pounding process to remove husk from the grain.]
- The IFAD project has helped in meeting nutritional goals and reviving millet cultivation.

#### Millets

Millets score over rice and wheat, whether in terms of vitamins, minerals and crude fibre content or amino acid profile. They are gluten-free. In 2018, the Union Agriculture Ministry declared millets as "Nutri-Cereals", considering their "high nutritive value" and also "anti-diabetic properties". **2018 was observed as 'National Year of Millets'**. The UN General Assembly too adopted an India-sponsored resolution to mark 2023 as the "International Year of Millets". Yet, these high-nutrient cereals (fine grains) aren't the first choice of either consumers or farmers.

## UPSC "PT" DNA (Daily News Analysis)

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### Background of Millets

Millets are one of the oldest foods, these are the **small-seeded hardy crops which can grow well in dry zones or rain-fed areas** under marginal conditions of soil fertility and moisture. Millets are cultivated in low-fertile land, tribal and rain-fed and mountainous areas. **These areas include Haryana, Uttar Pradesh, Chhattisgarh, Gujarat, Rajasthan, Madhya Pradesh, Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu and Telangana.**

Due to their short growing season, millets can develop from seeds to ready to harvest crops in just about 65 days. This highly beneficial characteristic of the millets is of vital importance in thickly populated regions of the world. If stored properly, millets can keep well for two years or beyond.

Millets can not only grow in poor climatic or soil conditions and provide nutritious grain as well as fodder, but these can also very well fit into multiple cropping systems under irrigation as well as dryland farming due to their short growing season.

The prolonged and easy storability of millets under ordinary conditions has given them the status of **Famine Reserves** and this feature is of great importance for India, as the agriculture of our country suffers from unexpected changes in monsoon.

### Types of Millets in India

The millets commonly grown in India include **Jowar (sorghum), Bajra (pearl millet), ragi (finger millet), Jhangora (barnyard millet), Barri (Proso or common millet), Kangni (foxtail/ Italian millet), Kodra (Kodo millet) etc.** Let us read about them in detail and also learn their regional names.

1. **Barnyard Millet** is a high source of iron and fibre. It is known as Kuthiravali in Tamil, Oodhalu in Kannada, Odalu in Telugu, Kavadapullu in Malayalam and Sanwa in Hindi.
2. **Finger Millet** is a staple that is a very good substitute for oats and cereals. It is known as Ragi in Kannada, Ragulu in Telugu, Kelvaragu in Tamil, Koovarugu in Malayalam and Mundua in Hindi.
3. **Foxtail Millet** is rich in minerals and vitamins. It is known as Thina in Tamil, Kirra in Telugu, Thinna in Malayalam, Navane in Kannada and Kangni in

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Hindi.

4. **Little Millet** is also loaded with iron and fibre, the regional names are Chama in Malayalam, Same in Kannada, Samai in Tamil, Sama in Telugu and Kutki in Hindi.
5. **Proso Millet** is known as Barri in Hindi, Panivaragu in Tamil & Malayalam, in Kannada it is called Baragu and Varigalu in Telugu
6. **Pearl Millet** is a high source of proteins, it is known as Bajra in Hindi, Sajje in Kannada, Sajjalu in Telugu, Kambu in Tamil and Kambam in Malayalam

### Importance of Millets

According to the Ministry of Agriculture & Farmers Welfare, in **2016 – 2017, the area under the cultivation of millet declined with 60% less coverage area (to 14.72 million hectares) due to change in consumption pattern**, conversion of irrigated area for wheat and rice cultivation, unavailability of millets, low yield, dietary habits, less demand. This resulted in fall in the level of nutrients **like vitamin-A, protein, iron and iodine in women and children leading to malnutrition.**

1. Most of the millets are non-acid forming, non-glutinous, highly nutritious, and easily digestible foods. Due to low glycaemic index (GI) being gluten-free, it helps in a slower release of glucose over a longer period of time thus reducing the risk of diabetes mellitus. Individuals suffering from celiac disease can easily incorporate various millets in their diets.
2. Millets are rich sources of minerals like calcium, iron, zinc, phosphorus, magnesium, and potassium. It also contains appreciable amounts of dietary fibre and vitamins such as folic acid, vitamin B6,  $\beta$ -Carotene, and niacin. The availability of high amounts of lecithin is useful for strengthening the nervous system. Therefore, regular consumption of millets can help to overcome malnutrition.
3. Although Millets are rich in phytochemicals like tannins, phytosterols, polyphenols and antioxidants, they do contain some anti-nutritional factors which can be reduced by certain processing treatments.
4. Millets have a wide capacity for adaptation because they can grow from coastal regions of Andhra Pradesh to moderately high altitudes of North-eastern states and hilly regions of Uttarakhand. Millets can withstand variations in moisture, temperature and the type of soils ranging from heavy to sandy infertile lands.



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The Indian policymakers refocused their attention towards millet farming systems and enacted policies to create an enabling environment for the farmers. With respect to millets production, some of the existing schemes by the Government of India include:

1. Integrated Cereals Development Programmes in Coarse Cereals ICDP-CC based Cropping Systems Areas under Macro Management of Agriculture -MMA.
2. Initiative for Nutritional Security through Intensive Millet Promotion – INSIMP a part of Rashtriya Krishi Vikas Yojana” – RKVY which is the only comprehensive initiative to support millet production.
3. Rainfed Area Development Programme – RADP: a component of the Rashtriya Krishi Vikas Yojana – RKVY.

**Given below are some of the advantages of Production of Millets in India.**

1. Millets are termed as the 'miracle grains' or 'crops of the future' as they can not only grow under harsh circumstances but are drought-resistant crops that require fewer external inputs.
2. Millets are dual-purpose crops. It is cultivated both as food & fodder, thus providing food/livelihood security to millions of households and contributing to the economic efficiency of farming.
3. Millets contribute to mitigating climate change as it helps reduce the atmospheric carbon pressure CO<sub>2</sub>. On the contrary, Wheat being a thermally sensitive crop and Paddy is a major contributor to climate change through methane emission.
4. Production of millets does not depend on the use of chemical fertilizers. The millet crops do not attract pests and are not affected by storage.
5. Millets are remarkable in their nutritive value be it vitamins, minerals, dietary fibre or other nutrients. It is nearly 3 to 5 times nutritionally superior to wheat and rice. Sorghum (Jowar) is an important source of polyphenols, antioxidants, and cholesterol-lowering waxes.
6. Millets help in curbing obesity, lowers the risk of hypertension, CVDs, T2DM, cancers as well as helps in preventing constipation due to their high dietary fibre content coupled with low glycaemic index.

### Millets as Smart Crop

- Millets are **Photo-insensitive** (do not require a specific photoperiod for flowering) & **resilient to climate change**.
- Millets **can grow on poor soils** with little or no external inputs.

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- Millets are less water consuming and are **capable of growing under drought conditions**, under non-irrigated conditions even in very low rainfall regimes
- Millets have **low carbon and water footprint** (rice plant needs at least 3 times more water to grow in comparison to millets).
- Millets can **withstand high temperature**. In times of climate change Millets are often the last crop standing and, thus, are a good risk management strategy for resource-poor marginal farmers.

Source: IE

ASPIRE IAS

## UPSC "PT" DNA (Daily News Analysis)

### National Policy for Rare Diseases, 2021

GS-II | 03 April, 2021

## Rare diseases in India

- According to the government, so far **only about 450 diseases** have been recorded in India from tertiary care hospitals that are globally considered as rare diseases.
- The **most commonly reported diseases** include Haemophilia, Thalassemia, Sickle-cell Anaemia and Primary Immuno Deficiency in children, auto-immune diseases, Lysosomal storage disorders such as Pompe disease, Hirschsprung disease, Gaucher's disease, Cystic Fibrosis, Hemangiomas and certain forms of muscular dystrophies.
- There are 7,000 - 8,000 rare diseases, but **less than 5% have therapies available**.
- About 95% rare diseases have no approved treatment and less than 1 in 10 patients receive disease specific treatment.
- Where drugs are available, they are **expensive**.

## National Health Policy for Rare Diseases, 2020

- The Delhi High Court directed the Centre to finalise the National Health Policy for Rare Diseases of 2020 by March 31 and make operational provision of crowdfunding envisaged under the law for treatment of high-cost rare diseases.
- Justice Prathiba M. Singh passed the direction while hearing two different pleas concerning children, who are suffering from **duchenne muscular dystrophy**, a condition that causes progressive muscle degeneration and weakness in the victim.

#joinourtelegram#

## About National Policy for Rare Diseases, 2020

- It proposes to **set up a registry** under the Indian Council of Medical research (ICMR) to create a database.
- To provide **financial assistance of up to Rs 15 lakh to Ayushman Bharat beneficiaries for rare diseases** that require a one-time treatment in **tertiary hospitals only**.
- It also suggests **voluntary crowdfunding** as an alternate means of financial

## UPSC "PT" DNA (Daily News Analysis)

- support and notifying government hospitals to facilitate treatment.
- Alternatively, the draft proposes to set up a **digital platform** for voluntary crowdfunding.
- The draft policy also **categorises rare diseases under three categories** based on clinical experiences and treatment availability.
- The policy also states that in the absence of data to clearly define rare diseases, such diseases in India will construe the three categories as identified in the policy.

It offers no clarity on long-term financial assistance, appears designed on donations

### Criticism of the Draft Policy

- The government, in its policy paper, has proposed financial support of up to ₹15 lakh under an umbrella scheme of the **Rashtriya Arogya Nidhi** for those rare diseases that require a one-time treatment.
- Beneficiaries for such financial assistance would not be limited to Below Poverty Line (BPL) families, but extended to 40% of the population eligible as per the norms of the Pradhan Mantri Jan Arogya Yojana, for their treatment in government tertiary hospitals only.
- "The 2017 policy on rare diseases had proposed a ₹100 crore corpus fund allocation for the treatment of patients with rare diseases, which was a Centre-State partnership of 60:40, with each State forming a technical committee to evaluate patients' applications. That has come down to ₹15 lakh support for diseases needing one-time treatment. Clearly, now, after a major lag, the policy has come with no hope in sight," noted a release from the Lysosomal Storage Disorders Support Society.
- It appears the entire policy is drafted to justify that government cannot provide treatment due to high cost as it is resource constrained.
- The policy has adopted a very narrow scope limited to only 3 categories, while ignoring those where treatment is yet to be developed and R&D is required.

### Rashtriya Arogya Nidhi (RAN) (formerly National Illness Assistance Fund)

1. It was set up in **1997** and provides **financial assistance** to patients living BPL and suffering life threatening diseases like heart, liver, kidney and cancer.

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2. **Funding:** Initial contribution of Rs. 5 crore by Ministry of Health and Family Welfare (MoHFW). Apart from that, Fund could also be subscribed to by individuals, corporate bodies in public or private sector, philanthropic organisations etc. in India and Abroad (subject to FCRA regulations)
3. A **revolving fund** has been set up in 12 Govt hospitals
  1. For financial assistance upto ceiling of Rs 2 lakhs per patient (Rs 5 lakh for emergency cases since 2015).
  2. In 2015, Govt enhanced the power of Govt hospitals to sanction assistance from 2 lakhs to Rs. 5 lakhs. For assistance beyond Rs 5 lakhs (since 2015), the matter is referred to MoHFW.
  3. Upto Rs. 10 Lakh can be sanctioned to 1 patient, subject to approvals by the technical committee of RAN.
  4. Reimbursement of medical expenditure already incurred by the patients is not permissible under RAN.
4. **No grant is released for patients seeking treatment at private hospitals.**
5. Common diseases and for which other schemes provide free treatment are also not eligible for grants.
6. All contributions to TAN by resident entities are exempted from Income tax.
7. All States / UTs have been "**advised**" to set up **State Illness Assistance Fund**.
8. Within RAN, Govt also provides financial assistance through Health Minister' Cancer Patient Fund (HMCPF) set up in 2009 for cancer patients. It has an amount of 100 crore.
9. Those who are not covered under RAN, are covered under Health Minister's Discretionary Grant with financial assistance upto Rs. 1.25 lakhs.

### What is the news?

- The Delhi High Court has set up a special committee to find a time-bound solution on ways to provide treatment and therapy options to patients suffering from rare diseases.
- Justice Prathiba M. Singh ordered the committee to also give "immediate concrete proposals for crowdfunding of the costs of treatment for children with rare diseases".
- The High Court's direction came while hearing a bunch of petitions filed by



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patients suffering from rare diseases such as **Duchenne Muscular Dystrophy (DMD) and Hunter's syndromes** seeking direction to the government to provide them uninterrupted free treatment in view of the exorbitant cost of treatment.

### What is DMD and Hunter's syndromes?

- DMD is a condition that causes progressive muscle degeneration and weakness in the victim.
- Hunter's syndromes is a rare disease that is passed on in families. It mostly affects boys and their bodies cannot break down a kind of sugar that builds bones, skin, tendons, and other tissues.

To further read the news on Orphan drugs and Rare diseases: [click here](#)

Source: TH

## Joint Comprehensive Plan of Action (JCPOA): Iran Nuclear Deal

GS-II | 03 April, 2021

### Joint Comprehensive Plan of Action (JCPOA): Iran Nuclear Deal

#### What is JCPOA? About Iran nuclear deal?


- Iran agreed to rein in its nuclear programme in a 2015 deal struck with the US, UK, Russia, China, France and Germany.
- Under the Joint Comprehensive Plan of Action (JCPOA) Tehran agreed to significantly cut its stores of centrifuges, enriched uranium and heavy-water, all key components for nuclear weapons.
- The JCPOA established the Joint Commission, with the negotiating parties all represented, to monitor implementation of the agreement.

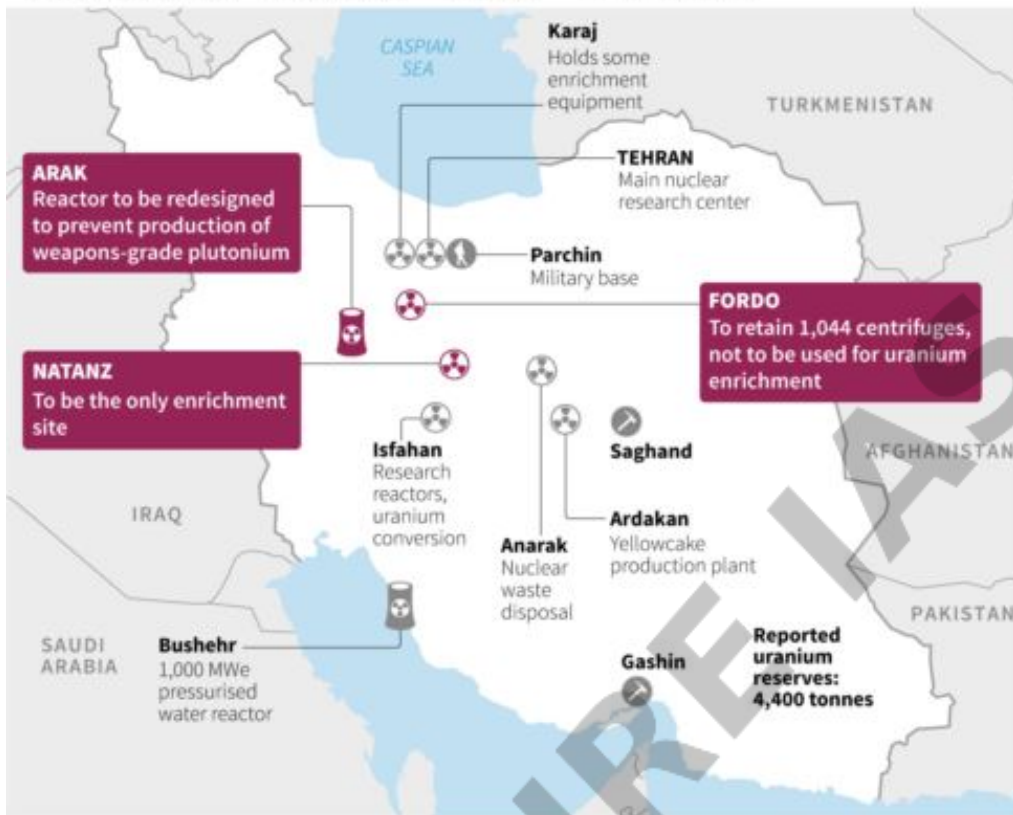
## UPSC "PT" DNA (Daily News Analysis)

### 2015 Iran nuclear deal

Historic agreement was designed to block Tehran's pathway to a nuclear weapon

#### Major facilities

(approximate locations)  Nuclear site  Reactor  Uranium mine




Sources: IAEA/NTI/ISIS/USNRC/World-nuclear.org


► Closer inspections, under the Additional Protocol, including potentially of military bases

► IAEA surveillance equipment to be installed in mines and nuclear facilities

#### Enrichment

The uranium enrichment process increases the proportion of U235, needed for energy production, by separating it from U238

 Civil use: the proportion of U235 is increased 4-5% to produce fuel for power stations

 Military use: uranium enriched to at least 90% of U235 to produce nuclear weapons

#### Under the deal

- Slash the number of uranium centrifuges from about 19,000 to 5,060 for 10 years
- Stockpile of low-enriched uranium to be reduced from 10,000 kg to 300 kg for 15 years

AFP

### Why did Iran agree to the deal?

- It had been hit with devastating economic sanctions by the United Nations, United States and the European Union that are estimated to have cost it tens of billions of pounds a year in lost oil export revenues. Billions in overseas assets had also been frozen.

### Iran's objective

- By doing so, Iran is trying to increase the pressure on Britain, France and Germany in particular to find some arrangement that will allow them to sell the oil they were buying when Iran was not under sanctions. That requires some level of US support to waive sanctions against European firms by the United States. So far, the US has not agreed to do that.
- Iran is now operating 60 IR-6 advanced centrifuges. Such a centrifuge can produce enriched uranium 10 times as fast as the first-generation IR-1s

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allowed under the accord.

- By starting up these advanced centrifuges, Iran further cuts into the one year that experts estimate Tehran would need to have enough material for building a nuclear weapon – if it chose to pursue one.

### Why did US pull out of the deal?

- Trump and opponents to the deal say it is flawed because it gives Iran access to billions of dollars but does not address Iran's support for groups the U.S. considers terrorists, like Hamas and Hezbollah.
- They note it also doesn't curb Iran's development of ballistic missiles and that the deal phases out by 2030. They say Iran has lied about its nuclear program in the past.

### Impact of escalated tensions between Iran and the US:

- Iran can make things difficult for the U.S. in Afghanistan as also in Iraq and Syria.
- The U.S.'s ability to work with Russia in Syria or with China regarding North Korea will also be impacted.
- And sooner or later, questions may be asked in Iran about why it should continue with other restrictions and inspections that it accepted under the JCPOA, which would have far-reaching implications for the global nuclear architecture.
- Coming after the rejection of the Trans-Pacific Partnership (TPP), the Paris climate change accord and the North American Free Trade Agreement, President's decision further diminishes U.S. credibility.

### Implications for India:

- **Oil and Gas:** The impact on world oil prices will be the immediately visible impact of the U.S. decision. Iran is presently India's third biggest supplier (after Iraq and Saudi Arabia), and any increase in prices will hit both inflation levels as well as the Indian rupee.
- It would impact the development of Chabahar port.
- **International North–South Transport Corridor:** New U.S. sanctions will affect these plans, especially if any of the countries along the route or banking and insurance companies dealing with the INSTC plan also decide to adhere to U.S. restrictions on trade with Iran.
- **Shanghai Cooperation Organisation:** China may consider inducting Iran

## UPSC "PT" DNA (Daily News Analysis)

into the SCO. If the proposal is accepted by the SCO, which is led by China and Russia, India will become a member of a bloc that will be seen as anti-American, and will run counter to some of the government's other initiatives like the Indo-Pacific quadrilateral with the U.S., Australia and Japan.

- **Rules-based order:** By walking out of the JCPOA, the U.S. government has overturned the precept that such international agreements are made by "States" not just with prevailing governments or regimes.

### What role does the U.N. Security Council play in this crisis?

- The Security Council adopted a resolution in 2015 that endorsed the nuclear agreement and ended U.N. sanctions against Iran.
- The resolution, 2231, includes what is known as a "snapback" provision that could reinstate those sanctions if other parties to the agreement complained that Iran was cheating. Such a step would likely doom the agreement.

### Global Implications:

1. Down trends in global economy.
2. Fuel prices would reach high points.
3. Iran may block Strait of Hormuz which is a strategic choke point which in turn would affect global trade.
4. Giant economy like India, China and Russia will suffer.
5. US has cancelled airlines from US to India because they pass over Iran which would affect airspace industry.

For editorial on USA – Iran issues: click here <https://www.aspireias.com/daily-news-analysis-current-affairs/USA-Iran-issues>

For recent news on USA – Iran nuclear deal and IAEA: click here <https://www.aspireias.com/daily-news-analysis-current-affairs/Iran-Nuclear-Deal-and-JCPOA>

Source: TH

**New irrigation techniques - PMKSY**



# UPSC "PT" DNA (Daily News Analysis)

GS-III | 03 April, 2021

## New irrigation techniques - PMKSY

### Background

- Water resources development & management are planned, funded, executed and maintained by the **State Governments (PT Pointer)** themselves as per their own resources and priorities.
- In order to supplement the efforts of the State Governments, Government of India provides technical and financial assistance to State Governments to encourage sustainable development and efficient management of water resources through various schemes and programmes.

### Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

- PMKSY was launched during 2015-16 by the Central Government with the following components, Accelerated Irrigation Benefits Programme (AIBP), Har Khet Ko Pani (HKKP), Per Drop More Crop (PDMC) and Watershed Development (WD).
- PMKSY is strategize by focusing on end-to end solution in irrigation supply chain, viz. water sources, distribution network, efficient farm level applications, extension services on new technologies & information etc.
- Funding mechanism has been approved by the Government for providing Central and State Share under Long Term Irrigation Fund (LTIF) through NABARD.
- PMKSY **focuses on irrigation techniques** by, among others,
  1. Promoting efficient water conveyance and field application devices within the farm viz, underground piping system, Drip & Sprinklers, pivots, rain-guns and other application devices etc.;
  2. Promotion of scientific moisture conservation and run off control measures to improve ground water recharge so as to create opportunities for farmer to access recharged water through shallow tube/dug wells,
  3. Creation of new water sources;
  4. repair, restoration and renovation of defunct water sources;
  5. construction of water harvesting structures, secondary & micro storage, groundwater development, enhancing potentials of traditional water bodies at village level.
  6. Use of Underground Pipelines (UGPL) in the Distribution Network of the projects has been actively promoted for increasing the water conveyance



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efficiency and overcoming the issues related to Land Acquisition, evaporative/ percolation losses etc.

- Department of Agriculture, Cooperation & Farmers' Welfare is implementing Per Drop More Crop component of PMKSY.
- It mainly focuses on water use efficiency at farm level through precision/micro irrigation.
- Besides promoting precision irrigation (Drip and Sprinkler Irrigation System) and better on-farm water management practices to optimize the use of available water resources, this component also supports micro level water storage or water conservation/management activities to supplement micro irrigation.

### Command Area Development and Water Management (CADWM)

- The HKKP- Command Area Development and Water Management (CADWM) program has been taken up with objectives of
  1. utilize Irrigation Potential Created (IPC) under the project soon after its creation;
  2. improve water use efficiency;
  3. increase agricultural productivity & production; and
  4. bring sustainability in the irrigated agriculture in a participatory environment.
- Under CADWM Scheme, States are also encouraged to use the underground pipeline network instead of conventional field channels.
- The implementation of Participatory Irrigation Management (PIM) is also being promoted through CADWM.

### Other Schemes

- The **Surface Minor Irrigation (SMI) and Repair, Renovation and Restoration (RRR) of Water Bodies** schemes have multiple objectives like expanding cultivable area under assured irrigation, improving water use efficiency, ground water recharge, improvement and restoration of water bodies thereby increasing the tank storage capacity and revival of lost irrigation potential, increased availability of drinking water, improvement of catchment of tank commands etc.
- **Central Ground Water Board** is implementing innovative schemes for **Aquifer Rejuvenation under 'Ground Water Management and Regulation' scheme** in select overexploited blocks of the Aspirational districts on pilot basis.

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- **Water Harvesting and Recharge Augmentation** are completed as a pilot project through construction of Bridge cum Bhandaras in districts of Wardha and Amravathi in Maharashtra.
- Further, a joint Action Plan has been prepared with the Ministry of Rural development for effective implementation of water conservation and artificial recharge structures in convergence with Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).
- **Ground Water Irrigation component of PMKSY-HKHP**
  1. It aims to provide financial assistance to States to provide assured ground water irrigation for small and marginal farmers, in rain-fed areas.
  2. Schemes is applicable only in areas having stage of ground water development less than 60%, average rainfall more than 750 mm rainfall and with shallow ground water levels (less than 15 m bgl).
  3. The scheme is effectively launched in 2019-20, after revision of operational guidelines of the scheme.
- **National Water Mission (NWM) has taken up Jal Shakti Abhiyan:**
  1. Catch the Rain and Sahi Fasal campaigns for water conservation. "Jal Shakti Abhiyan: Catch the Rain" is under implementation in all districts, rural as well as urban areas, of the country with the main theme "Catch the Rain, where it falls, when it falls".
  2. The period of the campaign is from 22nd March, 2021 to 30th November, 2021 – the pre-monsoon and monsoon period in the country.
  3. **'Sahi Fasal' campaign** was launched by NWM on 14.11.2019 to nudge farmers in the water stressed areas to grow crops which are not water intensive, but use water very efficiently; and are economically remunerative; are healthy and nutritious; suited to the agro-climatic- hydro characteristics of the area; and are environmentally friendly.

Source: PIB

## Production Linked Incentive (PLI) Scheme for Food Processing Industry

GS-III | 03 April, 2021

## UPSC "PT" DNA (Daily News Analysis)

### Production Linked Incentive (PLI) Scheme for Food Processing Industry

#### Background:

- The food processing sector in India encompasses manufacturing enterprises in all the segments from micro to large industries.
- India is having competitive advantage in terms of resource endowment, large domestic market and scope for promoting value added products.
- Achieving full potential of this sector would require Indian companies to improve their competitive strength vis-a-vis their global counterpart in term of scale of output, productivity, value addition and their linkages with the global value chain.

#### About the PLI Scheme

- The Production Linked Incentive Scheme for Food Processing Industry has been formulated based on the Production Linked incentive scheme of NITI Aayog under "AatmaNirbhar Bharat Abhiyaan for Enhancing India's Manufacturing Capabilities and Enhancing Exports".
- The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has approved the Central Sector Scheme - "Production Linked Incentive Scheme for Food Processing Industry (PLISFPI)" to support creation of global food manufacturing champions commensurate with India's natural resource endowment and support Indian brands of food products in the international markets with an outlay of Rs. 10900 crore.

#### Objectives of the Scheme:

The objectives of the Scheme are to support food manufacturing entities with stipulated minimum Sales and willing to make minimum stipulated investment for expansion of processing capacity and Branding abroad to incentivise emergence of strong Indian brands:

1. Support creation of global food manufacturing champions;
2. Strengthen select Indian brand of food products for global visibility and wider acceptance in the international markets;
3. Increase employment opportunities of off-farm jobs,
4. Ensuring remunerative prices of farm produce and higher income to farmers.

#### Salient features:

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1. The first component relates to incentivising manufacturing of four major food product segments viz. Ready to Cook/ Ready to Eat (RTC/ RTE) foods, Processed Fruits & Vegetables, Marine Products, Mozzarella Cheese.
2. Innovative/ Organic products of SMEs including Free Range -Eggs, Poultry Meat, Egg Products in these segments are also covered under above component.
3. The selected applicant will be required to undertake investment, as quoted in their Application (Subject to the prescribed minimum) in Plant & Machinery in the first two years i.e. in 2021-22 & 2022-23.
4. Investment made in 2020-21 also to be counted for meeting the mandated investment.
5. The conditions of stipulated Minimum Sales and mandated investment will not be applicable for entities selected for making innovative/ organic products.
6. The second component relates to support for branding and marketing abroad to incentivise emergence of strong Indian brands.
7. For promotion of Indian Brand abroad, the scheme envisages grant to the applicant entities for - in store Branding, shelf space renting and marketing.
8. Scheme will be implemented over a six year period from 2021-22 to 2026-27.
9. The scheme will be rolled out on All India basis.
10. The scheme shall be implemented through a Project Management Agency (PMA).

Source: PIB

### Atal Innovation Mission (AIM) - PRIME Scheme launched

GS-II | 03 April, 2021

## Atal Innovation Mission (AIM) - PRIME Scheme launched

### About Atal Innovation Mission

The Atal Innovation Mission (AIM) is a flagship initiative set up by the NITI Aayog to promote innovation and entrepreneurship across the length and breadth of the country.

AIM's objectives are to create and promote an ecosystem of innovation and

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entrepreneurship across the country at school, university, research institutions, MSME and industry levels.

### Functions

The Atal Innovation Mission has following two core functions:

- Entrepreneurship promotion through Self-Employment and Talent Utilization, wherein innovators would be supported and mentored to become successful entrepreneurs.
- Innovation promotion: to provide a platform where innovative ideas are generated.

### Atal Tinkering Labs

- To promote creative, innovative mind set in schools. At the school level, AIM is setting up state of the art Atal Tinkering Labs (ATL) in schools across all districts across the country.
- These ATLs are dedicated innovation workspaces of 1200-1500 square feet where do-it-yourself (DIY) kits on latest technologies like 3D Printers, Robotics, Internet of Things (IOT), Miniaturized electronics are installed using a grant of Rs 20 Lakhs from the government so that students from Grade VI to Grade XII can tinker with these technologies and learn to create innovative solutions using these technologies.
- This will enable create a problem solving, innovative mind set within millions of students across the country.
- More than just grants, the ATL program is undertaking on-the-ground activities to engage students and teachers in identifying problems in and around their communities and creating innovative solutions leveraging the ATL technologies to achieve the objectives of the program.
- Every school would have an ATL In charge appointed by the school as well as Mentors associated to mentor the ATL students.
- All ATL in charges to date have received training through AIM and its partners. AICTE (All India Council of Technical Education) is also partnering with AIM to ensure that the closest universities to a school can also mentor ATL students.
- Atal Innovation Tinkering challenges are regularly held in the school as well as by AIM every month to ensure students active involvement in creating innovative solutions to solve problems in their community and in the country.



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- The vision is to have every school have access to at least one or more Atal Tinkering Labs in each district of the country, as well as to scale the same up with the help of state education ministries across the length and breadth of the country.
- Also Government / Govt Aided schools, and Girls schools, North East and Hilly District schools get a special preference in the consideration of ATL selections.

### Atal Incubators

- Promoting entrepreneurship in universities and industry. At the university, NGO, SME and Corporate industry levels, AIM is setting up world-class Atal Incubators (AICs) that would trigger and enable successful growth of sustainable startups in every sector /state of the country, thereby promoting entrepreneurs and job creators in the country addressing both commercial and social entrepreneurship opportunities in India and applicable globally.
- AIM is also providing scale up support to existing incubators for scaling up their operations. AIM is providing a grant of upto Rs 10 crores to successful applicants for setting up greenfield incubators or scaling up existing ones. The idea is that every one of the 110 named smart cities and the top 5-10 educational / industrial institutions of every state should aspire to have a world class incubator that will provide the youth / startup communities in the universities / industries opportunity to create new start ups. Women led incubators and entrepreneurial startups are strongly encouraged by AIM.
- Again here, the longer term approach would be to scale up with the help of other ministries / states / sectors / public sector organizations as this would be crucial to create thousands of job creators in India.

### Atal New India Challenges and Atal Grand Challenges

- To promote technology driven innovations and product creation for social and commercial impact.
- Atal New India Challenges / Atal Grand Challenges are being launched in specific areas and sectors of national importance - such as Renewable Energies, Energy Storage, Climate-smart precision agriculture, Universal drinking water, Swachh Bharat, Transportation, Education, Healthcare using Robotic, IOT technologies, Artificial Intelligence, Block-chain, Augmented and

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Virtual reality, Battery Technologies etc.

- The successful applicants will get a grant of upto Rs 1 crore for Atal New India Challenges and larger grants of upto Rs 30 crores for Atal Grand Challenges. AIM is also partnering with corporates and other institutions to launch such challenges to stimulate new product and service development in various sectors.

### Industry, Academia, Government, Global Collaborations

- To enable a vibrant ecosystem of innovation, AIM is promoting active collaboration between Government, Academia, Industry, Individuals and Societal focused NGOs.
- AIM has set up one of the largest Mentoring networks in India called Mentor India from the professional and industry community who can help mentor students at Atal Tinkering Labs and AIC Incubators / startups.
- Qualified mentors will be assigned to various AICs. A number of industry leaders and corporate organizations have volunteered to adopt ATLS/AICs in their vicinities to ensure close mentoring and success of these initiatives. AIM is also actively working on establishing collaborations with innovation systems and entities in other countries in APAC, Europe, UK, USA, Africa and Latin American Countries.

Source: Vikaspedia <https://vikaspedia.in/education/policies-and-schemes/atal-innovation-mission>

### AIM-iCREST is an Incubator Capabilities Enhancement program for a Robust Ecosystem

- AIM-iCREST is an Incubator Capabilities Enhancement program for a Robust Ecosystem focused on creating high performing Startups.
- It has been designed to act as a growth support for AIM's Atal and Established Incubators across the country.
- For the same, AIM has joined hands with Bill & Melinda Gates Foundation and Wadhvani Foundation - organizations that can lend credible support and expertise in the entrepreneurship and innovation space.
- The AIM's incubators are set to be upscaled and provided requisite support to foster the incubation enterprise economy, that will help them to significantly enhance their performance.
- This will be complemented by providing training to entrepreneurs, through technology driven processes and platforms.
- The focus will be on supporting start-up entrepreneurs in knowledge creation

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and dissemination as well as in developing robust and active networks.

### AIM's Atal and Established Incubators:

- Business incubators are institutions that support entrepreneurs in developing their businesses, especially in initial stages.
- Incubation is usually done by institutions which have experience in the business and technology world.

### Atal Incubation Centres:

- AIM intends to support the establishment of new incubation centres called Atal Incubation Centres (AICs) that would nurture innovative start-ups in their pursuit to become scalable and sustainable business enterprises.

### Established Incubation Centres:

- In recent years, academia, industry, investors, small and big entrepreneurs, government organizations, and non-governmental organizations have taken an initiative to set up incubation centres across the country.
- AIM envisages to upgrade these Established Incubation Centres (EICs) to world-class standards.

### Atal Innovation Mission – PRIME (Program for Researchers on Innovations, Market-Readiness & Entrepreneurship)

- In a major push towards deep technology and driving the country to become a digitally transformed nation, Atal Innovation Mission (AIM), NITI Aayog today launched AIM-PRIME (Program for Researchers on Innovations, Market-Readiness & Entrepreneurship), an initiative to promote and support science-based deep-tech startups & ventures across India.
- In this regard, AIM has joined hands with Bill & Melinda Gates Foundation (BMGF) to launch this nationwide program which will be implemented by Venture Center - a non-profit technology business incubator.
- The first cohort of the program is open to technology developers (early-stage deep tech start-ups, and scientists/ engineers/ clinicians) with strong science-based deep tech business ideas.
- The program is also open to CEOs and Senior incubation managers of AIM Funded Atal Incubation Centers that are supporting deep tech entrepreneurs.
- Deep technology is an outcome of very intense research and development (R&D) with high knowledge content.
- Consequently, the entrepreneurial journey emphasizes different aspects and

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requires a different approach to navigating the de-risking process and bringing such ideas to market.

- **Benefits of AIM- PRIME**

1. The benefits of this program are aimed at addressing specific issues through training and guidance over a period of 12 months.
2. Candidates selected for the program will get access to in-depth learning via a comprehensive lecture series, live team projects, exercises, and project-specific mentoring.
3. They will also have access to a deep tech startup playbook, curated video library, and plenty of peer-to-peer learning opportunities.
4. The AIM-PRIME program is specifically tailored for the rapid scaling up of deep-tech science ventures in India, providing not just the necessary intellect and support but also the exposure they rightly deserve.

Source: PIB

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### Phase III eCourts Project of Supreme Court

GS-II | 04 April, 2021

#### Phase III eCourts Project of Supreme Court

- In another major initiative the eCommittee Supreme Court has prepared the draft vision document for Phase III of the eCourts Project under the auspices of the Supreme court of India.
- E-Courts Project is a mission mode project undertaken by the Department of Justice, Government of India.
- The eCommittee Supreme Court of India yesterday released the Draft Vision document for Phase III of the aforementioned e-Courts Project.
- The eCommittee of the Supreme Court has been overseeing the implementation of the eCourts Project, conceptualized under the "National Policy and Action Plan for Implementation of Information and Communication Technology (ICT) in the Indian Judiciary-2005".
- The eCommittee has evolved in terms of its roles and responsibilities over the last fifteen years. A solid foundation for the objectives of the eCommittee has been substantially achieved in the first two phases of the Project.
- The objectives of the eCommittee include:
  1. Interlinking of all courts across the country;
  2. ICT enablement of the Indian judicial system;
  3. Enabling courts to enhance judicial productivity, both qualitatively and quantitatively;
  4. Making the justice delivery system accessible, cost-effective, transparent and accountable; and
  5. Providing citizen-centric services.
- Phase III of the eCourts Project in India is rooted in two central facets—**access and inclusion**.
- Phase III of the eCourts Project envisions a judicial system that is more easily accessible irrespective of geographical distances, efficient and equitable for every individual who seeks justice, makes more efficient use of human and other resources, and absorbs the latest technology for a positive environmental impact.

**This vision for Phase III is sought to be built on the following four building blocks:**

1. **Core Values:** Phase III must strive for a modern judicial system, governed by core values of trust, empathy, sustainability and transparency which, while simplifying procedures, will maximise the positives of technology and



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minimise its risks and challenges.

2. **Whole-of-system approach:** Phase III must aim to make processes more efficient across all three components of dispute management i.e. dispute avoidance, containment and resolution. Each of these components will require technological integration with different institutions.
3. **Adoption frameworks:** Phase III must focus on building strong adoption frameworks. Such frameworks must include behavioural nudges, adequate training and skill set development, feedback loops, along with the requisite mandate of law.
4. **Governance framework:** From a governance perspective, while numerous judicial decisions have validated the use of technology in judicial processes, Phase III must address the accompanying administrative structures. The key goals and strategy of Phase III prioritise the creation of a core digital infrastructure that can enable the development of services for dispute resolution by the judiciary and services of solutions for dispute containment and resolution by the ecosystem.

Source: PIB

## Stand Up India Scheme

GS-II | 04 April, 2021

### Stand Up India Scheme

- Stand up India Scheme was launched on 5th April 2016 to promote entrepreneurship at grassroot level focusing on economic empowerment and job creation. This scheme has been extended up to the year 2025.
- The **objective** of Stand-Up India is to promote entrepreneurship amongst women, Scheduled Castes (SC) & Scheduled Tribes (ST) categories, to help them in starting a greenfield enterprise in trading, manufacturing and services sector, by both ready and trainee borrowers.

### The purpose of Stand-Up India is to:

- promote entrepreneurship amongst women, SC & ST category.
- Provide loans for setting up greenfield enterprises in manufacturing, services

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or the trading sector & activities allied to agriculture by both ready and trainee borrowers

- facilitate bank loans between Rs.10 lakh to Rs.1 crore to at least one Scheduled Caste/ Scheduled Tribe borrower and at least one woman borrower per bank branch of Scheduled Commercial Banks

### Why Stand-Up India?

- The Stand-Up India scheme is based on recognition of the challenges faced by SC, ST and women entrepreneurs in setting up enterprises, obtaining loans and other support needed from time to time for succeeding in business.
- The scheme therefore endeavors to create an eco-system which facilitates and continues to provide a supportive environment for doing business.
- The scheme seeks to give access to loans from bank branches to borrowers to help them set up their own enterprise.
- The scheme, which covers all branches of Scheduled Commercial Banks, will be accessed in three potential ways:
  1. Directly at the branch or,
  2. Through Stand-Up India Portal ([www.standupmitra.in](http://www.standupmitra.in)) or,
  3. Through the Lead District Manager (LDM).

### Who all are eligible for a loan?

- SC/ST and/or women entrepreneurs, above 18 years of age.
- Loans under the scheme are available for only green field projects. Green field signifies, in this context, the first time venture of the beneficiary in the manufacturing, services or the trading sector & activities allied to agriculture
- In case of non-individual enterprises, 51% of the shareholding and controlling stake should be held by either SC/ST and/or Women Entrepreneur.
- Borrowers should not be in default to any bank/financial institution.

Source: PIB

## Integrated Health Information Platform (IHIP)

GS-III | 04 April, 2021

### Integrated Health Information Platform (IHIP)

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- The Integrated Health Information Platform is the next generation highly refined version of the presently used Integrated Disease Surveillance Programme (IDSP).
- We have started a new chapter in India's public health trajectory. India is the first country in the world to adopt such an advanced disease surveillance system.
- The new version of IHIP will house the data entry and management for India's disease surveillance program.
- In addition to tracking 33 diseases now as compared to the earlier 18 diseases, it shall ensure near-real-time data in digital mode, having done away with the paper-mode of working.
- Terming this as the world's biggest online disease surveillance platform, he stated that it is in sync with the National Digital Health Mission and fully compatible with the other digital information systems presently being used in India.
- The refined IHIP with automated -data will help in a big way in real time data collection, aggregation & further analysis of data that will aid and enable evidence-based policy making, he explained.
- IHIP will provide health information system developed for real time, case-based information, integrated analytics, advanced visualization capability.
- It will provide analyzed reports on mobile or other electronic devices.
- In addition, outbreak investigation activities can be initiated and monitored electronically.
- It can easily be integrated with other ongoing surveillance program, while having the feature of addition of special surveillance modules.

### Integrated Disease Surveillance Project

- The Integrated Disease Surveillance Project was launched by the Ministry of Health and Family Welfare, in assistance with the World Bank, in 2004.
- It continued as the Integrated Disease Surveillance Programme (IDSP) during 12th Plan (2012–17) under the National Health Mission with a domestic budget.
- Under it, a Central Surveillance Unit (CSU) at Delhi, State Surveillance Units (SSU) at all State/Union Territories (UTs) head quarters and District Surveillance Units (DSU) at all Districts have been established.

### Objectives:

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- To strengthen/maintain decentralized laboratory based and IT enabled disease surveillance systems for epidemic prone diseases to monitor disease trends.
- To detect and respond to outbreaks in the early rising phase through trained Rapid Response Teams (RRTs).

### Programme Components:

- Integration and decentralization of surveillance activities through establishment of surveillance units at Centre, State and District level.
- Human Resource Development – Training of State Surveillance Officers (SSOs), District Surveillance Officers (DSOs), RRT and other medical and paramedical staff on principles of disease surveillance.
- Use of Information Communication Technology for collection, collation, compilation, analysis and dissemination of data.
- Strengthening of public health laboratories.
- Inter sectoral Coordination for zoonotic diseases.

### Helps in Controlling the Disease Outbreak:

- Data is collected on epidemic prone diseases on a weekly basis.
- The weekly data gives information on the disease trends and seasonality of diseases.
- The information is collected on three specified reporting formats, namely "S" (suspected cases), "P" (presumptive cases) and "L" (laboratory confirmed cases) filled by Health Workers, Clinicians and Laboratory staff respectively.
- Whenever there is a rising trend of illnesses in any area, it is investigated by the RRT to diagnose and control the outbreak.

### IDSP Portal:

- The IDSP portal is a one stop portal which has facilities for data entry, view reports, outbreak reporting, data analysis, training modules and resources related to disease surveillance.

Source: PIB

## UPSC "PT" DNA (Daily News Analysis)

### Manual Scavenging in India

GS-I | 05 April, 2021

## Manual Scavenging

**Syllabus subtopic:** Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and bodies constituted for the protection and betterment of these vulnerable sections.

**Prelims and Mains focus:** about the problem of manual scavenging in India; reasons and govt's efforts in curbing it.

### Background

- While **civil society started a movement in the 1990s** to abolish dry latrines, the focus now is on manhole deaths and provision of safety equipment to sanitation workers.
- The movement has been demanding the abolition of the dehumanising practice of the **manual removal of human excreta** and calls for the **introduction of mechanisation for handling waste**.
- Various State governments and the previous Central governments have responded to these civil society demands by introducing different laws to stop manual scavenging and provide incentives to build toilets.
- Still the problem of manual scavenging is persisting in India, even in 2020.

### What is Manual Scavenging?

- Scavenging is the practice of manual cleaning of human excreta from service/ dry latrines.
- The scavengers crawl into the dry latrines and collect the human excreta with their bare hands, carry it as head-load in a container to dispose it off.
- Manual scavenging refers to the practice of manually cleaning, carrying, disposing or handling in any manner, human excreta from dry latrines and sewers. It often involves using the most basic of tools such as buckets, brooms and baskets.

### Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act in 1993

- In **1993**, the then government promulgated an **Act prohibiting the**



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construction of unsanitary dry latrines and employing manual scavengers.

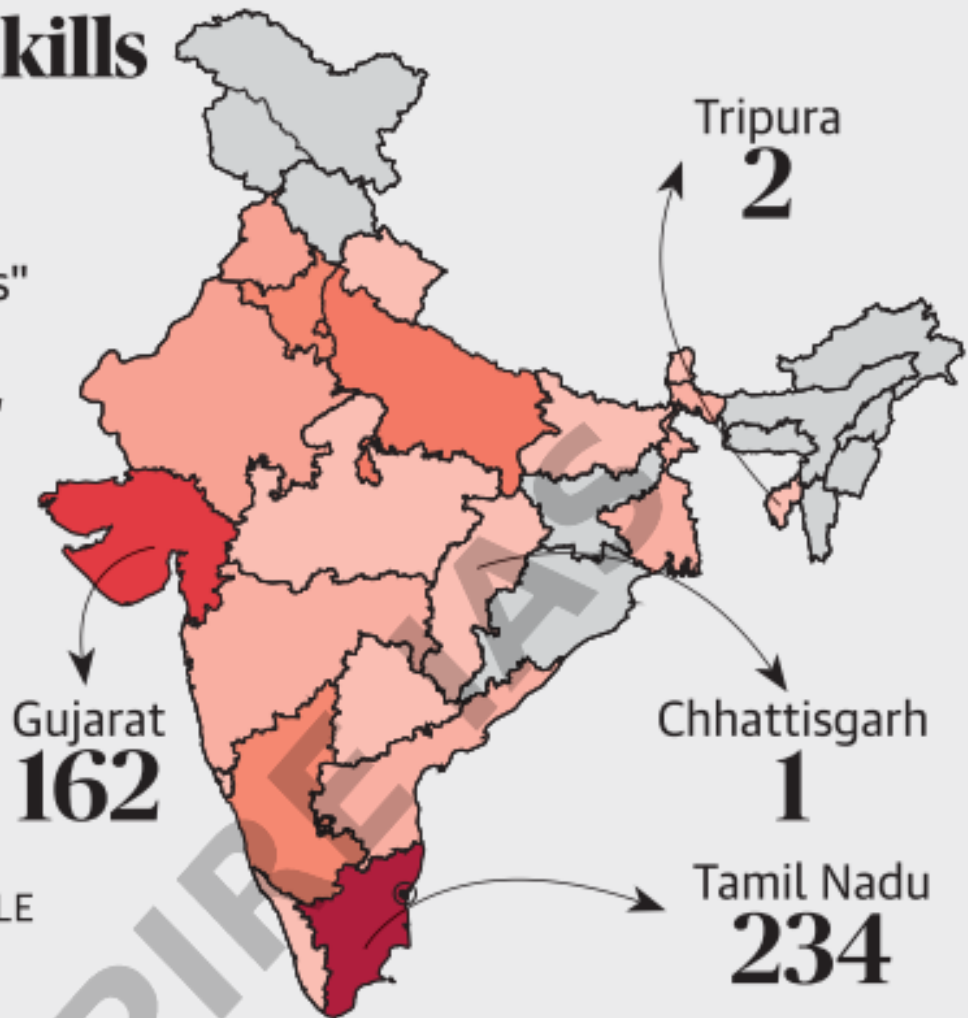
- The Act defined 'manual scavenger' as a person engaged in or employed for manually carrying human excreta.
- The government's description of dry latrine was a problem, as it defined dry latrine as "latrine other than a water-seal latrine".
- Manual scavenging was not just a practice related to dry latrines, but also to insanitary latrines and open defecation.
- Until the introduction of the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act in 1993, State governments had a post called 'scavengers'.
- A scavenger's job was to manually remove human excreta in households and designated places.
- The local authorities levied scavenging tax on houses for availing this service.
- But after the Act was introduced, State governments themselves became agencies that would enforce prohibition of the construction or usage of dry latrines.

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### A job that kills

Tamil Nadu recorded the highest number of "sewer deaths" (234), followed by Gujarat (162), between 1993 and 2019. Map shows such deaths in the period. Darker the colour, more the deaths

DATA NOT AVAILABLE FOR STATES COLOURED GREY



### Safai Karamchari Andolan

- Ten years later, the **Safai Karamchari Andolan**, a social movement that **campaigns against manual scavenging**, along with other organisations, filed a **public interest litigation** in the Supreme Court.
- The **demand was to direct State governments and Union Territories to strictly enforce the law** to stop the practice of manual removal of human excreta.
- Mounting pressure from civil society, coupled with the intervention of the Supreme Court, forced the **Central government to conduct a survey of manual scavengers in 2013**.

### Survey of manual scavengers:

- The survey found that **dry latrines and manual removal of human excreta**

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still persisted.

- In the same year, the government introduced the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013**.
- Though the construction of dry latrines has drastically reduced, the **number of deaths in manholes, sewers and septic tanks** continues to remain high.
- The present government had plans to amend the 2013 Act to **completely mechanise** the cleaning of sewers and manholes and build new sewers.
- But neither the past nor the present amendment addresses the issue of labour safety.
- Same is the case with the Swachh Bharat Abhiyan, which skirts the issue of labour rights and the stigma attached to sanitation.
- As a matter of fact, in Tamil Nadu, all political parties have trade unions for government servants, except for sanitation workers.

### Concerns of sanitation workers:

- **Bodily wastes are seen as unholy elements** that need to be **kept away from places of living, cooking, studying, or worshipping**.
- Not only toilets, but even cleaning work is seen as a lowly job in India.
- Dalit movements have been found wanting in this regard — there have **hardly been any organised movements to demand permanent job status for sanitation workers**.
- Most **sanitation contracts are given to private contractors** or self-help groups, and such **staff hardly have ID cards**, leave alone the protection of medical insurance policies.
- Workforce in sanitation departments is **recruited via open competition**.
- The **local administration** usually approaches particular caste members during such hiring.
- The situation is so dire that while we find volunteers to distribute food and undertake rescue operations during natural calamities, hardly any volunteer offers to do clean-up work or dispose of dead bodies.
- During the last Chennai floods, sanitation workers from the Nilgiris district were made to travel in garbage trucks to Chennai.
- This situation has continued even during the COVID-19 pandemic.
- In Tamil Nadu, sanitation workers are asked to work in newly formed COVID-19 wards. For example, the Gudalur municipality in the State issued an order to six of its staff members to work in COVID-19 wards.
- Similarly, in Kotagiri town panchayat, officials asked the sons of sanitation workers to work in COVID-19 wards.

### Question of dignity

- Unlike other labour forces, **sanitation workers do not have a separate rule-**

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**book that lays down guidelines** for their work timings, holidays, a proper place for roll call, removal from duty, etc.

- For example, in the Nilgiris district of Tamil Nadu, all the sanitation workers have to stand outside the office during the morning and afternoon roll calls.
  - If they reach early, they are seen sitting on roadside pavements.
  - Even though there are spaces within the office premises, the officers force them to stand outside. The officials claim that the practice is traditional and that for any change, new rules need to be formed.
- There are **no vehicles for sanitation workers** to travel to their designated workspaces, and they have to either walk for kilometres or use garbage vehicles.
- This is a **forced choice** and is connected to the dignity of a worker.
- To put this in contrast, no supervisor would stand and travel with the sanitation workers.

### The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013

This Act intends to, inter alia, achieve its objectives to:-

- Eliminate the insanitary latrines.
- Prohibit:-
  - a. Employment as Manual Scavenger
  - b. Hazardous manual cleaning of sewer and septic tanks.
- Survey of Manual Scavengers and their rehabilitation, within a time bound manner.

### **Main features of the Act are:-**

- Definitions of manual scavengers and insanitary latrines widened to cover not only dry latrines but other insanitary latrines as well.
- Prohibition of person from engagement or employment for hazardous cleaning of a sewer or a septic tank.
- Offences under the Act are cognizable and non-bailable and attract stringent penalties.
- Vigilance/Monitoring Committee at sub-Division, District, State and Central Govt. levels.
- National Commission for Safai Karamcharis (NCSK) would, inter alia, monitor implementation of the Act and enquire into complaints regarding contravention of the provisions of the Act.
- Provision of construction of adequate number of sanitary community latrines

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in urban areas, within three years from the date of commencement of this Act to eliminate the practice of open defecation.

- Survey of Manual Scavengers in Urban and rural areas: which should be conducted with a time bound framework
- Comprehensive Rehabilitation of the Manual Scavengers within a time bound framework.

### National Commission for Safai Karmacharis

- The NCSK was established in the year 1993 as per the provisions of the **NCSK Act 1993** initially for the period upto 1997.

### **Role of NCSK:**

- Recommend to the Government regarding specific programmes for welfare of Safai Karmacharis, study and evaluate the existing welfare programmes for Safai Karmacharis, investigate cases of specific grievances etc.
- Also as per the provisions of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, the NCSK has been assigned the work to monitor the implementation of the Act, tender advice for its effective implementation to the Centre and State Governments and enquire into complaints regarding contravention/non-implementation of the provisions of the Act.

### **Death Status report of the states**

- During a meeting of the Central Monitoring Committee (Chaired by Minister of Social Justice and Empowerment) under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, which is meant to review the implementation of the law, on January 8, States that were found lagging behind in the rehabilitation of manual scavengers were asked to comply soon.
- **Tamil Nadu, which had the highest number of such deaths**, had paid compensation in all but seven of the 234 cases. Gujarat was yet to pay or confirm payment in 48 of the 162 sewer deaths recorded in the State, and in 31 of those cases, the legal heir could not be traced, the data showed.
- One- time cash assistance had been disbursed in 35,397 cases, with Uttar Pradesh accounting for 19,385 such people.
- Capital subsidy and skill development training had been provided to 1,007 and 7,383 of the identified manual scavengers, respectively, the data showed.

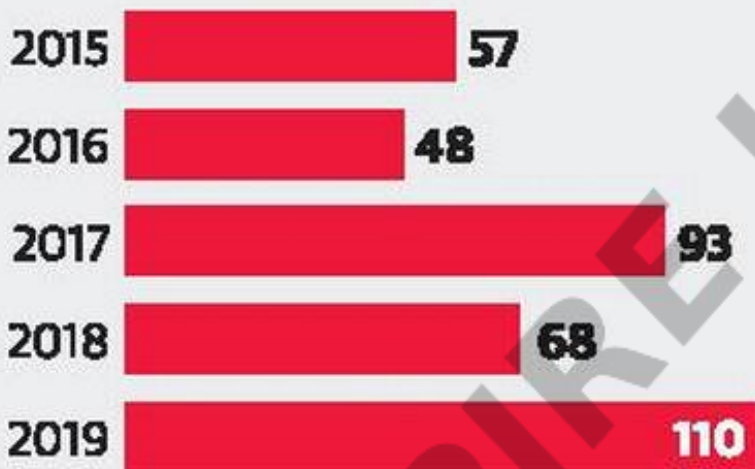


## UPSC "PT" DNA (Daily News Analysis)

- According to the NCSK, a total of 53,598 people, of which 29,923 were in Uttar Pradesh alone, had been identified as engaged in manual scavenging after surveys in 2013 and 2018.
- As per the provisions of the Act, District Vigilance Committees had been constituted in 21 States/Union Territories, State Monitoring Committees in 26, and State Commissions for Safai Karamcharis in eight.

### Raising a stink

No. of deaths while cleaning sewers and septic tanks in the last five years



\*SOURCE: SOCIAL JUSTICE MINISTRY IN THE LOK SABHA ON FEBRUARY 11, 2020



Source: PIB

## UPSC "PT" DNA (Daily News Analysis)

### Maoists- Tarrem attacks

GS-III | 06 April, 2021

## Maoists- Tarrem attacks

### Introduction

- Tarrem attacks indicate that the weakened Maoists remain a strong military threat

### Details of the attack

- The **deaths of over 20 paramilitary personnel** in an encounter with the Maoists in the **Tarrem area near Chhattisgarh's Sukma district** once again puts the spotlight on the long-running conflict in this remote tribal region.
- Reports indicate a Maoist ambush of the paramilitary personnel from different units – the **Special Task Force, the District Reserve Guard** of the Chhattisgarh police besides the **Central Reserve Police Force (CRPF)'s elite COBRA unit** — who had proceeded to perform combing operations in Maoist strongholds.
- The units had embarked upon their combing exercise at a time when **Maoists were trying to disrupt the construction** of a road near **Silger-Jagargunda**.
- The **lack of road and telecommunications infrastructure** in these remote areas has been **one of the reasons for the Maoists** being able to use **the terrain to their advantage**.
- Questions will be asked as to how such a large force failed to anticipate the ambush and were attacked by insurgents reportedly belonging to the Maoists' "1st Battalion" led by a tribal, **Hidma**.
- The encounter has raised the number of security forces killed in Bastar to more than 175 since the killing of 76 CRPF personnel in the **Chintalnar attack in April 2010**.
- It is now quite clear that despite facing losses to its cadre and leadership across central and east India and being hemmed into possibly its only remaining stronghold of south Chhattisgarh, the Maoists are still a formidable military threat.

### Maoist insurrection

- The Maoist insurrection which began first as the **Naxalite movement in the 1970s** and **then intensified since 2004**, following the merger of two

## UPSC "PT" DNA (Daily News Analysis)

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**prominent insurgent groups**, remains a mindless guerrilla-driven militant movement that has failed to gain adherents beyond those living in remote tribal areas either untouched by welfare or are discontents due to state repression.

- The Maoists are now considerably weaker than a decade ago, with several senior leaders either dead or incarcerated, but their core insurgent force in south **Bastar** remains intact.

### Conclusion

- The recourse to violence is now little more than a ploy to invite state repression which furthers their aim of gaining new adherents.
- While the Indian state has long since realised that there cannot only be a military end to the conflict.
- The **Tarrem attacks** came in the wake of a **recent peace march** held by **civil society activists** who had **urged a dialogue between the Maoists and the Chhattisgarh government** to end the violence that has claimed more than **10,000 lives since 2000 alone**, according to the **South Asia Terrorism Portal**.
- While a military response and recriminations will inevitably follow the ambush, the civil society plea must not be ignored if a long-lasting solution to the conflict is to be achieved.

Source: TH

## UPSC "PT" DNA (Daily News Analysis)

### Joint Comprehensive Plan of Action (JCPOA): Iran Nuclear Deal

GS-II | 07 April, 2021

## Joint Comprehensive Plan of Action (JCPOA): Iran Nuclear Deal

### What is JCPOA? About Iran nuclear deal?

- Iran agreed to rein in its nuclear programme in a 2015 deal struck with the US, UK, Russia, China, France and Germany.
- Under the Joint Comprehensive Plan of Action (JCPOA) Tehran agreed to significantly cut its stores of centrifuges, enriched uranium and heavy-water, all key components for nuclear weapons.
- The JCPOA established the Joint Commission, with the negotiating parties all represented, to monitor implementation of the agreement.




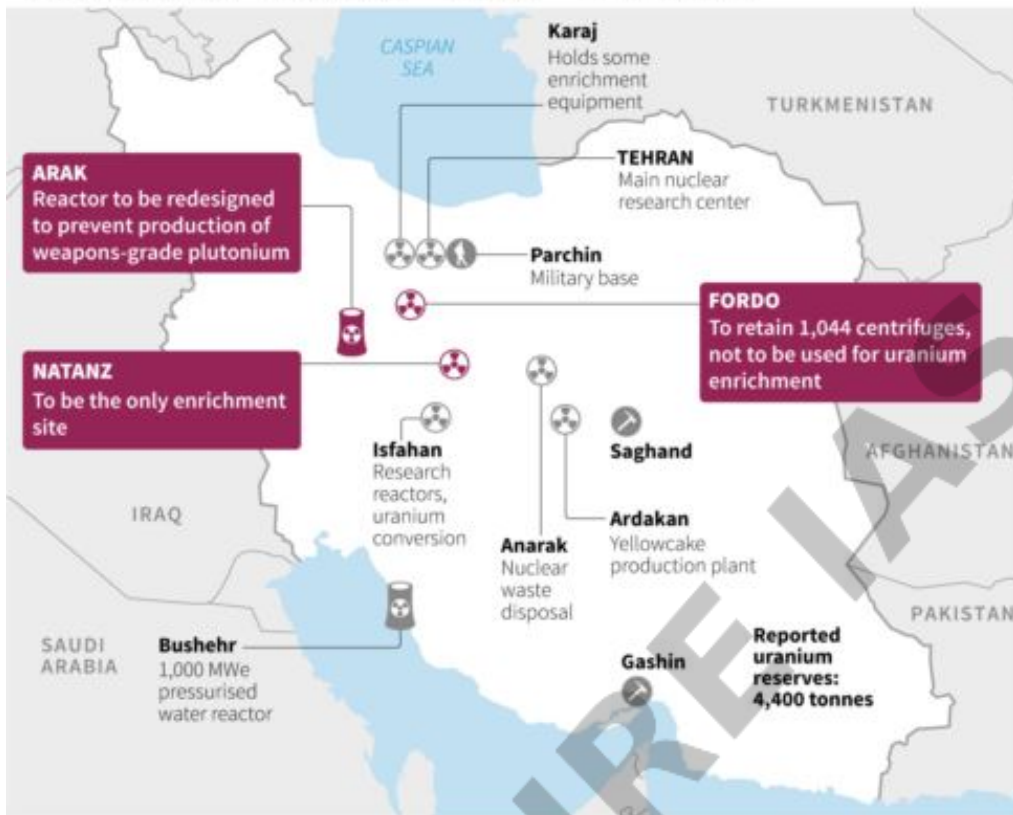
## UPSC "PT" DNA (Daily News Analysis)

### 2015 Iran nuclear deal

Historic agreement was designed to block Tehran's pathway to a nuclear weapon

#### Major facilities

(approximate locations)  Nuclear site  Reactor  Uranium mine




Sources: IAEA/NTI/ISIS/USNRC/World-nuclear.org


► Closer inspections, under the Additional Protocol, including potentially of military bases

► IAEA surveillance equipment to be installed in mines and nuclear facilities

#### Enrichment

The uranium enrichment process increases the proportion of U235, needed for energy production, by separating it from U238

 Civil use: the proportion of U235 is increased 4-5% to produce fuel for power stations

 Military use: uranium enriched to at least 90% of U235 to produce nuclear weapons

#### Under the deal

- Slash the number of uranium centrifuges from about 19,000 to 5,060 for 10 years
- Stockpile of low-enriched uranium to be reduced from 10,000 kg to 300 kg for 15 years

AFP

### Why did Iran agree to the deal?

- It had been hit with devastating economic sanctions by the United Nations, United States and the European Union that are estimated to have cost it tens of billions of pounds a year in lost oil export revenues. Billions in overseas assets had also been frozen.

### Iran's objective

- By doing so, Iran is trying to increase the pressure on Britain, France and Germany in particular to find some arrangement that will allow them to sell the oil they were buying when Iran was not under sanctions. That requires some level of US support to waive sanctions against European firms by the United States. So far, the US has not agreed to do that.
- Iran is now operating 60 IR-6 advanced centrifuges. Such a centrifuge can produce enriched uranium 10 times as fast as the first-generation IR-1s



## UPSC "PT" DNA (Daily News Analysis)

allowed under the accord.

- By starting up these advanced centrifuges, Iran further cuts into the one year that experts estimate Tehran would need to have enough material for building a nuclear weapon – if it chose to pursue one.

### Why did US pull out of the deal?

- Trump and opponents to the deal say it is flawed because it gives Iran access to billions of dollars but does not address Iran's support for groups the U.S. considers terrorists, like Hamas and Hezbollah.
- They note it also doesn't curb Iran's development of ballistic missiles and that the deal phases out by 2030. They say Iran has lied about its nuclear program in the past.

### Impact of escalated tensions between Iran and the US:

- Iran can make things difficult for the U.S. in Afghanistan as also in Iraq and Syria.
- The U.S.'s ability to work with Russia in Syria or with China regarding North Korea will also be impacted.
- And sooner or later, questions may be asked in Iran about why it should continue with other restrictions and inspections that it accepted under the JCPOA, which would have far-reaching implications for the global nuclear architecture.
- Coming after the rejection of the Trans-Pacific Partnership (TPP), the Paris climate change accord and the North American Free Trade Agreement, President's decision further diminishes U.S. credibility.

### Implications for India:

- **Oil and Gas:** The impact on world oil prices will be the immediately visible impact of the U.S. decision. Iran is presently India's third biggest supplier (after Iraq and Saudi Arabia), and any increase in prices will hit both inflation levels as well as the Indian rupee.
- It would impact the development of Chabahar port.
- **International North–South Transport Corridor:** New U.S. sanctions will affect these plans, especially if any of the countries along the route or banking and insurance companies dealing with the INSTC plan also decide to adhere to U.S. restrictions on trade with Iran.
- **Shanghai Cooperation Organisation:** China may consider inducting Iran

## UPSC "PT" DNA (Daily News Analysis)

into the SCO. If the proposal is accepted by the SCO, which is led by China and Russia, India will become a member of a bloc that will be seen as anti-American, and will run counter to some of the government's other initiatives like the Indo-Pacific quadrilateral with the U.S., Australia and Japan.

- **Rules-based order:** By walking out of the JCPOA, the U.S. government has overturned the precept that such international agreements are made by "States" not just with prevailing governments or regimes.

### What role does the U.N. Security Council play in this crisis?

- The Security Council adopted a resolution in 2015 that endorsed the nuclear agreement and ended U.N. sanctions against Iran.
- The resolution, 2231, includes what is known as a "snapback" provision that could reinstate those sanctions if other parties to the agreement complained that Iran was cheating. Such a step would likely doom the agreement.

### Global Implications:

1. Down trends in global economy.
2. Fuel prices would reach high points.
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For editorial on USA – Iran issues: click here <https://www.aspireias.com/daily-news-analysis-current-affairs/USA-Iran-issues>

For recent news on USA – Iran nuclear deal and IAEA: click here <https://www.aspireias.com/daily-news-analysis-current-affairs/Iran-Nuclear-Deal-and-JCPOA>

Source: TH

**Iran to enrich Uranium to 60%, the highest ever**

## UPSC "PT" DNA (Daily News Analysis)

GS-II | 07 April, 2021

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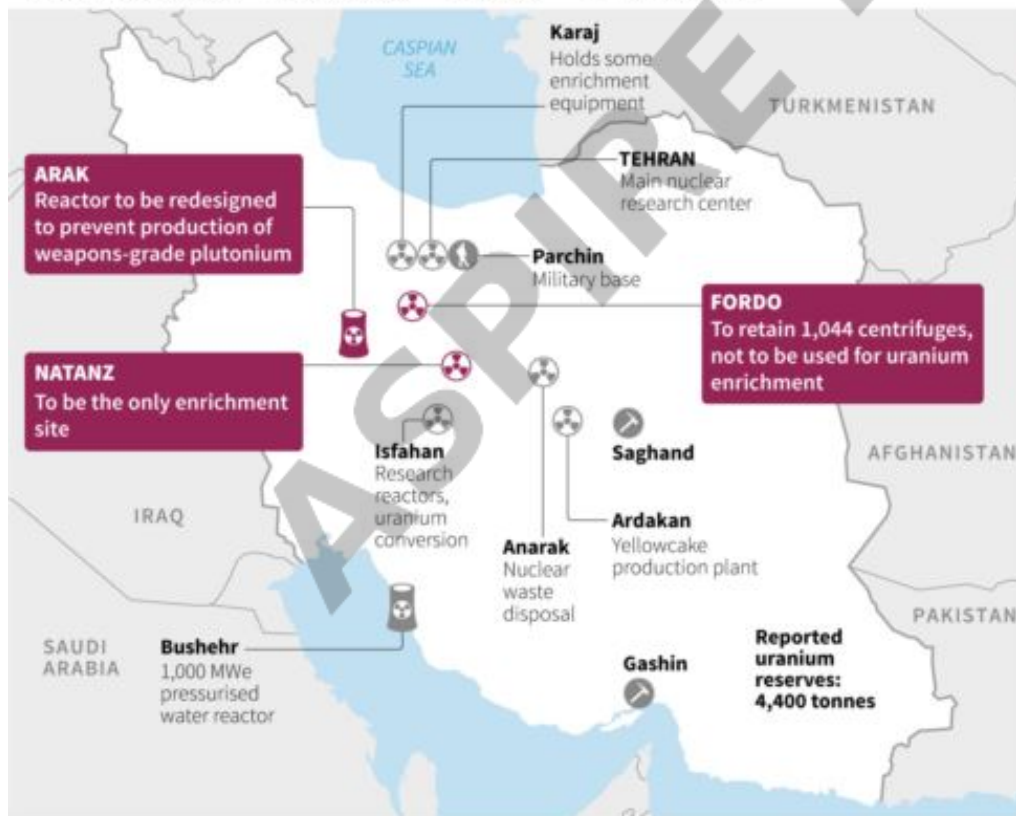
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## UPSC "PT" DNA (Daily News Analysis)

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## UPSC "PT" DNA (Daily News Analysis)

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Source: TH

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## UPSC "PT" DNA (Daily News Analysis)

### Production of poppy straw from opium

GS-III | 08 April, 2021

#### Production of poppy straw from opium

- The Union government has decided to rope in the private sector to commence production of concentrated poppy straw from India's opium crop to boost the yield of alkaloids, used for medical purposes and exported to several countries.

#### Poppy Straw:

- Poppy straw is the husk left after the opium is extracted from pods.
- This poppy straw also contains a very small morphine content and if used in sufficient quantities, poppy straw can give a high.
- Possession, sale, use, etc. of poppy straw is regulated by the State Governments under the State Narcotic Drugs & Psychotropic Substances Rules.
- Farmers sell the poppy straw to those licensed by the State Governments to purchase poppy straw.
- Any excess poppy straw is ploughed back into the field.
- Poppy straw is one of the narcotic drugs under the Narcotic Drugs & Psychotropic Substances Act 1985 (NDPS Act).
- Hence, anyone possessing, selling, purchasing or using poppy straw without a license or authorization or in violation of any conditions of the license is liable to prosecution under the NDPS Act.

Among the few countries permitted to cultivate the opium poppy crop for export and extraction of alkaloids, India currently only extracts alkaloids from opium gum at facilities controlled by the Revenue Department in the Finance Ministry. This entails farmers extracting gum by manually lancing the opium pods and selling the gum to government factories.

#### Alkaloids

- Alkaloids are a huge group of naturally occurring organic compounds which contain nitrogen atom or atoms (amino or amido

## UPSC "PT" DNA (Daily News Analysis)

in some cases) in their structures.

- These nitrogen atoms cause alkalinity of these compounds.
- Well-known alkaloids include morphine, strychnine, quinine, ephedrine, and nicotine.
- The medicinal properties of alkaloids are quite diverse. Morphine is a powerful narcotic used for the relief of pain, though its addictive properties limit its usefulness.
- Codeine, the methyl ether derivative of morphine found in the opium poppy, is an excellent analgesic that is relatively nonaddictive.

The Ministry has now decided to switch to new technologies, after trial cultivation reports submitted last year by two private firms showed higher extraction of alkaloids using the concentrated poppy straw (CPS).

### Indoor greenhouses

- "While alkaloid extraction from the current opium crop using the CPS was found more than opium gum, it is possible to have two or three crop cycles in one year if we use CPS varieties of seeds that can be grown in indoor greenhouses too," said an official aware of the development.
- The outcome of the two trials conducted in the crop years of 2017-18 and 2018-19 were received in February 2020 and June 2020.
- India's opium crop acreage has been steadily declining over the years and using the CPS extraction method is expected to help cut the occasional dependence on imports of products like codeine (extracted from opium) for medicinal uses.
- While roping in private players to partner with the government in producing CPS and extracting alkaloids from it is likely to require amendments to the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985, the Department has decided to appoint a consultant to help frame the bidding parameters and concession agreements for the same.

### Partnership model

- "The consultant will be required to help frame the modalities for this endeavour, with an appropriate model including public-private partnership (PPP), advise on the changes needed to the rules and laws to facilitate this, and recommend security measures to protect the crop and the final product,"

## UPSC "PT" DNA (Daily News Analysis)

the official said.

- The firms carrying out the trials faced legal hassles in terms of getting relevant licences from the State governments to manufacture bulk alkaloids on their premises, which will need to be ironed out. Uttar Pradesh, Rajasthan and Madhya Pradesh are the three traditional opium-growing States, where poppy cultivation is allowed based on licences issued annually by the Central Bureau of Narcotics.
- As per the trials' findings, the imported seeds of certain CPS varieties worked effectively in Indian fields and their narcotic raw material yield was much higher from imported seeds instead of those used currently.
- "One of the firms purchased poppy straw of locally cultivated crop to analyse the yield from the same crop with the CPS method. They also cultivated CPS with hydroponic and aeroponic methods under a greenhouse environment. The other firm imported seeds from the U.K. and Australia, and carried out cultivation in association with an agriculture university," the official said.

### Opium Cultivation In India

- After independence, the control over cultivation and manufacture of opium became responsibility of the Central Government with effect from April, 1950.
- At present the Narcotics Commissioner along with the subordinates exercises all powers and performs all functions relating to superintendence of the cultivation of the opium poppy and production of opium.
- The Commissioner derives this power from the Narcotic Drugs & Psychotropic Substances Act 1985 and Narcotic Drugs & Psychotropic Substances Rules, 1985.
- License for manufacture of certain types of narcotic drugs and psychotropic substances as well as permits for export and import of narcotic drugs, psychotropic and controlled substances are issued with the approval and permission of the Narcotics Commissioner.
- The Government of India announces the licensing policy for cultivation of opium poppy every year, prescribing the minimum qualifying yield for issue of or renewal of licence, maximum area that can be cultivated by an individual cultivator, the maximum benefit that can be allowed to a cultivator for damage due to natural causes, etc.
- The opium poppy can be cultivated only in such tracts as are

## UPSC "PT" DNA (Daily News Analysis)

notified by the Government.

- At present these tracts are confined to three States, viz. Madhya Pradesh, Rajasthan and Uttar Pradesh.
- Mandsaur district of Madhya Pradesh and Chittorgarh and Jhalawar Districts of Rajasthan constitute about 80% of the total area cultivated.
- India is one of the few countries internationally permitted (by the United Nations Office on Drugs and Crime ) to cultivate opium poppy for export.

### Uses

1. Opium is unique in its therapeutic value and is indispensable in the medical world.
2. It also finds use in Homeopathy and Ayurveda or Unani systems of indigenous medicines.
3. The opium which is used as Analgesics, Anti-Tussive, Anti spasmodic and as a source of edible seed-oil, acts as a medicinal herb.

Source: TH



## UPSC "PT" DNA (Daily News Analysis)

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Everything about: Antarctic

GS-I | 09 April, 2021

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Everything about: Antarctic

Antarctic mapping

ASPIRE IAS

## UPSC "PT" DNA (Daily News Analysis)



1. Read all this from Orient Longman Blackswan Atlas as Ankit Sir teaches in his Mapping classes.
2. Antarctic = Ross Sea, Amundsen Sea, Bellingshausen Sea, Drake Passage,

## UPSC "PT" DNA (Daily News Analysis)

Weddel Sea.

3. Drake Passage/ Antarctic Peninsula is between Bellingshausen Sea and Weddel Sea.
4. Winson Massif (Ellsworth Mountains) is the highest peak of Antarctica.
5. Bharati, Maitri, Dakshin Gangotri are in Antarctic. Lambert glacier is here. Himadri is in Arctic.

### About Antarctic region

- Antarctic is a polar region around Earth's South Pole, opposite the Arctic region around the North Pole.
- Antarctica is defined as all of the land and ice shelves south of 60°S latitude.
- The Antarctic comprises the **continent of Antarctica**, the Kerguelen Plateau and other island territories located on the Antarctic Plate or south of the Antarctic Convergence.
- The Antarctic region includes the ice shelves, waters, and all the island territories in the Southern Ocean situated south of the Antarctic Convergence, a zone approximately 32 to 48 km (20 to 30 mi) wide varying in latitude seasonally.
- The region covers some 20 percent of the Southern Hemisphere, of which 5.5 percent (14 million km<sup>2</sup>) is the surface area of the Antarctica continent itself. All of the land and ice shelves south of 60°S latitude are administered under the Antarctic Treaty System.
- Biogeographically, the Antarctic realm is one of eight biogeographic realms of Earth's and surface.

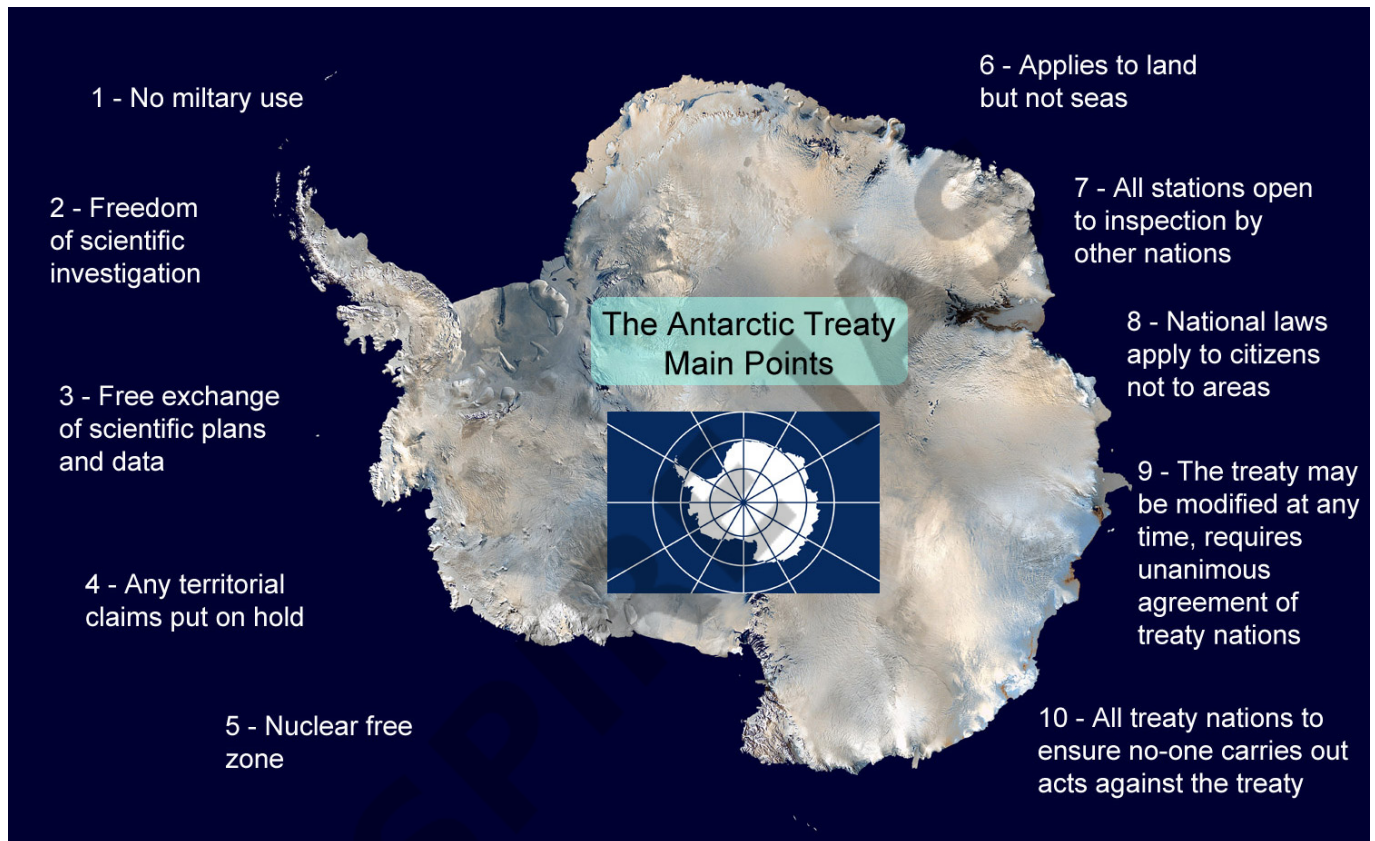
### India and Antarctic

#### Antarctic Treaty, 1959

- The Antarctic Treaty was **signed between 12 countries** in Washington on 1st December 1959 for making the Antarctic Continent a **demilitarized zone** to be preserved **for scientific research only**. It entered into force in 1961 and has since been acceded by many other nations.
- The twelve original signatories are **Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Union of Soviet Socialist Republics, the UK and the US**.
- India officially acceded to the **Antarctic Treaty System** on 1st August 1983. India became the 15th Consultative member. Currently it has 54 parties.
- **Headquarters:** Buenos Aires, Argentina.
- **Provisions of the treaty**
  1. Promoting the **freedom of scientific research**.

## UPSC "PT" DNA (Daily News Analysis)

2. Countries can use the continent **only for peaceful purposes**.
3. **Prohibition** of military activities, nuclear tests and the disposal of radioactive waste.
4. **Neutralising territorial sovereignty**, this means a limit was placed on making any new claim or enlargement of an existing claim.
5. It put a **freeze on any disputes** between claimants over their territories on the continent.



- These agreements are **legally binding and purpose-built** for the unique geographical, environmental and political characteristics of the Antarctic and form a robust international governance framework for the region.
- The Antarctic treaty remains the only example of a **single treaty that governs a whole continent**.
- It is also the foundation of a **rules-based international order** for a continent without a permanent population.

### Antarctic Treaty System (ATS)



## UPSC "PT" DNA (Daily News Analysis)

- Antarctic Treaty and related agreements are collectively known as the Antarctic Treaty System (ATS)
- It regulates international relations with respect to Antarctica
- Antarctica is defined as all of the land and ice shelves south of 60°S latitude
- Antarctic Treaty Secretariat Headquarters — Buenos Aires, Argentina

### Major International Agreements of the Treaty System:

- The 1959 Antarctic Treaty.
- The 1972 Convention for the Conservation of Antarctic Seals.
- The 1980 Convention on the Conservation of Antarctic Marine Living Resources.
- The 1991 Protocol on Environmental Protection to the Antarctic Treaty.

### Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), 1982

- Objective:
  1. To conserve Antarctic marine life.
  2. Response to increasing commercial interest in Antarctic krill resources, a keystone component of the Antarctic ecosystem.
  3. It practises an ecosystem-based management approach.
- Headquartered at Hobart, Tasmania.

### East Antarctic Marine Park/ Sanctuary:

- Australia and France met in Hobart at the meeting of **Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)** to create a **massive ocean sanctuary in East Antarctica**. East Antarctica Marine Park would be **1 million sq km** of Ocean.
- It has previously established other major ocean Antarctic sanctuaries – including World's largest spanning 1.55 million sq. km. in **Ross Sea**.
- But China and Russia are opposing the move. **CCAMLR has 26 members**.

### Protocol on Environmental Protection to the Antarctic Treaty

- It designates Antarctica as a "natural reserve, devoted to peace"



## UPSC "PT" DNA (Daily News Analysis)

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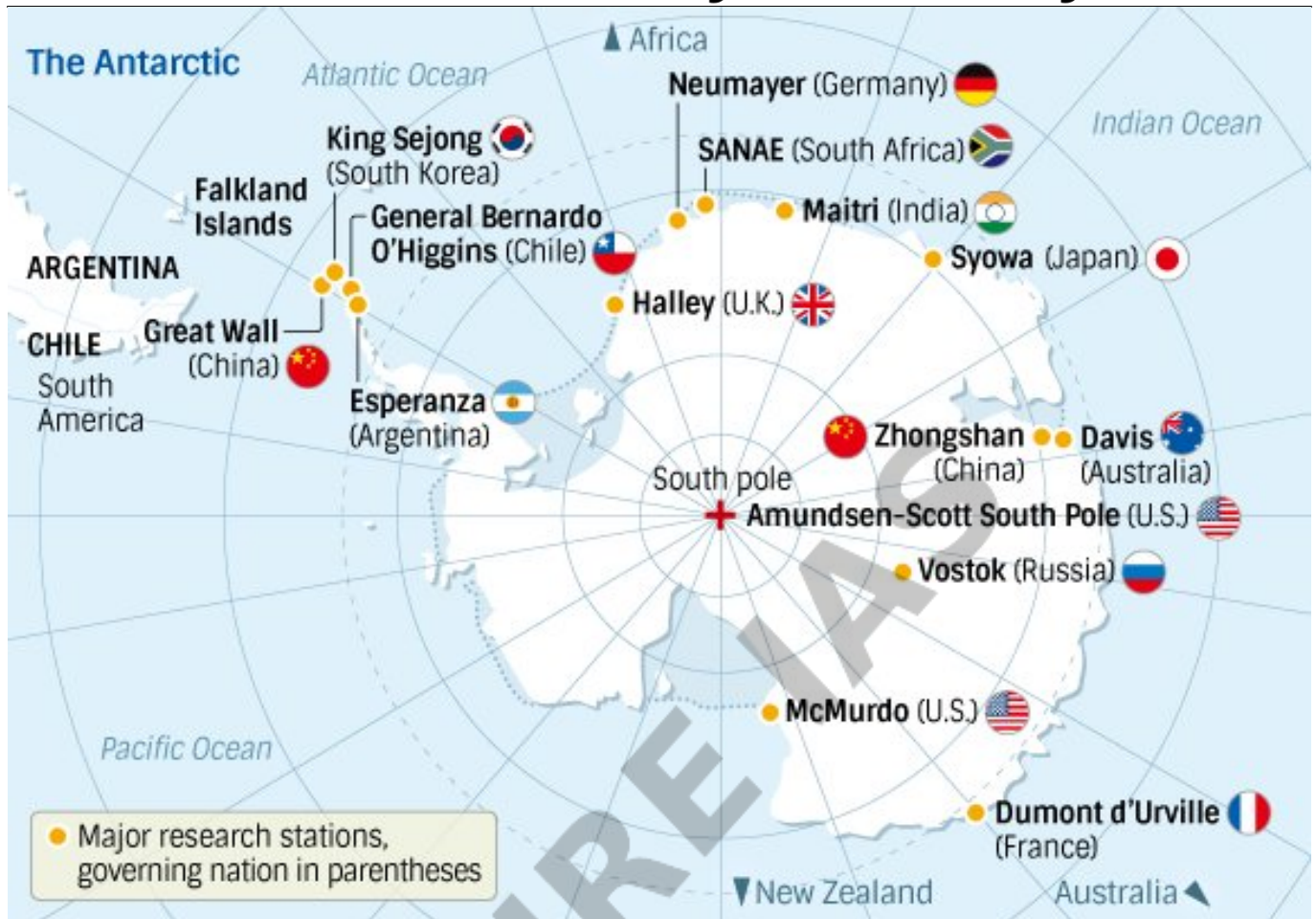
and science”

- It sets forth basic principles applicable to human activities in Antarctica
- Article 7, prohibits all activities relating to Antarctic mineral resources, except for scientific research.
- It was signed in Madrid on October 4, 1991 and entered into force in 1998.

### India's Antarctic Expeditions and Programmes

- The Indian Antarctic expeditions began in 1981.
- The first trip comprised of a team of 21 scientists and support staff led by Dr SZ Qasim. After a humble beginning, the Indian Antarctic programme has now credited to have built three permanent research base stations in Antarctica—named **Dakshin Gangotri, Maitri, and Bharati**. As of today, India has **two operational research stations in Antarctica named Maitri and Bharati**.

## UPSC "PT" DNA (Daily News Analysis)



- The **National Centre for Polar and Ocean Research (NCPOR)**, Goa, manages the entire Indian Antarctic program.

### **National Center for Antarctic and Ocean Research (NCAOR), Goa also works on the Arctic.**

- It **renamed as NCPOR** (National Center for **Polar** and Ocean Research).
- NCAOR was established in 1998 for expeditions to Antarctic 1st now both.
- NCPOR is India's premier **R&D institution** in the **Polar and Southern Ocean realms**.
- The **mandate** of NCPOR is multi-dimensional:
  1. Research and Help in Expeditions to the Polar and Ocean sciences (Indian part of Southern Ocean).

## UPSC "PT" DNA (Daily News Analysis)

2. Geo scientific surveys of **India's EEZ** and beyond 200M, **Deep sea drilling in Arabian Sea basin, exploration** for ocean non-living resources such as the **gas hydrates and multi-metal sulphides in mid-ocean ridges.**
  3. Upkeep of Research bases of **Maitri and Bharati** of **Antarctic and Himadri at Arctic.**
  4. Upkeep research vessel **ORV Sagar Kanya** and others.
- The **research-vessel fleet** consists of 6 research vessels viz **Sagar Kanya, Sagar Sampata, Sagar Nidhi, Sagar Manjusha, Sagar Purvi & Sagar Paschmi** currently, and a 7th being the Polar Research Vessel (PRV) is being constructed.

- Dakshin Gangotri was the **first Indian scientific research base station** established in Antarctica, as a part of the Indian Antarctic Program. **Dakshin Gangotri is closed.**
- **Maitri is India's second permanent research station in Antarctica.** It was built on Schirmacher Oasis and finished in 1989. India also built a freshwater lake around Maitri known as **Lake Priyadarshini.** India is rebuilding Maitri and expanding its infra development in Antarctica through **Bharati.**
- **Bharati:** Bharti, India's latest research station operation since 2012. It has been constructed to help researchers work in safety despite the harsh weather.
- In 2008, India commissioned **the Sagar Nidhi**, for research. An ice-class vessel, it can cut through the thin ice of 40 cm depth and is the first Indian vessel to **navigate Antarctic waters.**

### Indian Scientific Expedition to the Southern Ocean 2020

- This is the 11th expedition of an Indian mission to the Southern Ocean, or Antarctic Ocean. The first mission took place between January and March 2004.
- The 18-institution team, led by Dr Anoop Mahajan from the Indian Institute of Tropical Meteorology, Pune, are collecting air and water samples from around 60 stations along the cruise track.
- These will give valuable information on the state of the ocean and atmosphere in this remote environment and will help to understand its impacts on the climate.
- A key **objective** of the mission is to quantify changes that are occurring and

## UPSC "PT" DNA (Daily News Analysis)

the impact of these changes on large-scale weather phenomenon, like the Indian monsoon, through tele-connection

- The Expedition consists of **6 core projects**:
  1. **Hydrodynamics and biogeochemistry** of the Indian Ocean sector of the Southern Ocean at different depths. It will help to understand the **formation of Antarctic bottom water**.
  2. Observations of movement of **trace gases (halogens and dimethyl sulphur)** from the ocean to the atmosphere which will help to improve parameterisations that are used in global models.
  3. **Study of organisms namely, coccolithophores** (existed in the oceans for several million years). We'll get to know past climate.
  4. Investigate **atmospheric aerosols** and their optical and radiative properties. Its continuous measurements will quantify the impact on Earth's climate.
  5. Study the Southern Ocean's impact on Indian **monsoons**.
  6. Dynamics of the **food web** in the Southern Ocean which will help to implement sustainable fishing.

### 40th Indian scientific expedition to Antarctica

- India today launched the 40<sup>th</sup> scientific expedition to Antarctica.
- This Indian expedition marks four decades of country's scientific endeavour to the southern white continent.
- The 40th expedition journey will be flagged off from Goa on January 5, 2021, with 43 members onboard.
- The chartered ice-class vessel MV Vasily Golovnin will make this journey and will reach Antarctica in 30 days. After leaving behind a team of 40 members, it would return to India in April 2021. On return, it will also bring back the winter team of the preceding trip.
- The focus is to support the ongoing scientific projects on climate change, geology, ocean observations, electric and magnetic flux measurements, environmental monitoring; resupplying of food, fuel, provisions and spare; and accomplishing the return of the winter crew. India is committed to maintaining the continent of Antarctica free of COVID-19.
- The expedition will duly follow all protocols for the deployment of men and material as per Council of Managers of National Antarctic Programs (COMNAP).

**Council of Managers of National Antarctic Programs (COMNAP):**



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- It is the **international association, formed in 1988**, which brings together the **National Antarctic Programs**.
- National Antarctic Programs are those organizations that have responsibility for delivering and supporting scientific research in the Antarctic Treaty Area on behalf of their respective governments and in the spirit of the Antarctic Treaty.
- Its secretariat is in Christchurch, New Zealand.
- COMNAP has an observer status at the Antarctic Treaty System's yearly Antarctic Treaty Consultative Meetings (ATCM).

### SONIC Project

- SONIC Stands for Schirmacher Oasis Nippon (Japan) India Coring. It was initiated during 2019 to reconstruct the past climate.
- It is an Indo-Japanese project that was initiated during 2019 to reconstruct the past-climate.
- In 2019 India-Japan under the aegis of National Center for Polar and Ocean Research and National Institute of Polar Research signed an MoU to share and carry out R & D in Antarctica
- **Objective of SONIC**
  1. To understand the ice sheet variability at the Schirmacher Oasis to examine East Antarctic Ice Sheet sensitivity and its response to glacial-interglacial cycles
  2. To assess the variability biological community through study of pigments and DNA

### MADICE Project

- India also collaborated with Norway in Antarctic Research
- A major Indo-Norwegian collaborative field campaign, near Indian Maitri station, was undertaken during 2016–2019 to understand the ice shelf dynamics, mass balance and reconstruct past changes in atmospheric and sea ice dynamics under the joint project "Mass balance, dynamics, and climate of the central Dronning Maud Land coast, East Antarctica (**MADICE**)".
- Ice core drilling, ice-sheet modelling and satellite remote sensing-based studies were conducted to understand the future Antarctic contribution to the global sea-level rise.

To reach Everything about Arctic: [click here](#)

Extra news: NASA's Antarctic Impulsive Transient Antenna



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### (ANITA)

Recently, NASA's Antarctic Impulsive Transient Antenna (ANITA) has detected the unusual upward movement of neutrinos in Antarctica.

### What is ANITA?

- Antarctic Impulsive Transient Antenna (ANITA) is a radio telescope instrument to detect ultra-high energy cosmic-ray neutrinos from a scientific balloon flying over the continent of Antarctica.
- It involves an array of radio antennas attached to a helium balloon which flies over the Antarctic ice sheet at 37,000 meters.
- At such a height, the antennas can listen to the cosmos and detect high-energy particles, known as neutrinos, which constantly bombard the planet.
- It is the first NASA observatory for neutrinos of any kind.
- ANITA detects neutrinos pinging in from space and colliding with matter in the Antarctic ice sheet through the Askaryan effect.
- The **Askaryan effect** is the phenomenon whereby a particle traveling faster than the phase velocity of light in a dense dielectric (such as salt, ice or the lunar regolith) produces a shower of secondary charged particles.
- When neutrinos smash into an atom, they produce a shower of detectable secondary particles. These detectable secondary particles allow us to probe where they came from in the universe.
- However, neutrinos pose no threat to human beings and pass through most solid objects. Additionally, they rarely do interact with matter. It is named after Guren Askaryan, a Soviet-Armenian physicist who postulated it in 1962.

### What is the news?

- Instead of the high-energy neutrinos streaming in from space, they seem to have come from the Earth's interior, before hitting the detectors of ANITA. Usually, the high-energy particles move top to bottom (i.e. from space to the earth). However, ANITA has detected an anomaly i.e. particles have been detected travelling bottom to top.
- Earlier, researchers had also located a deep-space source for high-energy neutrinos through the Ice Cube Neutrino Observatory at a U.S. scientific research station at the South Pole in Antarctica (PT). The India-based Neutrino Observatory (INO) is located at the Bodi West Hills region in Theni District of Tamil Nadu.

[Click here](#) for the complete news on Neutrinos

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Source: TH

### India-Seychelles Virtual Meet

GS-II | 09 April, 2021

Recently, the Prime Minister of India will take part in a high level virtual event with the President of the Republic of Seychelles & jointly inaugurate several Indian projects in Seychelles.

#### Major Highlights

- Seychelles is central to India's vision of 'SAGAR' – 'Security and Growth for All in the Region'.
- During times of need, India was able to supply essential medicines and 50,000 doses of Made in India vaccines to Seychelles.
- Seychelles was the First African country to receive the Made in India COVID-19 vaccines.
- India has contributed towards the construction of the new Magistrates' Court Building in Seychelles.
- For strengthening the maritime security of Seychelles, India has handed over a Made-in-India Fast Patrol Vessel to the Seychelles Coast Guard.
- India handed over a One Mega Watt solar power plant in the Seychelles built with India's assistance.
- The virtual Summit between the two sides also saw the handing over of 10 High Impact Community Development Projects (HICDPs) implemented by the High Commission of India in collaboration with local bodies, educational and vocational institutions.

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### India- Seychelles Relations- Background

- India and Seychelles relationship was established in 1976 since its independence.
- In 1986, India had executed 'Operation Flowers are Blooming' in Seychelles in request of the erstwhile President Rene to avert a coup

### India's Assistance to Seychelles:

- Two petrol vessels – the Tarmugli (2006) and the Tarasa (2014) – were gifted by India to the Seychelles government to augment surveillance and patrolling capacity of Seychelles
- India has provided Seychelles with equipment such as Dornier Do 228s and Chetak helicopters as part of the maritime security arrangement against terrorism and piracy
- In 2012, India had pledged US \$ 50 million as Line of Credit and US\$ 25

## UPSC "PT" DNA (Daily News Analysis)

- million as grant to the Government of Seychelles
- Further, India and Seychelles collaborate for conducting hydrographic surveys, and launched a coastal surveillance radar project- Coastal Surveillance Radar System (CSRS).
- In August 2015 India signed a taxation agreement with the Seychelles for allowing exchange of information to curb tax evasion
- Further, India and Seychelles signed an agreement for constructing and operating joint military facility on the Assumption Island, situated to the north of Madagascar. The deal was to include 30 year access to the base as well as permission to station Indian military personnel on ground.
- However, the project got halted as it could not be ratified by the Seychelles parliament

### Strategic Significance of the assumption Island for India



- a) Securing trade routes:
  - Joint Military facility would provide for a safe passage of shipping vessels and containers in the southern Indian Ocean Region.
  - It would help in checking piracy and trafficking issues in the Mozambique Channel through which bulk of International trade takes place.
- b) Limit China's presence in IOR:
  - With China acquiring its first African naval base in Djibouti and increasing its presence in Seychelles as well, Assumption island is critical to India's strategic foothold in the Indian Ocean Region
- c) Maritime Security for Seychelles:
  - help patrol 5 Lakh sq miles area of EEZ (Exclusive Economic Zone) of Seychelles to combat illegal fishing, drug trafficking and piracy
- d) Energy Security:
  - Important for ensuring India's energy security as a large volume of trade in oil takes place through this route

### Significance of Seychelles for India

### Access to Africa and Pan-African e-network Project:

- Seychelles provides a link to East African countries with whom India

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historically had socio-economic ties and at present forms a large market for Indian firms.

- Seychelles is a part of the Pan African e-Network project between India and the African Union that seeks to connect the 53 member states of the African Union through a satellite and fibre optic network to India and to each other. The project seeks to enable access to and sharing of expertise between India and African states, particularly in the medical and education field.

### Indian Diaspora:

- The Indian Diaspora mostly of Tamilian and Gujarati origins represents 8 percent of the Seychelles population.
- India and Seychelles has shared historical socio-cultural ties.
- Further, the Indian Diaspora has been influential in Seychelles and fostered diplomatic ties between the nations

### Trade and Energy Security:

- Seychelles is located in close proximity to the oil sea lanes and oil producing nations. These sea lanes are vital for India's external trade and energy security.

### Blue Economy:

- Seychelles has been a pioneer in advancing the concept of 'blue economy', which includes aspects like environment, hydrocarbons, marine economy, renewable energy and exploration of continental shelf.
- The blue economy also forms the part of the economic agenda of the Indian Ocean Commission and the Indian Ocean Rim Association (IORA)
- Since 2015, India and Seychelles has been collaborating in the field of Blue economy. The cooperation will benefit India by:
  - Enhancing India's strategic cooperation in the field of blue economy;
  - Commercial benefits from export of human resources, expertise and technology
- Increase India's access to ocean-based resources in cooperation with Seychelles

### Trade and Commerce:

- India is an important trading partner of Seychelles with a valuation of approximately 34.6 million USD as total trade
- Indian companies have been active on the island nation since 1978 and the



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- local bus transportation in capital is run by TATA and Ashok Leyland.
- Seychelles's mobile network is run by the Indian mobile network Airtel
- Seychelles banking services are developed by the Indian software company – Polaris Software Lab.
- Indian exports to Seychelles between 2015 and 2016 were around 0.02% (USD 32.56 million dollars) of total India's exports. Imports stood at USD 1.17 million.
- The major products of exports to Seychelles are motor cars and vehicles, cereals, medicaments and insulated wires and cables

### Strategic foothold in Indian Ocean Region:

- The Assumption Island in Seychelles and Agalega in the Mauritius along with India's listening post in Madagascar are strategically important for India in the Indian Ocean Region.
- India can effectively monitor the activities of foreign navies in the Indian Ocean region with the development of a naval base in the region
- Further, the growing Chinese presence in the Indian Ocean Region highlights the need for having a strong foothold in the region and Seychelles is crucial for it. A naval base in Assumption Island of the Seychelles will help India limit the increasing presence of China in the region.

### Indo-French Maritime Cooperation:

- France has historical foothold and an influential Diaspora in Seychelles. Further, France has renewed its security cooperation with Seychelles. France has offered support in capability building and managing maritime security threats
- India and France have common interests in Indian Ocean Region and Seychelles can play an important node for India-France maritime cooperation

### Security Issues:

- East African nations have struggled to keep up with the rapidly evolving maritime security scenarios.
- There is growing menace of piracy off the Mozambique coast which is an important channel for trade destined for and from the Indian Ocean Region. The issue of piracy has also adversely affected Indian trade along the route.
- India and Seychelles has coastal surveillance radar project. The project aims at better management and responding to maritime security threats.

### UN Permanent Seat:

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- Having good diplomatic ties with Seychelles might help in securing Seychelles vote which will further add to India's claim for a permanent seat at the UN Security Council.

### Issues and Challenges

#### The China Factor:

- Recently, the Indian Ocean Region has become increasingly contested. China has secured diplomatic, military, and economic arrangements with countries such as Bangladesh, Maldives, Myanmar, Sri Lanka and Pakistan
- India is concerned over encirclement by China through the strategy referred to as the "string of pearls" initiative.
- The increasing Chinese ties with Seychelles has risen concerns for India as it tries to limit growing Chinese presence in the IOR

#### Internal issues in Seychelles

- The Assumption Island Project has halted due to a number of setbacks
- The biggest setback came when Detailed Project Report (DPR) was leaked on YouTube raising concerns over the nature of the deal
- To remove fear that the Island was sold off to India and getting amidst Indo-China dispute, revisions were made in the deal. The revised deal included clarifications about the non-use of the facility for war purposes
- However, protests over the deal continued and it faced much political opposition. As a result, the deal was not ratified in the Seychelles Parliament

#### Chequebook Diplomacy

- India unlike China does not have economic leverage to deploy its resources as been manifested by the latter through its Belt Road Initiative and other interventions witnessed in Africa and South Asian countries

#### Way Forward:

- India's assistance to Sechyelles in the areas from defence, human capacity building, tourism and infrastructure is accordance to SAGAR (Security and Growth for All in the Region) initiative which aims to ensure free, open and inclusive Indian Ocean Region
- Seychelles is an integral part of the Project Mausam-which aims to restore India's ancient maritime routes and cultural links with nations in the Indian Ocean Region. This furthers India's formidable stand to counter China's

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growing presence in the region.

- Through various initiatives India has been engaging diplomatically, economically and strategically with Seychelles and other Island nations to keep its foothold in the Indian Ocean Region intact.

Source: PIB

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## UPSC "PT" DNA (Daily News Analysis)

### M.S. Swaminathan felicitated for work towards TB eradication

GS-III | 10 April, 2021

#### M.S. Swaminathan felicitated for work towards TB eradication

- Eminent agricultural scientist M.S. Swaminathan was felicitated on Friday for his contribution towards eradication of tuberculosis.
- REACH, a Chennai-based non-profit organisation working towards eradicating TB for over two decades, organised a virtual event at which Professor Swaminathan, who was its founding chair, was felicitated. Since the organisation's inception in 1998, he has instilled the need for a more holistic approach to TB by engaging communities and the private sector, a press release said.
- Speaking at the event, Professor Swaminathan pointed out the three steps to tackle an issue as crucial as TB — the first was to identify the problem, then to understand the nature of the issue and third, to mobilise and organise people to work together towards the common goal of TB elimination.
- Soumya Swaminathan, Chief Scientist, World Health Organization, said that TB eradication needed more than a biomedical approach; nutrition, gender and livelihood issues also need to be addressed.

#### Tuberculosis (TB)

##### What is Tuberculosis? How is it caused?

- TB is caused by bacteria (**Mycobacterium tuberculosis**) that most often affect the lungs but not just lungs but **also other parts**. **BCG Vaccine**. 90:90:90 target for 2035 for TB. **Moscow declaration** to end TB.
  - TB is a contagious infection that usually attacks your lungs.
  - It can spread to other parts of your body, like your brain and spine.
  - Bacteria called Mycobacterium tuberculosis causes it.
  - TB is the top infectious killer in the world claiming 4000 lives a day
  - India has the largest number of TB patients. and largest deaths due to TB.
- BCG Vaccine is given for TB.

##### Transmission:

- TB is spread from person to person through the air.
- When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.

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- WHO said the spread of TB is due to 1) Low Immunity 2) High density and Closed space. 3) No health and hygiene (spitting).

### Efforts of Indian Government to eradicate TB

- In 1962, the National TB Programme (NTP) was launched in the form of District TB Centre model, with Bacillus Calmette–Guérin (BCG) vaccination. Although BCG immunisation does prevent severe multi-organ TB disease in young children, it does not control TB.
- In 1978, the Expanded Programme on Immunisation (EPI) began, giving BCG to all babies soon after birth and achieving more than 90% coverage. However, the NTP and the EPI had not reduced India's TB burden.
- In 1993, the Revised National TB Control Programme (RNTCP) was launched, offering free diagnosis and treatment for patients rescuing them from otherwise sure death. It brought down TB incidence in India at an annual rate of 1.7%.
- **RNTCP, 1993**
  1. DOTS (Directly Observed Treatment Short course): Daily medicine. Hence Simple DOTS, Alternative DOTS and DOTS +.
  2. 1 problem is MDR - TB. Hence we are targetting through RNTCP.
  3. We change the testing methods = Serum to Sputum to Expert Gene Technology.
  4. **NIKSHAY Poshan Abhiyan** = 500 Rs. per month to TB patients. It is under NHM as a DBT scheme.
  5. Public and Private Doctors to add cases in **NIKSHAY portal**.
  6. Bedaquiline and Delamanide.
  7. Role modelling through Amitabh Bacchan.
  8. For AIDS, TB is an opportunistic disease.
  9. Red Ribbon Express is a Train for awareness.
- **National Strategic Plan for TB Elimination 2017-2025**
  1. 4 strategic pillars of "Detect – Treat – Prevent – Build" (DTPB).
  2. Key targets: TB-HIV, Diabetes, Tobacco use, Alcohol; Poor undernourished, EWS, Prison inmates etc.
  3. Early diagnosis of all the TB patients, prompt treatment with quality assured drugs and treatment regimens along with suitable patient support systems to promote adherence.
  4. Engaging with the patients seeking care in the private sector.
  5. Prevention strategies including active case finding and contact tracing in high risk / vulnerable population
  6. Airborne infection control.
  7. Multi-sectoral response for addressing social determinants.



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- In 2018, India has pledged to eradicate TB by the year 2025, 5 years ahead of the global deadline set for 2030.
- The Ministry of Health and Family Welfare has launched a National Prevalence Survey to estimate prevalence of tuberculosis at national and sub-national levels.
- **Truenat - a molecular TB Diagnostic Test**: is made indigenously in India by Goa based Molbio Diagnostics. ICMR has assessed and validated the diagnostic tool. WHO says it has high accuracy. Truenat can be used as an initial tool for diagnosing TB at primary, community health centers.
- **New cure for TB**: US Food and Drugs administration approves it. **BPai Regime = Bedaquiline, Pretomanid and Linezolid.**
- **Combination therapy using Malaria drug (Chloroquin + Isoniazid) quickly clears TB.**
- India has the target to **eliminate TB by 2025**. World target is 2030.
- MoHFW launched '**TB Harega Desh Jeetega Campaign**', along with **National TB Prevalence Survey**.
- Saharia tribe miners in Madhya Pradesh have appealed to the government to treat them for silicosis rather than Tuberculosis. They speak the Munda language.
- **WHO released Global TB Report 2019**
  1. Geographically, most TB cases in 2018 were in the WHO regions of South-East Asia (44%), Africa (24%) and the Western Pacific (18%).
  2. 8 countries accounted for 2/3rd of global total include India (27%), China (9%) and Indonesia (8%).
- India has announced a contribution of \$22 million to the **Global Fund for AIDS, TB and Malaria (GFTAM)** for the 6th replenishment cycle (2020-22).
- **Kerala on track to eliminate TB by 2025**
  1. Joint Monitoring Mission (JMM 2019) by Center and WHO is assessing the RNTCP (Revised National Tuberculosis Control Programme) and India's National Strategic Plan for TB elimination, 2017-2025.
  2. Kerala lauded for
    1. Commitment, Implementation and Administration.
    2. Integrating RNTCP into health system.
    3. Patient centric programme, involvement of Community, leadership of local bodies.
    4. Partnership with Private sector.
  3. They can improve on CBNAAT/Genexpert machines which are molecular diagnostics services.
- Smokers are twice likely to develop active TB and die from it than non smokers and smoking also makes TB Treatment less effective. In 2018, 9 lakh TB cases were attributed to smoking, according to Global TB report.

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- Tobacco control is TB control. World Lung Conference is held in Hyderabad.
- SeeTB: is a new diagnostic tool for detecting TB. It is a battery operated device.
  - **India** and the **World Bank** have signed a loan agreement of \$400 million for the Program Towards Elimination of Tuberculosis (TB).
  - Lancet has published a report 'Building a Tuberculosis-free World'. Lancet is a British journal. It is among the World's oldest, most prestigious medical journal.

### Dangers of TB transmission during CoVID

- India has the **highest burden of tuberculosis (TB)** in the world.
- Even as the government was pushing to **end TB by 2025**, the COVID-19 pandemic has caused **a massive disruption in TB services**.
- **TB case notifications** across India have **dropped by over 50%** since March, with an estimated **3,00,000 missed case notifications** (until May 30).
- This is worrisome, since **undiagnosed TB can worsen patient outcomes** and increase **transmission in the community**.
- As the **lockdown ends**, we will see a **big surge in people seeking care with TB and COVID-19 symptoms**.
- However, people will struggle to get care because the **public sector is still dealing** with the pandemic, while the **private sector is not functioning at normal capacity** or is **reluctant to manage people with fever and cough**.
- To find the missed TB patients, we will need to find ways to **rapidly resume public TB services, integrate TB and Covid-19 testing** and be creative about engaging the private health sector to **augment public TB services**.
- It is critical for the **National TB Elimination Programme** to resume routine TB services, which **include diagnostic services**, such as **microscopy and rapid molecular testing**, as well as **drug-susceptibility testing**.

### Dual testing

- **Since fever and cough** are symptoms of both **TB and COVID-19**, simultaneous **screening and testing** can be encouraged. Thankfully, India has access to **three existing technologies that permit dual testing** for both infections.
- The first is the **digital chest x-ray (CXR)**, which could be deployed along with artificial intelligence (**AI**) based tools for **both TB and COVID-19**.
- AI-based algorithms are now available that obviate the need for trained

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radiologists to read the x-rays. If a CXR is suggestive for TB on the AI algorithm, then a confirmatory test such as **GeneXpert** can be done to confirm TB and also detect drug-resistance.

- One such **AI-enabled screening tool** is called **qXR**, developed by Qure.ai, an **Indian company**. Several studies show accuracy that is comparable or better than human radiologists.
- The **screening tool, qXR**, has now added the capability of **detecting signs of COVID-19** from the x-rays images.
- Based on an estimated **3,00,000 missed cases** during the national lockdown, around **10,50,000 CXR** (assuming 70% of these are pulmonary TB cases and 5 CXRs are needed to detect one patient with pulmonary TB) **will be required for detecting TB cases**.
- This is an overwhelming figure for any health system especially during a pandemic. However, a **dynamic partnership with 80,000 licensed diagnostic radiology** facilities will help combat this.
- CXR screening will require confirmatory testing for both diseases, and **molecular testing** is the most accurate and rapid option. There are two technologies already in use in India that could be leveraged for simultaneous testing of **sputum samples** for both infections.
- One is called **GeneXpert**. India has over 1,100 of these systems in use. A large number of private labs, too, have this technology. On this platform, TB can be detected using a **cartridge** called **Xpert MTB/RIF** and COVID-19 by using the **Xpress SARS-CoV2 cartridge**.
- The second molecular platform is called **TrueLab**, developed by an **Indian company – Molbio Diagnostics**.
- This technology is already being used in some states and in private labs to test for TB using a chip called **Truenat MTB**.
- Molbio now has a chip called **Truenat Beta CoV** that can be **used for COVID-19**. This chip, along with Xpress **SARS-CoV2 cartridge**, has been approved by ICMR for emergency use for COVID-19 testing.
- Typically, TB testing requires sputum sample. Now, SARS-CoV-2 testing is done using nasopharyngeal swabs, but there is no reason why sputum samples cannot be used, since sputum is generated deeper in the lungs. However, it is important to validate both test molecular platforms for simultaneous testing using the same sputum sample.

Source: TH

## UPSC "PT" DNA (Daily News Analysis)

### China & Pakistan relations

GS-II | 10 April, 2021

#### China – Pakistan relations

- In a joint statement, the two countries said they would “firmly safeguard **multilateralism** and support the central role of the United Nations in international affairs.”
- China and Pakistan have pledged to back each other’s “**core and major interests**” in the United Nations after holding bilateral consultations on UN affairs.
- Both countries, which describe their relationship officially as one of “**all-weather partners**” and “**iron brothers**”, have in recent months stepped in to provide crucial support to the other on issues they see as sensitive, with Beijing raising the Kashmir issue at the UN Security Council and Islamabad backing China on Hong Kong and Xinjiang.
- This comes amid heightened Chinese criticism of what it calls United States-led “**selective multilateralism**”, aimed particularly at the India, U.S., Australia and Japan Quadrilateral framework, as well as the “**rules-based order**” advocated by the Quad.
- China and Pakistan also agreed to “strengthen their cooperation on the United Nations and other multilateral platforms and to support each other on each side’s core and major interests, work toward the political and peaceful resolution of regional and international hotspot issues, and jointly safeguard peace and stability of the world, especially in Asia.”
- The statement said they would “continue to strengthen cooperation on counter-terrorism and peacekeeping in the UN framework, by addressing the issue of terrorism in all its forms and manifestations”. China has in the past stepped in on many instances to block the listing of Pakistani terrorists at the UNSC sanctions committee..
- The statement added they both would “consolidate strategic coordination in the field of human rights, jointly opposing double standards and the politicisation of human rights issues, and working for the promotion and protection of all human rights in a cooperative manner.”
- China in 2019 and 2020 raised the Kashmir issue at the UNSC on at least three occasions, calling for discussions in the wake of India’s dilution of



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Article 370, reorganisation of Jammu and Kashmir and revocation of special status.

- Pakistan, meanwhile, has lobbied for China's support amid increasing criticism from western countries over Xinjiang. In October, Pakistan also made a joint statement on behalf of 55 countries at the UN "opposing interference in China's internal affairs under the pretext of Hong Kong."

### China-Pakistan Economic Corridor (CPEC)

- CPEC connecting China's Xinjiang with Pakistan's Gwadar port is regarded as the flagship project of the multi-billion dollar Belt and Road Initiative (BRI) which is aimed at furthering China's global influence with infrastructure projects funded by Chinese investments all over the world.
- China has committed to invest over USD 60 billion in Pakistan as part of the CPEC under which it planned to build a number of special economic zones.
- CPEC's potential impact on Pakistan has been compared to that of the Marshall Plan undertaken by the United States in post-war Europe. Pakistani officials predict that CPEC will result in the creation of upwards of 2.3 million jobs between 2015–2030, and add 2 to 2.5 percentage points to the country's annual economic growth.

### India's objections to CPEC

- **Sovereignty claims:** India objects to the CPEC project as upgrade works to the Karakoram Highway are taking place in Gilgit Baltistan in Pakistan-occupied Kashmir; territory that India claims as its own.
- **Encirclement fears:** India has alleged that China and Pakistan intended to develop the corridor not just for its economic benefits, but also is motivated by the "strategic intent of besieging India."

Source: TH



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## UPSC "PT" DNA (Daily News Analysis)

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### EU to Support Southeast Asia against Climate Change

GS-II | 10 April, 2021

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#### EUs Support to Southeast Asia against Climate Change

The European Union (EU) has earmarked millions of euros for supporting climate friendly development in Southeast Asia after the EU became a "strategic partner" of the Association of the Southeast Asian Nations (ASEAN) bloc in December 2020.

#### Other Talking Points

##### Multilateral Assistance:

- The EU is the largest provider of development assistance to the ASEAN region, and has committed millions of euros to various environmental programs.
- This includes 5 million Euros to the ASEAN Smart Green Cities initiative and another 5 million Euros towards a new means of preventing deforestation, called the Forest Law Enforcement, Governance and Trade in ASEAN.
- Along with multilateral assistance, the EU also works with individual ASEAN member states on eco-friendly policies like Thailand's Bio-Circular-Green Economic Model and Singapore's Green Plan 2030.

##### Problems Faced by the EU in Southeast Asia:

- Region's environmental policy as Southeast Asia is going in the wrong direction in many areas on climate change.
- Five ASEAN states were among the fifteen countries most affected by climate change between 1999–2018, according to the Climate Risk Index 2020.
- Southeast Asia's energy demand is projected to grow 60% by 2040.
- Coal-fired energy will overtake natural gas as the main power source in the ASEAN region by 2030. And by 2040 it could account for almost 50% of the region's projected CO<sub>2</sub> emissions.
- In 2019, the region consumed around 332 million tons of coal, nearly double the consumption from a decade earlier, according to the International Energy Agency (IEA).
- This will contribute to a two-thirds rise in CO<sub>2</sub> emissions to almost 2.4

## UPSC "PT" DNA (Daily News Analysis)

gigatons, according to the Southeast Asia Energy Outlook 2019.

### Risks for the EU in Southeast Asia:

- If the EU takes a strong forceful stance on coal consumption in the region, it could spark anger from the main exporters of the commodity, China, India and Australia. The EU's climate change policy in the region has already been met with resistance.
- Indonesia last year initiated proceedings at the World Trade Organization against the EU's phased ban on palm-oil imports.
- The EU contends the ban is to protect the environment, but Indonesia, the world's largest palm oil producer, says it is mere protectionism.
- Malaysia, the world's second-largest palm oil producer, supports Indonesia in its battle against the EU.
- The other problem for the EU is that it risks accusations of hypocrisy if it takes too forceful a stance on coal-fired energy production in Southeast Asia.
- Poland and the Czech Republic of the EU remain dependent on coal-fired energy production.
- Southeast Asia and Europe each accounted for around 11% of the world's thermal coal imports in 2019.

### India's Coordination with Asean on Climate Change:

- In 2012 Both adopted a 'New Delhi Declaration on ASEAN-India Cooperation in Renewable Energy'.
- ASEAN-India Green Fund was established in 2007 with USD 5 million for funding pilot projects to promote adaptation and mitigation technologies in the field of climate change.
- ASEAN and India are collaborating on several projection Climate Change and biodiversity through partnership with IISc, Bangalore.

Source: TH

## Online Dispute Resolution in India

GS-II | 10 April, 2021

### Online Dispute Resolution in India

## UPSC "PT" DNA (Daily News Analysis)

NITI Aayog recently released a handbook on Online Dispute Resolution mechanism. ODR has the potential to decentralize, diversify, democratize, and disentangle the justice delivery mechanism in India's courts.

### Present Scenario in India's Courts & Associated Issues

- The pendency of over 40 million cases in our judicial system remains a focal point for reform and reduction.
- This pendency makes a strong case for online dispute resolution (ODR).
- Nearly a third of these cases have been pending for 3 to 30 years.
- They are pending due to resource-dwindling litigation, case adjudication and difficulty in consensus resolution.
- There are barriers to conflict resolution for the common man, because of,
  1. Lack of access to courts and representation, or
  2. Entry-level barriers such as linguistic or technology challenges.
- All of this is routinely brought up by those who are impacted by it.
- With the pandemic disrupting basic services delivery, the discussion is only going to expand in scope and volume.

### Online Dispute Resolution During COVID

- Around 40 million cases are pending cases at the Supreme Court, High Courts and the district courts.
- This seems more than significant, except that the courts are performing in an exemplary fashion to dispose of cases.
- Around 25 lakh cases were heard virtually by courts across the country in the wake of the Covid-19 pandemic.
- However, the key statistic is that the number of cases filed surpassed the disposal capacity.
- The pandemic has, of course, accelerated this trend.
- Given the escalating pendency, it is important that alternative methods for avoiding, containing and resolving disputes are adopted.
- The access to justice isn't just about having the means to resolve disputes but also ensuring that the means are efficacious and expeditious.
- Keeping this context in mind, the growing focus on ODR in India is not without reason.

### Significance of Online Dispute Resolution and Associated Benefits

- **Cost-Effective** – ODR has the potential to reduce legal costs. First, by way of reduced time for resolution and second, by doing away with the need for legal advice in the select category of cases
- **Convenient and quick dispute resolution** – ODR eliminates the need for

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travel and synchronisation of schedules

- **Increased access to justice** – As part of India's commitment and leadership to attain Sustainable Development Goals adopted by the UN General Assembly in 2015, India is committed to ensuring equal access to justice for all. Since ODR tools such as online negotiation and mediation are premised on mutually arriving at an agreement, they make the dispute resolution process less adversarial and complicated for the parties
- **Removes unconscious bias** – ODR processes lessen the unconscious bias of the neutral while resolving disputes
- Exploring the massive potential of Online Dispute Resolution (ODR) can enhance the Ease of Doing Business in India
- ODR aligns with the current socio-economic setting.
- It has a global precedent of being extremely successful, and above all, has principles of natural justice in its essence.
- The foundational pillars of any successful ODR regime are **trust, convenience and expertise**.
- India now has a long legacy of citizens trusting technology, whether in e-payments or in education and healthcare.
- To augment dispute resolution mechanisms, Lok Adalats and Gram Nyayalayas have been created as alternative options for affordable justice.
- ODR has significantly large-scale potential for innovation.

### Online Dispute Resolution in India

- The origins of ODR can be traced to the evolution of the Internet in the 1990s, which increased online transactions, and thereby disputes related to such transactions.
- The United Nations Commission on International Trade Law (UNCITRAL) adopted the UNCITRAL Model Law on International Commercial Arbitration in 1985 and the UNCITRAL Conciliation Rules in 1980. In the context of international commercial relations, this Model Law has been recommended by the United Nations General Assembly (UNGA).
- India incorporated these uniform principles of ADR in the Arbitration and Conciliation Act, 1996.

### Online Dispute Resolution in India Post COVID-19

- During the ongoing Covid-19 pandemic, the target is to look into Covid-related disputes (most notably in lending, credit, property, commerce and retail) through ODR, which is an important part of the economic revival.
- It will set into motion the use of technology towards efficient and affordable

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access to justice, especially in post-pandemic times.

### Recent Initiatives

2020

- The government of India launched the Vivaad se Vishwas Scheme for efficient resolution of tax disputes through ODR
- Vidhi Centre for Legal Policy published a report on mainstreaming ODR in India
- NITI Aayog established a committee under the Chairmanship of Justice (Retd.) A.K.Sikri to broad-base the use of ODR in India
- Chhatisgarh conducted the first virtual Lok Adalat and provided conciliation services
- Department related Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice, in their report called for the introduction of technology in the arbitration and conciliation process

### Challenges in ensuring Online Dispute Resolution

- Digital literacy – ODR requires a basic level of digital literacy as a prerequisite. In India, digital literacy often varies across age, ethnicity and geography. This digital divide needs to be addressed to ensure that ODR is adopted by society at large and not remain limited to urban areas



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Digital infrastructure – A broad base adoption of ODR will require technology infrastructure across the country

- Lack of trust in ODR services – A lot of people in the country do not trust the emerging technology which is a major challenge for the people of India
- Privacy and confidentiality concerns – Greater integration of technology and reduced face to face interactions create new challenges for privacy and confidentiality, especially in dispute resolution

### Way Forward

- ODR has the potential to raise equity, fairness, access in the dispute resolution ecosystem in India.
- The convenience brought by ODR has been exhibited by e-Lok Adalats conducted in several states, where disputes were resolved simply over WhatsApp audio/video calls.
- Supply-side capabilities could also be enhanced through a relatively large and competent services pool for adjudication and representation.
- ODR has the potential to be an effective alternative that utilises technology to bridge barriers and access in resolution.
- Through facilitating low cost, technology-augmented, linguistically- friendly and incentivised dispute avoidance, containment and resolution, ODR could enhance justice delivery to all.

Source: TH/PIB/Others

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### Center to certify Shrimp farms

GS-III | 12 April, 2021

### Center to certify Shrimp farms

- Frozen shrimp is India's largest exported seafood item.
- It constituted 50.58% in quantity and 73.2% in terms of total U.S. dollar earnings from the sector during 2019-20.
- **Andhra Pradesh, West Bengal, Odisha, Gujarat and Tamil Nadu** are the major shrimp producing States, and around 95% of the cultured shrimp produce is exported.
- To bolster confidence in India's frozen shrimp produce, the **country's biggest seafood export item**, the Centre has kicked off a new scheme to certify hatcheries and farms that adopt good aquaculture practices.
- India exported frozen shrimp worth almost \$5 billion in 2019-20 to the **U.S. and China — its biggest buyers**.
- But a combination of factors had hurt export volumes in recent months, including **container shortages** and incidents of seafood consignments being rejected because of **food safety concerns**.

### Shapari Scheme

- The Marine Products Exports Development Authority (MPEDA) has developed a certification scheme for aquaculture products called Shaphari, a Sanskrit word that means superior quality of fishery products suitable for human consumption.
- We already have a **National Residue Control Programme** for food safety issues in farm produce and pre-harvest testing system in place, but this certification was proposed as a market-based tool for hatcheries to adopt good aquaculture practices and help produce quality antibiotic-free shrimp products to assure global consumers.
- "Overall, certified aquaculture products will help exporters to export their consignments to markets under stringent food safety regulations without the fear of getting rejected," the official explained.
- The Shaphari scheme is based on the **United Nations' Food and Agriculture Organization's** technical guidelines on aquaculture certification and will have two components — certifying hatcheries for the quality of their seeds and, separately, approving shrimp farms that adopt the requisite good practices.
- The certification of hatcheries will help farmers easily identify good quality

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seed producers.

- Those who successfully clear multiple audits of their operations shall be granted a certificate for a period of two years.
- "The entire certification process will be online to minimise human errors and ensure higher credibility and transparency," the official said, adding that the guidelines for certification of farms are under preparation in consultation with stakeholders.

Source: TH

### Afghanistan crisis for UPSC

GS-II | 12 April, 2021

## Afghanistan crisis for UPSC

Part of: GS Prelims and GS-II- IR

### Historical Background

The **Saur Revolution** had taken place in Afghanistan in **1978** which installed a communist party in power. **Nur Muhammad Taraki** became the head of the state replacing the previous president Daoud Khan. Taraki's government introduced many modernisation reforms that were considered too radical and left them unpopular, especially in the rural areas and with the traditional power structures. The communist government also had a policy of brutally suppressing all opposition. Even unarmed civilians opposing the government were not spared. This led to the rise of various anti-government armed groups in the country. The government itself was divided and Taraki was killed by a rival, Hafizullah Amin, who became the president. The Soviet Union, which at that time, wanted a communist ally in the country, decided to intervene.

**Soviet army was deployed on 24<sup>th</sup> December 1979 in Kabul.** They staged a coup and killed Amin, installing Babrak Karmal as the president. Karmal was a Soviet ally. This intervention was seen as an invasion by the USA and other western nations. While the Soviet army had control of the cities and towns, the

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insurgency groups called the Mujahideen had the rural parts of Afghanistan under their control. A bitter war was fought between both groups. The Soviet Union, which had planned to stay for 6 months to a year in Afghanistan found themselves stuck in a war that was proving to be too costly.

The Mujahideen did not relent in their pursuit to 'drive out' the Soviets. They had the support of many countries like the USA, Pakistan, China, Iran, Egypt and Saudi Arabia. They were given assistance like arms and training needed to fight the soviets. The soviets followed a policy of wiping out the rural regions in order to defeat the Mujahideen. Millions of land mines were planted and important irrigation systems were destroyed. As a result, millions of Afghan refugees took refuge in Pakistan and Iran. Some came to India as well. It is estimated that in the Soviet-Afghan war, about 20 lakh Afghan civilians were killed.

In 1987, after the reformist **Mikhail Gorbachev** came to power in the Soviet Union, he announced that his government would start withdrawing troops. The **final soviet troops were withdrawn on 15 February 1989**. Now, the government of Afghanistan was left alone to fight the Mujahideen. Finally, they succeeded in taking control of Kabul in 1992. Again, the Mujahideen had different factions within and they could not agree on power sharing. The country collapsed into a bloody civil war.

### The Taliban

In 1994, a group of fundamentalist students, wrought control of the city of Kandahar and started a campaign to seize power in the country. They were called the Taliban . Many of them were trained in Pakistan when they were in refugee camps. By 1998, almost entire Afghanistan was under the control of the Taliban. Many of the Mujahideen warlords fled to the north of the country and joined the Northern Alliance who were fighting the Taliban. This time, Russia lent support to the Northern Alliance, though they were fighting against them earlier. The Taliban ruled the country under strict interpretation of the Sharia law and many of the progress with regard to women and education which the country had seen earlier, were reversed. Girls were forbidden from attending schools and women banned from working. The Taliban-ruled country also became a safe haven for international terrorists. Only Pakistan, the UAE and Saudi Arabia recognised the Taliban government.

In 2001, a US-led coalition defeated the Taliban and established another

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government in place. However, Afghanistan still sees resistance from the Taliban in certain pockets.

### US fighting a war in Afghanistan and why has it lasted so long?

1. On 11 September 2001, attacks in America killed nearly 3,000 people. Osama Bin Laden, the head of Islamist terror group al-Qaeda, was quickly identified as the man responsible.
2. The Taliban, radical Islamists who ran Afghanistan and protected Bin Laden, refused to hand him over. So, a month after 9/11, the US launched air strikes against Afghanistan.
3. As other countries joined the war (ISAF), the Taliban were quickly removed from power. But they didn't just disappear - their influence grew back and they dug in.
4. Since then, the US and its allies have struggled to stop Afghanistan's government collapsing and to end deadly attacks by the Taliban.
5. The mission, he said, was "to disrupt the use of Afghanistan as a terrorist base of operations and to attack the military capability of the Taliban regime".
6. The first targets were military sites belonging to the hardline Taliban group who ruled the country. Training camps for al-Qaeda, the terror group run by 9/11 plotter Osama Bin Laden, were also hit.
7. But 18 years on, it's hard to argue the US mission has been fulfilled - the Taliban may play a part in ruling Afghanistan again if peace talks do eventually succeed.

The Taliban first took control of the capital Kabul in 1996, and ruled most of the country within two years. They followed a radical form of Islam and enforced punishments like public executions. Within two months of the US and its international and Afghan allies launching their attacks, the Taliban regime collapsed and its fighters melted away into Pakistan.

A new US-backed government took over in 2004, but the Taliban still had a lot of support in areas around the Pakistani border, and made hundreds of millions of dollars a year from the drug trade, mining and taxes. As the Taliban carried out more and more suicide attacks, international forces working with Afghan troops struggled to counter the threat the re-energised group posed.

In 2014, at the end of what was the bloodiest year in Afghanistan since 2001, Nato's international forces - wary of staying in Afghanistan indefinitely - ended their combat mission, leaving it to the Afghan army to fight the Taliban. But that

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gave the Taliban momentum, as they seized territory and detonated bombs against government and civilian targets. In 2018, Taliban was openly active across 70% of Afghanistan.

### Where did the Taliban come from?

- Afghanistan had been in a state of almost constant war for 20 years even before the US invaded.
- In **1979**, a year after a coup, the Soviet army invaded Afghanistan to support its communist government. It fought a resistance movement - known as the mujahideen - that was supported by the US, Pakistan, China and Saudi Arabia, among other countries.
- In **1989**, Soviet troops withdrew but the civil war continued. In the chaos that followed, the Taliban (which means "students" in the Pashto language) sprang up.
- They first rose to prominence in the border area of northern Pakistan and south-west Afghanistan in **1994**. They promised to fight corruption and improve security and, at that time, many Afghans were tired of the excesses and infighting of the mujahideen during the civil war.
- It's thought the Taliban first appeared in religious schools, mostly funded by Saudi Arabia, which preached a hardline form of Islam.
- They enforced their own austere version of Sharia, or Islamic law, and introduced brutal punishments. Men were made to grow beards and women had to wear the all-covering burka.
- The Taliban banned television, music and cinema and disapproved of girls' education.
- And because the Taliban gave shelter to militants from the al-Qaeda group, it made them an immediate target for an attack by US, Afghan and international forces in the wake of 9/11.

### Why has the war lasted so long?

- There are many reasons for this. But they include a combination of fierce Taliban resistance, the limitations of Afghan forces and governance, and other countries' reluctance to keep their troops for longer in Afghanistan.
- At times over the past 18 years, the Taliban have been on the back foot. In late 2009, US President Barack Obama announced a troop "surge" that saw the number of American soldiers in Afghanistan top 100,000.
- The surge helped drive the Taliban out of parts of southern Afghanistan, but it was never destined to last for years.
- As a result, the Taliban were able to regroup. When international forces

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withdrew from fighting, Afghan forces left to lead the charge were easily overwhelmed. To make matters worse, Afghanistan's government, that is full of tribal division, is often hamstrung.

### 5 Main reasons why war is still going on:

- a lack of political clarity since the invasion began, and questions about the effectiveness of the US strategy over the past 18 years;
- the fact each side is trying to break what has become a stalemate - and that the Taliban have been trying to maximise their leverage during peace negotiations
- an increase in violence by Islamic State militants in Afghanistan - they've been behind some of the bloodiest attacks recently
- There's also the role played by Afghanistan's neighbour, Pakistan.
- There's no question the Taliban have their roots in Pakistan, and that they were able to regroup there during the US invasion. But Pakistan has denied helping or protecting them - even as the US demanded it do more to fight militants.

### How have the Taliban managed to stay so strong?

The group could be making as much as \$1.5bn (£1.2bn) a year, a huge increase even within the past decade. Some of this is through drugs - Afghanistan is the world's largest opium producer, and most opium poppies - used for heroin - are grown in Taliban-held areas.

But the Taliban also make money by taxing people who travel through their territory, and through businesses like telecommunications, electricity and minerals.

Foreign countries, including Pakistan and Iran, have denied funding them, but private citizens from the region are thought to have done so.

The figures for Afghan civilians are more difficult to quantify. A UN report in February 2019 said more than **32,000** civilians had died. The Watson Institute at Brown University says **42,000** opposition fighters have died. The same institute says conflicts in Iraq, Syria, Afghanistan and Pakistan have cost the US **\$5.9 trillion** since 2001. The US is still conducting air strikes against the Taliban, instigated by the third president to oversee the war, Donald Trump. But he is keen to reduce troop numbers before he faces another election in November 2020. The Taliban now control much more territory than they did when international troops

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left Afghanistan in 2014. Many in Washington and elsewhere fear that a full US troop pull-out would leave a vacuum that could be filled by militant groups seeking to plot attacks in the West. The Afghan people, meanwhile, continue to bear the brunt of the long and bloody conflict.

### What do the Taliban and the United States want?

The negotiations appear to be focused on four elements:

- **Withdrawal of Foreign Forces** Both sides agree on the full withdrawal of the fourteen thousand U.S. troops currently in Afghanistan, as well as of additional foreign forces, but they disagree on the timeline. The United States is reportedly offering a two-and-a-half-year deadline, while the Taliban insists on nine months.
- **Counterterrorism Assurances** The Taliban has agreed to prevent Afghanistan from being used by terrorist groups, but negotiators disagree over how to define the terms "terrorism" and "terrorist."
- **Intra-Afghan Dialogue** Washington has urged Afghan government and Taliban leaders to begin official talks on how Afghanistan will be governed after the war, but the Taliban refuses to negotiate with the government until after it has reached a deal with the United States.
- **Comprehensive Cease-fire:** U.S. negotiators seek a permanent cease-fire among U.S., Taliban, and Afghan government forces prior to a peace deal, but the Taliban insists on putting off a cease-fire until U.S. troops have withdrawn.

### Reasons for India to be part of reconciliation process with the Taliban:

- **Regional Stability** Security and Stability are foundations over which development can be built on. Peaceful neighbourhood and trouble free regional climate will provide space for the regimes to focus more on development as threats of violence by Taliban's in the region will be minimized.
- **Counter China and Pakistan's vested interest:** India should play a considerable role through Quadrilateral group plus 2 talks to thwart the efforts of china to place puppet regimes which can play according to their own vested interests. This can be counterproductive for India's aspirations and concerns.
- **Connectivity with Central Asia:** India's trade with Central Asia and reaping benefits from the enhanced connectivity will be largely dependent on

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Afghanistan's domestic environment. A peaceful and cooperative Afghanistan will be a key pin in India's central Asia policy. The latest trilateral transit agreement between India, Iran and Afghanistan is a significant step in this direction.

- **TAPI for Energy security:** Violence free Afghanistan is desideratum for finishing the project of TAPI and sustaining the benefits from it through energy supplies from Turkmenistan.
- **Gateway to "Link west" policy:** Afghanistan will act as a gateway to India's increasing rigour on its west Asia policy.
- **Minerals of Afghanistan:** The cost of access to minerals will be minimum and helpful in expanding the production of Indian Industries.

### US- Taliban Deal

Recently, the U.S. **signed a deal (at Qatar's capital-Doha) with the Taliban** that could pave the way towards a **full withdrawal of foreign soldiers** from Afghanistan over the next 14 months and **represent a step towards ending the 18-year-war in Afghanistan**. Along with this, a **separate joint declaration** was also signed between the Afghan government and the US at Kabul.

The peace deal is expected to kick-off two processes- **a phased withdrawal of US troops and an 'intra-Afghan' dialogue**. The deal is a **fundamental step to deliver a comprehensive and permanent ceasefire and the future political roadmap for Afghanistan peace process and the Central region**.

### Background of the Deal

- **On 11 September 2001**, terrorist attacks in America killed nearly 3,000 people. **Osama Bin Laden**, the head of Islamist terror group al-Qaeda, was quickly identified as the man responsible.
- **The Taliban**, radical Islamists who ran Afghanistan at that time, protected Bin Laden, refused to hand him over. So, a month after 9/11, the US launched airstrikes against Afghanistan.
- The US was joined by an **international coalition** and the Taliban were quickly removed from power. However, they turned into an insurgent force and continued deadly attacks, destabilising subsequent Afghan governments.
- **Since then, the US is fighting a war against the Taliban.**
- **Donald Trump's 2017 policy on Afghanistan**, was based on breaking the military stalemate in Afghanistan by authorising an additional 5,000 soldiers,



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giving US forces a freer hand to go after the Taliban, putting Pakistan on notice. and strengthening Afghan capabilities.

- However, the US realised that the Taliban insurgency could not be defeated as long as it enjoyed safe havens and secure sanctuaries in Pakistan, the US changed track and sought Pakistan's help to get the Taliban to the negotiating table.
- The negotiations began in September 2018 with the appointment of Ambassador Zalmay Khalilzad to initiate direct talks with the Taliban. After nine rounds of US-Taliban talks in Qatar, the two sides seemed close to an agreement.

### Salient Features of the Deal

- **Troops Withdrawal:** The US will draw down to **8,600 troops in 135 days** and the NATO or coalition troop numbers will also be brought down, proportionately and simultaneously. And all troops will be out within 14 months.
- **Taliban Commitment:** The main counter-terrorism commitment by the Taliban is that Taliban will not allow any of its members, other individuals or groups, including al-Qaeda, to use the soil of Afghanistan to threaten the **security of the United States and its allies**.
- **Sanctions Removal:** UN sanctions on Taliban leaders to be removed by three months and US sanctions by August 27. The sanctions will be out before much progress is expected in the intra-Afghan dialogue.
- **Prisoner Release:** The US-Taliban pact says up to 5,000 imprisoned Taliban and up to 1,000 prisoners from "the other side" held by Taliban "will be released" by March 10.

### Challenges in the Deal

- **One-Sided Deal:** The fundamental issue with the U.S.'s Taliban engagement is that it **deliberately excluded the Afghan government** because the Taliban do not see the government as legitimate rulers. Also, there is **no reference** to the Constitution, rule of law, democracy and elections in the deal.
  - Taliban is **known for strict religious law** banishing women from public life, shutting down schools and unleashing systemic discrimination on religious and ethnic minorities, has not made any promises on whether it would respect civil liberties or accept the Afghan Constitution.
  - Therefore, **Shariat-based system** (political system based on



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fundamental Islamic values) with the existing constitution is not easy.

- **Issues with Intra-Afghan Dialogue:**
  - President Ashraf Ghani faces a **political crisis following claims of fraud** in his recent re-election.
  - The political tussle is between **Ashraf Ghani** (who belongs to the largest ethnic group in Afghanistan- the Pashtun) and **Abdullah Abdullah** (whose base is among his fellow Tajiks, the second largest group in Afghanistan).
  - If there are any concessions made by Mr Ghani's government to the **Taliban (predominantly Pashtun)** will likely be interpreted by Mr Abdullah's supporters as **an intra-Pashtun deal** reached at the cost of other ethnic groups, especially the Tajiks and the Uzbeks.
  - Consequently, **these ethnic fissures may descend into open conflict and can start the next round of civil war.**
- Thus, the lifting of the US military footprint and the return of a unilateral Taliban could set the stage for the **next round of civil war** that has hobbled the nation since the late 1970s.
- **Problem with Prisoner's Swap:** The US-Taliban agreement and the joint declaration differ:
  - The US-Taliban pact says up to 5,000 imprisoned Taliban and up to 1,000 prisoners from "the other side" held by Taliban "will be released" by March 10.
  - However, the joint declaration **lays down no numbers or deadlines for the prisoner's swap.** Afghanistan President held that there is no commitment to releasing 5,000 prisoners. He also held that such prisoners' swap is not in the authority of the US, but in the authority of the Afghan government.
- Also, the Taliban is fragmented or divided internally. It is composed of various regional and tribal groups **acting semi-autonomously.**
  - Therefore, it is possible that some of them may continue to engage in assaults on government troops and even American forces during the withdrawal process.
  - It is unclear if there is a date for the complete withdrawal of US troops or for concluding the intra-Afghan dialogue, or how long the truce will hold.

### Impact of the Deal on Other Stakeholders

- **US:** The promise to **end America's "endless wars"** in the greater Middle East region was one of the central themes of US President Donald Trump's election campaign in 2016. This deal may demonstrate progress on that front

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in his **bid for re-election** later this year.

- Though, the US doesn't recognise Taliban as a state under the name of Islamic Emirate of Afghanistan (key demand of Taliban), though many experts are of the view that this deal is a little more than a dressed-up U.S. surrender that will ultimately see the Taliban return to power.
- **Pakistan:** The deal provides the strategic advantage to Pakistan, who is a long-time **benefactor of the Taliban**.
- **China:** After the launch of the **China-Pakistan Economic Corridor (CPEC)**, Pakistan is seen as more of a **protectorate state of China**. Thus, China may leverage Pakistan's influence on the Taliban, to propel its strategic projects like the Belt and Road Initiative.

### Impact of this Deal on India

This deal alters the **balance of power in favour of the Taliban**, which will have strategic, security and political implications for India. The deal may **jeopardise the key stakes of India in Afghanistan**:

- India has a major stake in the stability of Afghanistan. India has invested **considerable resources in Afghanistan's development**.
- India has a major stake in the continuation of the current **Afghanistan government** in power, which it considers a **strategic asset vis-à-vis Pakistan**.
  - An increased political and military role for the Taliban and the expansion of its territorial control should be of great concern to India since the Taliban is widely believed to be a protégé of Islamabad.
- As Afghanistan is the gateway to Central Asia, the deal might dampen India's interest in Central Asia.
- Withdrawal of US troops could result in the breeding of the fertile ground for various anti-India terrorist outfits like Lashkar-e-Taiba or Jaish-e-Mohammed.

### Way Forward

An independent, sovereign, democratic, pluralistic and inclusive Afghanistan is crucial for peace and stability in the region. In order to ensure this:

- The Afghan peace process should be Afghan-led, **Afghan-owned and Afghan-controlled**.
- Also, there is a need for the global community to fight against the global

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concern of terrorism. In this context, it high time to adopt the Comprehensive Convention on International Terrorism (**proposed by India at UN in 1996**).

Though the deal is a good step, the road ahead would not be easy. Achieving lasting peace in Afghanistan will require patience and compromise among all parties.

### India - Afghanistan: Heart of Asia Conference

- Calling for a "double peace" both inside Afghanistan and in the region, External Affairs Minister S. Jaishankar said India supports the Intra-Afghan Negotiations (IAN), in a rare direct reference to the Taliban at the 9th Heart of Asia conference in Tajikistan.
- Mr. Jaishankar attended the meet along with Foreign Ministers of 15 countries, including Afghanistan, Pakistan, Turkey, Iran, China, Russia, Saudi Arabia and Central Asian states.
- "India has been supportive of all the efforts being made to accelerate the dialogue between the Afghan government and the Taliban, including intra-Afghan negotiations," the Minister said and referred to his participation in the inaugural virtual session of the Doha talks in September 2020.

### 'Engage in good faith'

- "If the peace process is to be successful, then it is necessary to ensure that the negotiating parties continue to engage in good faith, with a serious commitment towards reaching a political solution," he added. India has not in the past referred directly to the Taliban, and the government has not opened any public engagement with the militant group.
- Mr. Jaishankar said India views the escalation in violence against civilians in and the "continued involvement of foreign fighters" in Afghanistan with "grave concern" and pushed for Heart of Asia members to ensure a permanent ceasefire.
- Speaking at the same conference, Pakistan's Foreign Minister Shah Mehmood Qureshi said Pakistan "fears that any space gained by ISIS and Al-Qaeda could accentuate the threat of terrorism," and cautioned against the role of "spoilers", both "within and outside Afghanistan".
- In a departure from the recent past, however, Mr. Jaishankar and Mr. Qureshi were present for each other's speeches during the conference, unlike previous boycotts by the two sides at a number of conferences since 2019.
- However, despite speculation over an ongoing India-Pakistan peace process

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and a back-channel dialogue, Mr. Jaishankar and Mr. Qureshi did not make any public contact during the day-long conference, and were seen avoiding eye contact during the joint photo opportunity they both participated in.

- Speaking at the conference in Dushanbe, Afghanistan President Ashraf Ghani, who spoke to both foreign ministers in separate meetings, thanked neighbouring countries for their support.
- He also lauded a number of regional connectivity initiatives including India's air corridor programme and Chabahar port project, as well as the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline.

### Russia calls for an inclusive solution for Afghanistan peace talks

- A solution to the Afghan civil war should balance the ethnic and religious groups of Afghanistan and no group should be left out of the final settlement, said Russian Foreign Minister Sergey Lavrov here on Tuesday after holding bilateral discussions with his Indian counterpart Dr. S. Jaishankar.
- Mr. Lavrov said India and Russia were working for stability and connectivity in the region, and urged that "military alliances" should not come up in Asia.

### 'Part of Afghan society'

- "The Taliban movement is a part of Afghan society. Decision on the settlement in Afghanistan should foresee the participation of all political, ethnic and religious groups in the country. Otherwise, the solution will not be stable. This decision has to be based on balance of ethnic, political and religious interests, including in the legislative bodies," Mr. Lavrov said.
- "Any exclusion of any group from this process will not lead to an implementable and sustainable agreement which can lead to resumption of hostilities, which is not the desire of the stakeholders," he said in response to a question after both the Ministers issued press statements.
- Dr. Jaishankar said there is a need to "harmonise" the interests of various stakeholders that are active in and around Afghanistan.
- "For India, what happens in Afghanistan impacts our security directly. I shared our approach that for a durable peace there would require harmonising the interest of all — both within and around that country," Mr. Jaishankar said. "The peace process should be based on foundational principles to which we all subscribe and a political solution should mean independent, sovereign, united and democratic Afghanistan," he added.

### Missile defence system

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## UPSC "PT" DNA (Daily News Analysis)

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- Apart from the Afghan situation, the major issue on the agenda for Tuesday's talks was expected to be the delivery of the Russian S400 missile defence system and the threat of U.S. sanctions that the delivery could attract.
- However, the Ministers said the "specific" issue did not come up during the discussion.
- However, Mr. Lavrov acknowledged that the U.S. exerts pressure on any country that wants to sign military and industrial contracts with Russia.

Source: TH

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## UPSC "PT" DNA (Daily News Analysis)

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### Use of Technology in Health Sector

GS-III | 13 April, 2021

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#### Use of Technology in Health Sector

##### Samsung Case Study

- Samsung Electronics is recycling its old Galaxy smartphones into healthcare equipment for under-served people in India, Morocco, Vietnam and Papua New Guinea.
- Old phones will be remodelled as eyecare equipment to screen patients with eye diseases, the company said in a statement.
- When the South Korea handset maker introduced the recycling programme in 2017, it made a handheld camera to enable diagnosis of an internal organ.
- The smartphone captured images, and the Galaxy device used Artificial Intelligence (AI) to analyse images for ophthalmic diseases.
- It then connects to an app that evaluates patient's data to suggest treatment, Samsung noted.
- Samsung says the recycling initiative diverts e-waste from landfills to units making medical devices for under-served communities.
- The electronics company made a portable retina camera using old smartphones, and used it on over 19,000 residents in Vietnam.
- It now plans to extend the programme to India, Morocco and Papua New Guinea. The company will also make smartphone-based portable colposcopes to screen for cervical cancer.

##### Practo Case Study

- Online healthcare platform, Practo, has introduced vernacular language options for its tele-consultation service on both its app and website.
- The platform will offer consultation in 15 languages, including Marathi, Tamil, Kannada and Bengali, with more to be added soon, the company said in a blog post. Earlier this year, the firm piloted the language options by offering Hindi as the alternate option to users.
- During this time, 25% of all online consultations on the platform were conducted in vernacular languages, with Hindi, Tamil, Marathi, and Kannada (in that order) emerging as their preferred language(s) for consultation, Practo noted, and added that 65% of all vernacular consults were from users aged 60 and above.

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## UPSC "PT" DNA (Daily News Analysis)

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Source: TH

### China – Sri Lanka relations

GS-II | 13 April, 2021

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#### China – Sri Lanka relations

- China on Monday signed a **\$500 million** loan agreement with Sri Lanka, in a move that Colombo hopes would boost its foreign reserves that are under severe strain since the pandemic struck last year.
- This is the second instalment of the \$1 billion loan sought by Sri Lanka last year. The first was released in March 2020, just as the pandemic hit Sri Lanka.
- The approval comes a month after Sri Lanka obtained a currency swap facility from China for \$1.5 billion. Meanwhile, the Beijing-based Asian Infrastructure Investment Bank (AIIB) also sanctioned Sri Lanka's request for a \$180 million loan in February. Sri Lanka already owes more than \$ 5 billion to China from past loans.
- Sri Lanka, like many pandemic-hit countries, is facing an acute economic crisis for over a year now, with its rupee plummeting to nearly 203 against the U.S. dollar.
- The country's foreign reserves dropped to \$ 4.05 billion in March this year, after its exports and tourism sector earnings, and foreign remittances dropped considerably in the last 12 months.
- Sri Lanka is due to repay some \$ 4.5 billion of its outstanding debt this year and the government has said it is "exploring all options".
- India extended a \$400 million swap facility through the Reserve Bank of India, and provided a three-month rollover, but the facility was not further extended. The Central Bank of Sri Lanka settled the swap in February this year.
- Meanwhile, Colombo is awaiting New Delhi's response on two requests made last year by the government.
- While PM Mahinda Rajapaksa sought a debt moratorium on the debt Sri Lanka owes India, President Gotabaya Rajapaksa requested Prime Minister Modi for a \$ 1 billion currency swap last year. Neither request has been cleared by New Delhi as yet.

## UPSC "PT" DNA (Daily News Analysis)

Source: TH

### Mission Aahaar Kranti

GS-III | 13 April, 2021

## Mission Aahaar Kranti

- The mission is aimed to spread the message of the need for a **nutritionally balanced diet** and to understand the importance of accessible to all local fruits and vegetables.
- Vijnana Bharati (Vibha) and Global Indian Scientists' and Technocrats' Forum (GIST) have come together to launch the mission with the motto of **Uttam Aahaar Uttam Vichaar** (Uttam Aahaar Uttam Vichaar) or **'Good Diet-Good Cognition'**.
- The 'Aahaar Kranti' movement is designed to address the peculiar problem being faced by India and the world called **'hunger and diseases in abundance'**.
- Studies estimate that India produces as much as two times the amount of calories that it consumes. However, many in the country are still malnourished.
- The root cause of this strange phenomenon is a lack of nutritional awareness in all sections of our society.
- There is a need for a nutritionally balanced diet also in the context of the current COVID-19 pandemic. A healthy body would be able to handle the infection much better with greater immunity and higher resilience.
- The United Nations has also declared **2021 as the International Year of Fruits and Vegetables**, which vibes very well with Aahaar Kranti.
- Fruits and vegetables make a large part of a balanced diet.
- Further, **UN sustainable goal # 3** that emphasizes on human well-being reads, "Ensure healthy lives and promote well-being for all at all ages." This goal too makes Aahaar Kranti more meaningful. Diet and well-being are inseparable partners.
- India has the unique advantage of having the knowledge of Ayurveda. It is time to also apply this rich knowledge of Ayurveda-based nutrition to practice. The movement will work on this too.
- The movement proposes to address the current situation of hunger in abundance by working to rouse the people to the values of India's traditional diet, to the healing powers of local fruits and vegetables, and to the miracles

## UPSC "PT" DNA (Daily News Analysis)

of a balanced diet. It will renew the focus on nutritionally balanced diets – ?????? ??? ???????? ????? (Uttam evam santulit aahaar) replete in locally sourced fruits and vegetables.

- The programme will focus on training teachers, who, in turn, will pass on the message to the multitudes of students, and through them to their families and finally the society at large.
- Such a strategy was adopted for the eradication of Polio and it turned out to be a grand success.
- Vijnana Bharati (Vibha) and Global Indian Scientists' and Technocrats' Forum have aimed to set Aahaar Kranti as a model for the entire world to follow. India has remained the world leader or Vishwaguru for ages, and in case of diet and nutrition, it has led to several path-breaking efforts in terms of science, technology, and innovations. The new movement will add to that.
- The mission will work on multiple dimensions simultaneously. In terms of objectives, it will seek to promote better awareness, better nutrition and better agriculture; the messages will be imparted through the curriculum in the form of `what's and `why's of nutrition, or through the forms of games or as instructions such as `how to'; and the content will be provided both online and offline and in all vernacular languages besides English and Hindi to reach out to as many as possible.
- While Vijnana Bharati (Vibha) and Global Indian Scientists' and Technocrats' Forum initiated the programme, several other agencies have also joined hands and have agreed to pool in their expertise and resources.
- Union Ministry of Science and Technology's Council of Scientific and Industrial Research (CSIR)'s Pravasi Bharatiya Academic and Scientific Sampark (Prabhaas) is collaborating, and various central and state government ministries and agencies are involved. More organisations are in the pipeline to join the Mission as it proceeds.

Source: PIB

## India - Denmark MoU on Atal Innovation Mission

GS-II | 13 April, 2021

## India - Denmark MoU on Atal Innovation

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## UPSC "PT" DNA (Daily News Analysis)

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### Mission

- As part of Indo-Danish bilateral Green strategic partnership, India is all set to take a giant leap towards building a world class innovation ecosystem as Atal Innovation Mission (AIM) of India's premier policy think tank NITI Aayog and Embassy of Denmark to India today officially announced their collaboration.
- Under this ambitious partnership, Innovation Center Denmark in India will collaborate with AIM to support various current and future initiatives of AIM, NITI Aayog and its beneficiaries in India as well as develop global innovation Green economy partnerships addressing SDG goals.

### About Atal Innovation Mission

The Atal Innovation Mission (AIM) is a flagship initiative set up by the NITI Aayog to promote innovation and entrepreneurship across the length and breadth of the country.

AIM's objectives are to create and promote an ecosystem of innovation and entrepreneurship across the country at school, university, research institutions, MSME and industry levels.

### Functions

The Atal Innovation Mission has following two core functions:

- Entrepreneurship promotion through Self-Employment and Talent Utilization, wherein innovators would be supported and mentored to become successful entrepreneurs.
- Innovation promotion: to provide a platform where innovative ideas are generated.

### Atal Tinkering Labs

- To promote creative, innovative mind set in schools. At the school level, AIM is setting up state of the art Atal Tinkering Labs (ATL) in schools across all districts across the country.
- These ATLs are dedicated innovation workspaces of 1200-1500 square feet where do-it-yourself (DIY) kits on latest technologies like 3D Printers, Robotics, Internet of Things (IOT), Miniaturized electronics are installed using



## UPSC "PT" DNA (Daily News Analysis)

a grant of Rs 20 Lakhs from the government so that students from Grade VI to Grade XII can tinker with these technologies and learn to create innovative solutions using these technologies.

- This will enable create a problem solving, innovative mind set within millions of students across the country.
- More than just grants, the ATL program is undertaking on-the-ground activities to engage students and teachers in identifying problems in and around their communities and creating innovative solutions leveraging the ATL technologies to achieve the objectives of the program.
- Every school would have an ATL In charge appointed by the school as well as Mentors associated to mentor the ATL students.
- All ATL in charges to date have received training through AIM and its partners. AICTE (All India Council of Technical Education) is also partnering with AIM to ensure that the closest universities to a school can also mentor ATL students.
- Atal Innovation Tinkering challenges are regularly held in the school as well as by AIM every month to ensure students active involvement in creating innovative solutions to solve problems in their community and in the country.
- The vision is to have every school have access to at least one or more Atal Tinkering Labs in each district of the country, as well as to scale the same up with the help of state education ministries across the length and breadth of the country.
- Also Government / Govt Aided schools, and Girls schools, North East and Hilly District schools get a special preference in the consideration of ATL selections.

### Atal Incubators

- Promoting entrepreneurship in universities and industry. At the university, NGO, SME and Corporate industry levels, AIM is setting up world-class Atal Incubators (AICs) that would trigger and enable successful growth of sustainable startups in every sector /state of the country, thereby promoting entrepreneurs and job creators in the country addressing both commercial and social entrepreneurship opportunities in India and applicable globally.
- AIM is also providing scale up support to existing incubators for scaling up their operations. AIM is providing a grant of upto Rs 10 crores to successful applicants for setting up greenfield incubators or scaling up existing ones. The idea is that every one of the 110 named smart cities and the top 5-10 educational / industrial institutions of every state should aspire to have a world class incubator that will provide the youth / startup communities in the

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universities / industries opportunity to create new start ups. Women led incubators and entrepreneurial startups are strongly encouraged by AIM.

- Again here, the longer term approach would be to scale up with the help of other ministries / states / sectors / public sector organizations as this would be crucial to create thousands of job creators in India.

### Atal New India Challenges and Atal Grand Challenges

- To promote technology driven innovations and product creation for social and commercial impact.
- Atal New India Challenges / Atal Grand Challenges are being launched in specific areas and sectors of national importance - such as Renewable Energies, Energy Storage, Climate-smart precision agriculture, Universal drinking water, Swachh Bharat, Transportation, Education, Healthcare using Robotic, IOT technologies, Artificial Intelligence, Block-chain, Augmented and Virtual reality, Battery Technologies etc.
- The successful applicants will get a grant of upto Rs 1 crore for Atal New India Challenges and larger grants of upto Rs 30 crores for Atal Grand Challenges. AIM is also partnering with corporates and other institutions to launch such challenges to stimulate new product and service development in various sectors.

### Industry, Academia, Government, Global Collaborations

- To enable a vibrant ecosystem of innovation, AIM is promoting active collaboration between Government, Academia, Industry, Individuals and Societal focused NGOs.
- AIM has set up one of the largest Mentoring networks in India called Mentor India from the professional and industry community who can help mentor students at Atal Tinkering Labs and AIC Incubators / startups.
- Qualified mentors will be assigned to various AICs. A number of industry leaders and corporate organizations have volunteered to adopt ATLS/AICs in their vicinities to ensure close mentoring and success of these initiatives. AIM is also actively working on establishing collaborations with innovation systems and entities in other countries in APAC, Europe, UK, USA, Africa and Latin American Countries.

Source: Vikaspedia <https://vikaspedia.in/education/policies-and-schemes/atal->

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[innovation-mission](#)

### AIM-iCREST is an Incubator Capabilities Enhancement program for a Robust Ecosystem

- AIM-iCREST is an Incubator Capabilities Enhancement program for a Robust Ecosystem focused on creating high performing Startups.
- It has been designed to act as a growth support for AIM's Atal and Established Incubators across the country.
- For the same, AIM has joined hands with Bill & Melinda Gates Foundation and Wadhvani Foundation - organizations that can lend credible support and expertise in the entrepreneurship and innovation space.
- The AIM's incubators are set to be upscaled and provided requisite support to foster the incubation enterprise economy, that will help them to significantly enhance their performance.
- This will be complemented by providing training to entrepreneurs, through technology driven processes and platforms.
- The focus will be on supporting start-up entrepreneurs in knowledge creation and dissemination as well as in developing robust and active networks.

#### AIM's Atal and Established Incubators:

- Business incubators are institutions that support entrepreneurs in developing their businesses, especially in initial stages.
- Incubation is usually done by institutions which have experience in the business and technology world.

#### Atal Incubation Centres:

- AIM intends to support the establishment of new incubation centres called Atal Incubation Centres (AICs) that would nurture innovative start-ups in their pursuit to become scalable and sustainable business enterprises.

#### Established Incubation Centres:

- In recent years, academia, industry, investors, small and big entrepreneurs, government organizations, and non-governmental organizations have taken an initiative to set up incubation centres across the country.
- AIM envisages to upgrade these Established Incubation Centres (EICs) to world-class standards.

### Atal Innovation Mission – PRIME (Program for Researchers on

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### Innovations, Market-Readiness & Entrepreneurship)

- In a major push towards deep technology and driving the country to become a digitally transformed nation, Atal Innovation Mission (AIM), NITI Aayog today launched AIM-PRIME (Program for Researchers on Innovations, Market-Readiness & Entrepreneurship), an initiative to promote and support science-based deep-tech startups & ventures across India.
- In this regard, AIM has joined hands with Bill & Melinda Gates Foundation (BMGF) to launch this nationwide program which will be implemented by Venture Center - a non-profit technology business incubator.
- The first cohort of the program is open to technology developers (early-stage deep tech start-ups, and scientists/ engineers/ clinicians) with strong science-based deep tech business ideas.
- The program is also open to CEOs and Senior incubation managers of AIM Funded Atal Incubation Centers that are supporting deep tech entrepreneurs.
- Deep technology is an outcome of very intense research and development (R&D) with high knowledge content.
- Consequently, the entrepreneurial journey emphasizes different aspects and requires a different approach to navigating the de-risking process and bringing such ideas to market.
- **Benefits of AIM- PRIME**
  1. The benefits of this program are aimed at addressing specific issues through training and guidance over a period of 12 months.
  2. Candidates selected for the program will get access to in-depth learning via a comprehensive lecture series, live team projects, exercises, and project-specific mentoring.
  3. They will also have access to a deep tech startup playbook, curated video library, and plenty of peer-to-peer learning opportunities.
  4. The AIM-PRIME program is specifically tailored for the rapid scaling up of deep-tech science ventures in India, providing not just the necessary intellect and support but also the exposure they rightly deserve.

Source: PIB



## UPSC "PT" DNA (Daily News Analysis)

### State of World Population Report 2021 by UNFPA

GS-I | 14 April, 2021

#### State of World Population Report 2021 by UNFPA

- The State of World Population report is (UN Populations Fund) UNFPA's annual flagship publication.
- Published yearly since 1978, it shines a light on emerging issues in the field of sexual and reproductive health and rights, bringing them into the mainstream and exploring the challenges and opportunities they present for international development.

#### Findings of the Report

- Nearly half of women in 57 developing countries are denied the right to decide whether to have sex with their partners, use contraception or seek health care.
- **For the first time, a United Nations report focuses on bodily autonomy:** the power and agency to make choices about your body, without fear of violence or having someone else decide for you.
- This lack of bodily autonomy has massive implications beyond the profound harms to individual women and girls: potentially depressing economic productivity, undercutting skills, and resulting in extra costs to health care and judicial systems.
- Through this groundbreaking report, UNFPA is measuring both women's power to make their own decisions about their bodies and the extent to which countries' laws support or interfere with a woman's right to make these decisions.
- The data show a strong link between decision-making power and higher levels of education.
- The report shows that in countries where data are available:
  1. Only 55 % of women are fully empowered to make choices over health care, contraception and the ability to say yes or no to sex.
  2. Only 71 % of countries guarantee access to overall maternity care.
  3. Only 75 % of countries legally ensure full, equal access to contraception.
  4. Only about 80 % of countries have laws supporting sexual health and well-being.
  5. Only about 56 % of countries have laws and policies supporting comprehensive sexuality education.
- The report also documents many other ways that the bodily autonomy of



## UPSC "PT" DNA (Daily News Analysis)

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women, men, girls and boys is violated, revealing that:

1. 20 countries or territories have "marry-your-rapist" laws, where a man can escape criminal prosecution if he marries the woman or girl he has raped.
2. 43 countries have no legislation addressing the issue of marital rape (rape by a spouse).
3. More than 30 countries restrict women's right to move around outside the home.
4. Girls and boys with disabilities are nearly three times more likely to be subjected to sexual violence, with girls at the greatest risk.

### Solutions: the power to say yes, the right to say no

- The report shows how efforts to address abuses can lead to further violations of bodily autonomy.
- For example, to prosecute a case of rape, a criminal justice system might require a survivor to undergo an invasive so-called virginity test.
- Real solutions, the report finds, must take into account the needs and experiences of those affected.
- In Mongolia, for example, persons with disabilities organized to give direct input to the government about their sexual and reproductive health needs.
- In Angola, young people educated about their bodies, health and rights have been able to seek health care, use family planning, decline sex and petition for justice after sexual violence.

### Critical Analysis

- "The denial of bodily autonomy is a violation of women and girls' fundamental human rights that reinforces inequalities and perpetuates violence arising from gender discrimination," says Dr. Kanem "It is nothing less than an annihilation of the spirit, and it must stop."
- "By contrast," Dr. Kanem says, "a woman who has control over her body is more likely to be empowered in other spheres of her life. She gains not only in terms of autonomy, but also through advances in health and education, income and safety. She is more likely to thrive, and so is her family."

Source: reliefweb

## UPSC "PT" DNA (Daily News Analysis)

### Violence in Northern Ireland (UK)

GS-II | 14 April, 2021

#### Violence in Northern Ireland (UK)

Recently, Northern Ireland, the United Kingdom (UK) saw the worst violence in years. Parts of Northern Ireland are split along sectarian lines, 23 years after a peace deal largely ended Northern Ireland's troubles.



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### Reasons behind the Violence

- Geographically, Northern Ireland is part of Ireland. Politically, it's part of the UK.
- Ireland, long dominated by the UK, broke free about 100 years ago after centuries of colonisation and an uneasy union. 26 of its 32 counties became an independent, Roman Catholic-majority country. 6 counties in the north, which have a Protestant majority, stayed British.
- Northern Ireland's Catholic minority experienced discrimination in the Protestant-run state.
- In the 1960s, a Catholic civil rights movement demanded change, but faced a harsh response from the government and police.
- The British Army was deployed in 1969, initially to keep the peace.
- The situation deteriorated into a conflict between Irish republican militants who wanted to unite with the south, loyalist paramilitaries who sought to keep Northern Ireland British, and UK troops.
- During three decades of conflict, more than 3,600 people, a majority of them civilians, were killed in bombings and shootings. Most were in Northern Ireland, though the Irish Republican Army also set off bombs in London and other British cities.
- By the 1990s, after secret talks and with the help of diplomatic efforts by Ireland, Britain and the United States, the combatants reached a peace deal.
- The 1998 Good Friday accord saw the paramilitaries lay down their arms and established a Catholic-Protestant power-sharing government for Northern Ireland.
- The question of Northern Ireland's ultimate status was deferred: it would remain British as long as that was the majority's wish, but a future referendum on reunification was not ruled out.
- While the peace has largely endured, small Irish Republican Army splinter groups have mounted occasional attacks on security forces, and there have been outbreaks of sectarian street violence.
- The power-sharing arrangement has had periods of success and failure and still the government is not trusted by both the sides.

### Impact of Brexit:

- Northern Ireland has been called the "problem child" of Brexit, the UK's divorce from the European Union (EU).
- As the only part of the UK that has a border with an EU nation, Ireland, it was the trickiest issue to resolve after Britain voted narrowly in 2016 to leave the 27-nation bloc.

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- An open Irish border, over which people and goods flow freely, underpins the peace process, allowing people in Northern Ireland to feel at home in both Ireland and the UK.
- The insistence of Britain's government on a "hard Brexit" that took the country out of the EU's economic order meant the creation of new barriers and checks on trade.
- Both Britain and the EU agreed that the border could not be in Ireland because of the risk that would pose to the peace process. The alternative was to put it, metaphorically, in the Irish Sea between Northern Ireland and the rest of the UK.
- That arrangement has alarmed British unionists, who say it weakens Northern Ireland's place in the UK and could bolster calls for Irish reunification.
- Reason for Current Violence:

### Impact of Covid-19

- Britain left the EU on 31<sup>st</sup> December and the new trade arrangements quickly became an irritant to Northern Ireland unionists who want to stay in the UK.
- Early trade glitches, exacerbated by the coronavirus pandemic, led to some empty supermarket shelves, fueling alarm.
- There was anger that British Prime Minister long insisted there would be no new checks on trade as a result of Brexit, had downplayed the scale of the changes wrought by leaving the EU.
- Some in Northern Ireland's British loyalist community feel as if their identity is under threat. And many other loyalists believe that, de facto, Northern Ireland has ceased to be as much a part of the UK as it was

Source: TH

## UPSC "PT" DNA (Daily News Analysis)

### Jordan's 100th Anniversary as a Kingdom

GS-II | 15 April, 2021

#### 100th anniversary of the Kingdom of Jordan

PM recently congratulated King Abdullah II on the occasion of the 100th anniversary of the Kingdom of Jordan.

He emphasized importance of region and applauded Jordan as a powerful voice and a global symbol of moderation and inclusivity.

He appreciated **Aqaba Process** has contributed to promoting coordination on regional peace and security.

The Aqaba Process is an initiative by His Majesty King Abdullah II of Jordan to **enhance global coordination and cooperation to counter terrorism**.





## UPSC "PT" DNA (Daily News Analysis)

### Recent Political Instability in Jordan

The royal household in Jordan has recently seen intense drama, with the King's popular half-brother and former crown prince was placed under de facto house arrest.

### Signs of a Coup

- Jordanian government statements have stated that there had been an attempted coup to destabilize the country, mentioning unnamed "foreign entities" involved in the plot.
- The events have thus put a spotlight on Jordan's unique position as one of the most stable countries in the Arab world, and given rise to questions about who could stand to benefit from the alleged coup.

### Jordan's Importance in the Region

- Jordan, which this year celebrates 100 years since its creation after World War I, has for decades remained stable in a part of the world that is prone to conflict and political uncertainty.
- For its allies in the West and in the Gulf, Jordan is a strategic partner which can be relied upon for furthering political objectives in the region, which includes war-torn Syria and Iraq as well as conflict-prone Israel and Palestine.
- The support of Jordanian intelligence has proven critically important in the fight against terrorism.
- Though impoverished, the country of about a crore people has served as a haven for refugees in the conflict-ridden region.

### The asylum giver

- After the Arab-Israeli wars of 1948 and 1967, Jordan received waves of refugees, to the point that about half of Jordan's population today is made up of Palestinians.
- It has also welcomed refugees after the 2003 US invasion of Iraq, and currently hosts over 10 lakh from Syria, where a protracted civil war is going on.
- Jordan is also considered important to any future peace deal between Israel and Palestine.

### Jordan's Relation with Other Countries

## UPSC "PT" DNA (Daily News Analysis)

### West

- Traditionally, Jordan has maintained close relations with the US, and the fellow Sunni Muslim powers of Saudi Arabia and the UAE, which together stand against Shia Iran.
- It also has diplomatic relations with Israel, and the two countries have been bound by a peace treaty since 1994.

### Within Gulf

- In recent years, however, Jordan's relations with the Saudis and UAE have seen ups and downs.
- It has been particularly since the rise of their respective crown prince's Mohammed bin Salman (known by initials MBS) and Mohammed bin Zayed (MBZ).
- One of the points of friction was Saudi-UAE's blockade of Qatar in 2017.
- It caused further consternation in Saudi and Emirati circles by maintaining strong ties with Turkey.

### Ties with Israel

- Jordan's role as the region's interlocutor has also diminished since last year, after the UAE normalized relations with Israel.

### India-Jordan Relations

India is the 4th largest trading partner of Jordan. The trade agreement between India and Jordan is governed by the 1976 bilateral agreement. When King of Jordan visited India in 2018, 18 Memorandum of Understanding (MoU) was signed between India and Jordan, to increase collaboration in the sphere of defense, cultural exchange, trade, health and education.

### Political Relations between India and Jordan:

- In 2015, Jordan inaugurated Mahatma Gandhi road and also dedicated an olive tree for world peace during the visit of India's President to Jordan.
- India and Jordan in 2015 launched 860 million US dollars JIFCO Joint Venture.

### Cultural Relations between India and Jordan:

- Jordan has participated in 15th Pravasi Bharatiya Diwas, Hindi Diwas, National Voters Day and ICCR Foundation Day.

## UPSC "PT" DNA (Daily News Analysis)

- An annual iftar event was jointly organized in Amman in 2019 for 100 kids of different orphan schools.
- Jordan participated in the 4th International Day of Yoga in 2019.

### Commodities Exported by India to Jordan

- India exports various commodities to Jordan. The list of items are given below.
  - Machinery
  - Cereals
  - Frozen Meat
  - Engineering and Automotive Parts
  - Animal Fodder
  - Organic and Inorganic chemicals.

### Way Forward:

- Both the countries have the potential to work as natural allies as both countries are peaceful, stable and are witnessing rapid economic growth and have similar positions on regional and global affairs. Their attempts to bring stability and prosperity to the region should be complemented with well-thought out policies and strategic diplomacy.
- Indian businesses should utilize the expansive web of FTAs available with Jordan. ICT, renewable energy, financial/banking services, leather, automobile, higher education, tourism, Bollywood, pharmaceuticals and construction sectors present good potential for increased trade and investment.
- India should carefully weigh its options about the possible coup in the region and take steps to ensure stability remains maintained in the region.

Source: PIB

## UPSC "PT" DNA (Daily News Analysis)

### US imposed sanctions on Russia

GS-II | 16 April, 2021

#### US imposed sanctions on Russia

- The United States announced sanctions against Russia on Thursday and the expulsion of 10 diplomats in retaliation for what Washington says is the Kremlin's U.S. election interference, a massive cyberattack and other hostile activity.
- President Joe Biden's broadside against Russia came the same week as he offered to meet President Vladimir Putin for their first summit.
- In an executive order, Mr. Biden widened restrictions on U.S. banks trading in Russian government debt, expelled 10 diplomats who include alleged spies, and blacklisted 32 individuals accused of meddling in the 2020 presidential election.
- Mr. Biden's order "sends a signal that the U.S. will impose costs in a strategic and economically impactful manner on Russia if it continues or escalates its destabilising international action," the White House said.
- Response 'inevitable'
- The Kremlin said on Thursday that sanctions would not "help" momentum for a summit and once the White House unveiled its measures, the Russian Foreign Ministry warned a Russian response was "inevitable."
- "The United States is not ready to come to terms with the objective reality that there is a multipolar world that excludes American hegemony," spokeswoman Maria Zakharova said.
- The latest tension comes amid worries both in the U.S. and its European allies over Russia's recent troop build up on the border of Ukraine.
- The imprisonment of Alexei Navalny, who is effectively the last open political opponent to Mr. Putin, has further spiked concerns in the West.
- The White House statement listed in first place Moscow's "efforts to undermine the conduct of free and fair democratic elections and democratic institutions in the U.S. and its allies and partners."
- This referred to allegations that Russian intelligence agencies mounted disinformation and dirty tricks campaigns during the 2016 and 2020 presidential elections, in part to help Donald Trump's candidacy.
- The White House said the sanctions likewise respond to "malicious cyber activities against the U.S. and its allies and partners," referring to the massive so-called SolarWinds hack of U.S. government computer systems

## UPSC "PT" DNA (Daily News Analysis)

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last year.

- The statement also called out Russia's extraterritorial "targeting" of dissidents and journalists and undermining of security in countries important to U.S. national security.
- In addition, the Department of Treasury, together with the EU, Australia, Britain and Canada, sanctioned eight individuals and entities associated with Russia's occupation of Crimea in Ukraine.
- In Brussels, the NATO military alliance said U.S. allies "support and stand in solidarity with the U.S., following its announcement of actions to respond to Russia's destabilising activities".

Source: TH

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## UPSC "PT" DNA (Daily News Analysis)

### Impact of CoVID on Women and Adolescent girls

GS-I | 17 April, 2021

#### Impact of CoVID on Women and Adolescent girls

- The study is titled 'COVID In Her Voice: A Girl-led and Centred Participatory Research Study'
- It was conducted by girls aged 13-24 from Ahmedabad, Alwar, Bareilly, Delhi, Lucknow, Mumbai and Pune within their communities.
- The study was supported by the U.K. government and conducted by EMpower, a global philanthropy focused on at-risk youth in emerging markets.
- It adopted a unique methodology where girls were trained as researchers to conduct interviews with a total of 153 girls from their respective communities.

#### Findings of the study

- 25 girls from seven cities set out to interview their peers to record the impact of COVID-19 on their lives and found that adolescent girls were grappling with an

1. increased pressure to get married,
2. spent longer hours on household chores,
3. lacked tools to continue school education online, and
4. reported an increase in gender-based violence.

- Among the biggest challenges girls faced was the inability to attend online school.
- This was a result of nearly 80% respondents reporting an increase in household chores, which meant that 64% of girls and young women felt they did not have the space or get the time to study online.
- Lack of access to resources and technology was also a challenge — nearly 28% of those surveyed didn't have the tools such as mobile phones or Internet access to learn online.
- With households from marginalised communities facing financial stress due to the economic impact of COVID-19, girls believed that the pressure to get married had increased, with nearly 42% reporting this.
- Almost 90% of girls reported experiencing mental distress and despair without any access to information about coping mechanisms.
- Their mental distress was exacerbated because of barriers in communicating with friends and teachers.
- Up to 26% respondents believe there was an increase in gender-based

## UPSC "PT" DNA (Daily News Analysis)

violence and felt that fears and threats of violence intensified restrictions on their freedom.

- On concluding the field research, seven girl leaders finalised a list of priority recommendations which include establishing girl-friendly spaces within the community such as skills training centres and violence-free spaces.

Source: TH

## IMD Forecasts for Monsoon 2021

GS-I | 17 April, 2021

### IMD Forecasts for Monsoon 2021

#### About India Meteorological Department

- India Meteorological Department was established in 1875. It is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology, seismology and allied subjects.
- To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc.
- To warn against severe weather phenomena like tropical cyclones, norwesters, duststorms, heavy rains and snow, cold and heat waves, etc., which cause destruction of life and property.
- To provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities.
- To conduct and promote research in meteorology and allied disciplines.
- To detect and locate earthquakes and to evaluate seismicity in different parts of the country for development projects.'

**Note: Long Period Average (LPA)** -refers to the average monsoon rainfall from 1961-2010, which is 88 cm (880.6 mm to be precise). Until 2019, the LPA stood at 887.5 mm considering the average from 1951-2000. Monsoon rainfall between 96 and 104 per cent is considered as the normal monsoon. The current forecast of 100 per cent means a total of around 88 cm rainfall is likely during the monsoon

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## UPSC "PT" DNA (Daily News Analysis)

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months from June to September.

### El Nino

- El Nino refers to the large-scale ocean-atmosphere climate interaction linked to a periodic warming in sea surface temperatures across the central and east-central Equatorial Pacific. It is associated with high pressure in the western Pacific.
- El Nino adversely impacts the Indian monsoons and hence, agriculture in India.
- The cool surface water off the Peruvian coast goes warm because of El Nino. When the water is warm, the normal trade winds get lost or reverse their direction.
- Hence, the flow of moisture-laden winds is directed towards the coast of Peru from the western Pacific (the region near northern Australia and South East Asia).
- This causes heavy rains in Peru during the El Nino years robbing the Indian subcontinent of its normal monsoon rains.
- The larger the temperature and pressure difference, the larger the rainfall shortage in India.

### La Nina

- La Nina means 'little girl' in Spanish and is also known as El Viejo or 'cold event'.
- Here, the water temperature in the Eastern Pacific gets colder than normal.
- As a result of this, there is a strong high pressure over the eastern equatorial Pacific.
- Now, there is low pressure in the Western Pacific and off Asia.
- La Nina causes drought in Peru and Ecuador, heavy floods in Australia, high temperatures in Western Pacific, Indian Ocean, off the Somalian coast and good monsoon rains in India. A La Nina is actually beneficial for the Indian monsoon.
- Generally, El Nino and La Nina occur every 4 – 5 years. El Nino is more frequent than La Nina. Typically, the episodes last for nine to twelve months.

### What is in the news?

- India is likely to receive "normal" monsoon rainfall this year, the India Meteorological Department (IMD) has said as part of its official April forecast. Except for parts of eastern and northeastern India, many parts of the country

## UPSC "PT" DNA (Daily News Analysis)

- are expected to get "above normal" rainfall, the IMD's models show.
- "Normal" rainfall refers to a range — 96%-104% of the Long Period Average (LPA) of 88 cm.
  - Earlier this week, private weather forecasting company, Skymet Weather, too, said it expected India to get normal rainfall, but said this was likely to be 103% of the LPA, whereas the IMD, on Friday, has estimated it to be 98% of the LPA.
  - The April forecast, which is based on an analysis of select meteorological factors in March, is updated in May, along with estimates of how the monsoon will perform in different geographical regions. In 2019, the IMD forecast 96% LPA in April, but India ended up with record excessive rainfall of 110%.
  - In 2020, it said 100% LPA, but India wound up with 109%. IMD officials, however, said it was unlikely there would be such excessive rain this year.
  - In 2019, the Indian Ocean Dipole (IOD) — defined as a swing in temperatures in the western and eastern sections of the Indian Ocean, where a positive phase usually corresponds to good rains over India — contributed to the excess rains.
  - Last year it was La Nina — the converse of an El Nino and associated with a cooling of the equatorial central Pacific — again a feature correlated with heavy India rains.
  - "This year, the models show a weak IOD and neutral conditions in the central Pacific. It's unlikely there will be over 105% LPA this year," D.S. Pai, a meteorologist with the IMD's National Climate Centre, Pune, told The Hindu.
  - Though the IMD now issues short-term and extended range forecasts — that is, an estimate of rainfall in time frames of three days to 15 days — for the first time this year, it will begin giving monthly forecasts for all months.
  - It has so far refrained from giving a forecast for June and September, months that are known to be erratic as those are the months when the monsoon enters and exits the country, respectively, posing a challenge to meteorologists. Dr. Pai, however, said the IMD's work for several years in honing the skills of a class of models, called dynamical models, has improved their forecasting abilities over three weeks.
  - "So we can now extend it to monthly forecasts. The overall aim of these models is to be able to accommodate changes in the global weather that will influence the monsoon. This is more useful for planning," he said.
  - The IMD also said it was developing a separate forecast for the **Monsoon Core Zone (MCZ)**, which represents most of the rain-fed agriculture region in

## UPSC "PT" DNA (Daily News Analysis)

the country.

- "A separate forecast for the MCZ will be more useful for agricultural planning and crop yield estimation, etc. In the second stage forecast in May, IMD will issue a separate probabilistic forecast for the MCZ, based on MME [Multi Model Ensemble] system and a new statistical model," said a statement.
- Roxy Mathew Koll, climate scientist at the Indian Institute of Tropical Meteorology, Pune, tweeted that the reduction in rainfall in eastern India has been consistently decreasing. For an adequate monsoon, it is important for a temperature gradient to be present between the ocean and the land.
- In recent years, however, the India Ocean has been warming faster than the land surface, reducing this temperature differential and affecting the monsoonal flow.

Source: TH



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**UPSC "PT" DNA (Daily News Analysis)**

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**Sun's Atmosphere, ARIES Facility and Aditya-L1**

GS-I | 18 April, 2021

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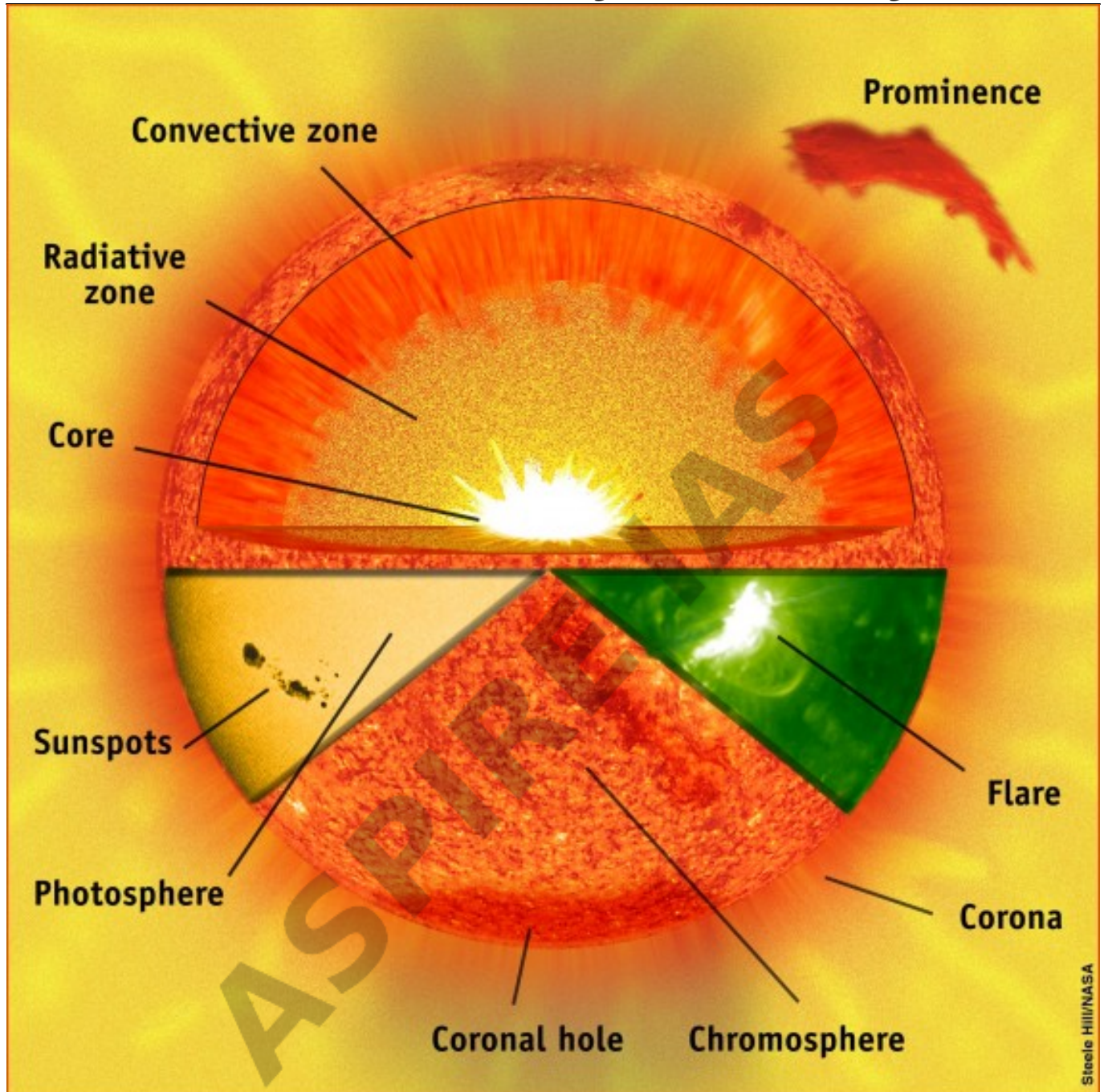
## **ARIES Facility will host the support center for Aditya-L1**

### **Sun's Atmosphere**

- The atmosphere of the sun is composed of several layers, mainly the **photosphere, the chromosphere and the corona.**
- It's in these outer layers that the sun's energy, which has bubbled up from the sun's interior layers, is detected as sunlight.

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## UPSC "PT" DNA (Daily News Analysis)



### Photosphere

- The **lowest** layer of the sun's atmosphere is the **photosphere**. It is about 300 miles (500 km) thick. This layer is where the sun's energy is released as

## UPSC "PT" DNA (Daily News Analysis)

light.

- Because of the distance from the sun to Earth, light reaches our planet in about eight minutes.
  - The photosphere is marked by bright, **bubbling granules of plasma and darker, cooler sunspots**, which emerge when the sun's magnetic field breaks through the surface.
  - Sunspots appear to move across the sun's disk. Observing this motion led astronomers to realize that the sun rotates on its axis.
  - Since the sun is a ball of gas with no solid form, **different regions rotate at different rates**. The sun's equatorial regions rotate in about 24 days, while the polar regions take more than 30 days to make a complete rotation.
  - The photosphere is also the **source of solar flares**:
1. Solar flares are the tongues of fire that extend hundreds of thousands of miles above the sun's surface.
  2. Solar flares produce bursts of X-rays, ultraviolet radiation, electromagnetic radiation and radio waves.

### Chromosphere

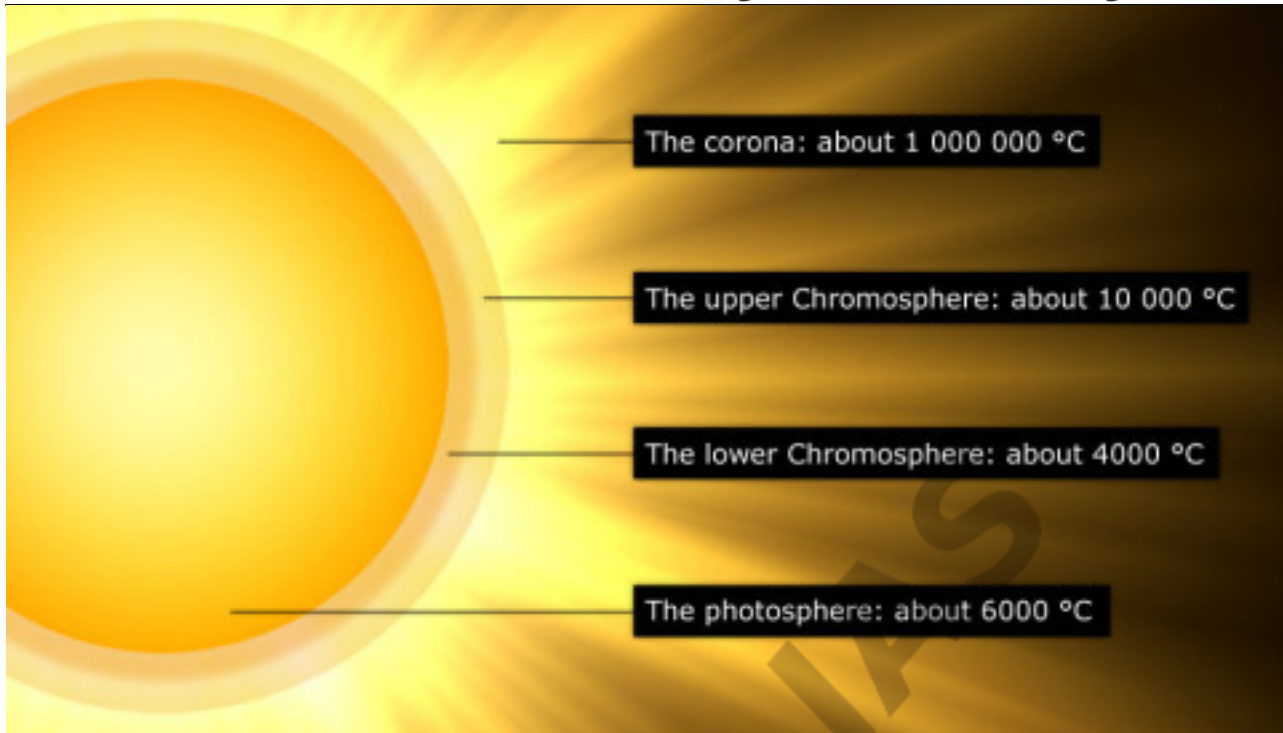
- The next layer is the chromosphere. The chromosphere emits a reddish glow as super-heated hydrogen burns off.
- **But the red rim can only be seen during a total solar eclipse.**
- At other times, light from the chromosphere is usually too weak to be seen against the brighter photosphere.
- The chromosphere may play a **role in conducting heat** from the interior of the sun to its outermost layer, the corona.

### Corona

- The third layer of the sun's atmosphere is the corona.
- **It can only be seen during a total solar eclipse as well.**
- It appears as white streamers or plumes of ionized gas that flow outward into space.
- Temperatures in the sun's corona can get as high as 3.5 million degrees Fahrenheit (2 million degrees Celsius).
- As the gases cool, they become the **solar wind**.
- The Corona is up to 300 times hotter than the photosphere despite being farther from the solar core. This has remained a long-term mystery which is solved just recently.



## UPSC "PT" DNA (Daily News Analysis)



### Mystery of Sun's Atmosphere solved

- Indian Institute of Astrophysics, Bengaluru was also a part of the team.
- At the core, the temperature of sun is ~ 15 million °C. At the surface layer or Photosphere it is just 5700°C.
- Still further outwards, at the Corona, the temperature is ~1 million °C (But doesn't decrease).
- This is because of geyser like jets known as Solar Spicules that emanate from the interface (hairlike projections) of Corona and Photosphere.
- The team used 1.6 meter Goode Solar Telescope at the Big Bear Solar Observatory (BBSO), the World's largest solar telescope with the NIRIS instrument.
- They took many high spatial resolution images of the same region of Sun within a short time known as High cadence.

### Nanoflares

- Recent research suggests that tiny explosions known as nanoflares may help

## UPSC "PT" DNA (Daily News Analysis)

push the temperature up by providing sporadic bursts reaching up to 18 million F (10 million C).

- The explosions are called nanoflares because they have one-billionth the energy of a regular flare.
- Despite being tiny by solar standards, each packs the wallop of a 10-megaton hydrogen bomb. Millions of them are going off every second across the sun, and collectively they heat the corona.
- Giant super-tornados may also play a role in heating the sun's outer layer. These solar twisters are a combination of hot flowing gas and tangled magnetic field lines, ultimately driven by nuclear reactions in the solar core.
- Based on the detected events, we estimate that at least 11,000 swirls are present on the sun at all times.

### Terminologies:

- **Coronal holes** are areas where the Sun's corona is colder, hence darker, and has lower-density plasma than average because there is lower energy and gas levels. Coronal holes are part of the Sun's corona and are constantly changing and reshaping because the corona is not uniform.
- **Prominences** are anchored to the Sun's surface in the photosphere, and extend outwards into the solar corona. While the corona consists of extremely hot ionized gases, known as plasma, which do not emit much visible light, prominences contain much cooler plasma, similar in composition to that of the chromosphere.
- A **solar flare** is a sudden flash of increased brightness on the Sun, usually observed near its surface and in close proximity to a sunspot group. Powerful flares are often, but not always, accompanied by a coronal mass ejection.
- A **coronal mass ejection (CME)** is a significant release of plasma and accompanying magnetic field from the solar corona. They often follow solar flares and are normally present during a solar prominence eruption. The plasma is released into the solar wind, and can be observed in coronagraph imagery.
- **Sunspots** are temporary phenomena on the Sun's photosphere that appear as spots darker than the surrounding areas. They are regions of reduced surface temperature caused by concentrations of magnetic field flux that inhibit convection. Sunspots usually appear in pairs of opposite magnetic polarity.



## UPSC "PT" DNA (Daily News Analysis)

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### What is Aditya-L1?

- The Indian programme to study the Sun and the region between the Sun and the Earth from space – **Aditya-L1** – is due to be launched next year.
- It will carry seven payloads which have been developed by various institutions across the country.
- Once the mission is launched, there will be a need for a ground support centre to monitor and coordinate the work on its various payloads.
- This role will be played by the **ARIES facility (short for Aryabhata Research Institute for observational Sciences)** which is situated near Nainital.
- In January 2021, an agreement was signed to this effect based on the proposal submitted by the ARIES team, led by **Dipankar Banerjee, Director of ARIES**, who is a solar physicist and co-chair of the science working group of the Aditya-L1 mission.
- With about four to five personnel, this centre will come up at **Haldawani**, where ARIES is setting up a data centre also.

### Guest users

- Researchers who may not even be associated with core Aditya-L1 team will be able to book a specific payload to conduct observations for a particular time.
- Any PhD student or postdoctoral fellow in a research institution can submit observing proposals through the online proposal submission system.
- "The main aim of this centre is to let every researcher in India perform analysis over scientific data obtained from Aditya-L1. The total number of guest users will be from a few tens to a few hundreds," says Prof. Banerjee.
- A time allocation committee comprising senior and expert scientists will evaluate proposals based on their merit and feasibility to decide the priority. "We are open to users outside India by giving hand-outs of data analysis during international meetings and online training in the later phase of the mission," he adds.

### Studying lower corona

- The Aditya-L1 Support Centre (ASC) will provide training through regular workshops for the guest users.

## UPSC "PT" DNA (Daily News Analysis)

- Apart from this, it will provide ready-to-use Python and Java apps for the satellite data and demos and handouts to facilitate the guest users.
- An ARIES team has recently developed an algorithm to study the accelerating solar eruptions in the lower corona called **CMEs Identification in Inner Solar Corona (in short, CIISCO)**, where CME stands for coronal mass ejection. Prof. Banerjee explains how this will be put to use: "The centre will also provide source code for advanced data analysis. For example, it will provide the source code for CIISCO that we have developed in ARIES to detect accelerating CMEs in the solar atmosphere."
- The group has also developed several advanced image processing algorithms to detect fine-scale structures in the solar atmosphere.
- Such techniques are important to capture dynamics at different spatial and temporal scales. Prof. Banerjee gives an example of this: "While ISRO will provide raw and calibrated spectra of the solar atmosphere, at ASC we will further process the spectra to derive meaningful quantities such as intensity, Doppler velocities and line widths and provide these quantities to the scientific community."
- The facility will store co-aligned data from other observatories. That is, data taken at other wavelengths of observation than by Aditya-L1 and aligned in time and space so that they complement Aditya-L1 observations.

### Significance of ARIES Facility

- The centre will host a compendium of the location and duration of different features on the solar surface such as coronal holes, prominences, flares, CMEs and sunspots.
- "We will employ automated methods to detect these features," he says. Continuous monitoring of the location and duration of these features will help in monitoring the Earth directed CMEs and thereby, the space weather.
- "Also, it will help us to understand the long-term evolution of these features and underlying physical mechanisms responsible for this," says Prof. Banerjee.
- "This centre will expand the visibility of Aditya-L1 beyond India at the international level.
- Also, it will expand its reach within India. It will allow every interested individual to be able to perform scientific analysis of the data," he adds.

Source: TH

## UPSC "PT" DNA (Daily News Analysis)

### National Climate Vulnerability Assessment Report

GS-III | 18 April, 2021

#### National Climate Vulnerability Assessment Report

- The report titled 'Climate Vulnerability Assessment for Adaptation Planning in India Using a Common Framework', was released by DST, which identifies the most vulnerable states and districts in India with respect to current climate risk and key drivers of vulnerability.
- A total of 94 representatives from 24 states and 2 Union Territories participated in the nation-wide exercise jointly supported by the DST and the Swiss Agency for Development & Cooperation (SDC).
- The National climate vulnerability assessment report has identified **Jharkhand, Mizoram, Orissa, Chhattisgarh, Assam, Bihar, Arunachal Pradesh, and West Bengal** as states highly vulnerable to climate change.
- These states, mostly in the eastern part of the country, require prioritization of adaptation interventions, the report pointed out.

#### Significance of the report

- The report has helped identify the most vulnerable states, districts & panchayats and will aid in prioritizing adaptation investment, developing and implementing adaptation programs.
- The assessments will contribute to the development of more targeted climate change projects and that they will support the implementation and the potential revisions of the State Action Plans on Climate Change.
- The assessments can further be used for India's reporting on the Nationally Determined Contributions under the Paris Agreement. And finally, these assessments will support India's National Action Plan on Climate Change.
- The assessment will help Policymakers in initiating appropriate climate actions.
- It will also benefit climate-vulnerable communities across India through development of better-designed climate change adaptation projects.
- This vulnerability assessment is unique as we use a common framework across the states & union territory to make them comparable and also because of the active participation of state & union territory governments.

#### Critical Analysis

## UPSC "PT" DNA (Daily News Analysis)

- In a developing country such as India, vulnerability assessment is considered as an important exercise to develop suitable adaptation projects and programmes.
- While climate vulnerability assessments for various states and districts already exist, the states and districts cannot be compared to each other as the framework used for assessments are different, thereby limiting decision-making capabilities at the policy and administrative levels. This necessitated an assessment using a Common Vulnerability Framework.
- Keeping this requirement in mind, DST and SDC supported the development of a Common Framework for Vulnerability Assessment for the Himalayan region based on the definition provided in the latest 5th Assessment report of the Intergovernmental Panel on Climate Change (IPCC) [AR5].
- The Common Framework, along with a manual to apply the framework, was developed by IIT Mandi, IIT Guwahati, and Indian Institute of Science (IISc), Bangalore.
- The framework was applied to the Indian Himalayan Region, involving all 12 States (including pre-divided J&K) through capacity building process.
- The outcome of the exercise undertaken was shared with the Himalayan States, have led to several positive developments in terms of some of these already prioritizing and implementing climate change adaptation actions based on these vulnerability assessments.
- Based on the positive feedback received from the states and its usefulness to the Himalayan states for implementing climate change adaptation actions, it was decided to roll out the climate vulnerability assessment exercise for the entire country through capacity building of the States.
- The task was assigned to the same team, which coordinated to carry out a series of training workshops for the state governments in India towards capacity building for vulnerability assessment.
- DST has been implementing 2 national missions on climate change as part of the National Action Plan on Climate Change. These are National Mission for Sustaining the Himalayan Ecosystem (NMSHE) and National Mission on Strategic Knowledge for Climate Change (NMSKCC).
- As part of these missions, DST has been supporting the State Climate Change Cells in 25 States and Union Territories. Besides other tasks assigned to these State CC Cells, carrying out assessment of vulnerability due to climate change at district and sub-district levels has been their primary responsibility, and the national level vulnerability assessment an extension of the same.

### Conclusion

## UPSC "PT" DNA (Daily News Analysis)

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- Assessing vulnerability was the first step towards assessing climate risk. There are two other components like Hazard and Exposure that need to be also assessed to arrive at overall climate risk.
- DST would take up these assessments in the next phase along with sectoral vulnerability assessments and assessments at sub-district levels.

Source: PIB

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## UPSC "PT" DNA (Daily News Analysis)

### National Green Tribunal and Mokedatu Project

GS-II | 20 April, 2021

## National Green Tribunal and Mokedatu Project

### About NGT

- It is a specialised body set up under the **National Green Tribunal Act, 2010** for **effective and expeditious disposal of cases** relating to environmental protection and conservation of forests and other natural resources.
- NGT is **mandated to make disposal of applications or appeals** finally **within 6 months of filing of the same**.

### Structure of NGT

- The Tribunal comprises of the **Chairperson, the Judicial Members and Expert Members**.
- They shall hold office for term of **5 years** and are **not eligible** for **reappointment**.
- The **Chairperson is appointed by the Central Government in consultation with Chief Justice of India (CJI)**.
- A **Selection Committee** shall be formed by **central government** to appoint the Judicial Members and Expert Members.
- There are to be **least 10 and maximum 20** full time Judicial members and Expert Members in the tribunal.

### Powers & Jurisdiction of NGT

- The Tribunal has jurisdiction **over all civil cases** involving substantial question relating **to environment** (including enforcement of any legal right relating to environment).
- NGT also has **appellate jurisdiction** to hear appeal as a Court (Tribunal).
- The **Tribunal is not bound by the procedure laid down under the Code of Civil Procedure 1908**, but shall be guided by principles of 'natural justice'.
- While passing any order/decision/ award, it shall **apply the principles of sustainable development, the precautionary principle and the polluter pays principle**.
- NGT by an order, can provide:
  - **relief and compensation** to the victims of **pollution and other environmental damage** (including accident occurring while handling any hazardous substance),
  - for restitution of property damaged, and

## UPSC "PT" DNA (Daily News Analysis)

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- for restitution of the environment for such area or areas, as the Tribunal may think fit.
- An order/decision/award of Tribunal is executable as a **decree of a civil court**.
- The NGT Act also provides a procedure for a penalty for non compliance:
  - Imprisonment for a term which may **extend to three years**,
  - Fine which **may extend to ten crore rupees**, and
  - Both fine and imprisonment.
- An **appeal against order/decision/ award of the NGT lies to the Supreme Court**, generally within ninety days from the date of communication.

### The NGT deals with civil cases under the :

1. The Water (Prevention and Control of Pollution) Act, 1974,
2. The Water (Prevention and Control of Pollution) Cess Act, 1977,
3. The Forest (Conservation) Act, 1980,
4. The Air (Prevention and Control of Pollution) Act, 1981,
5. The Environment (Protection) Act, 1986,
6. The Public Liability Insurance Act, 1991 and
7. The Biological Diversity Act, 2002.

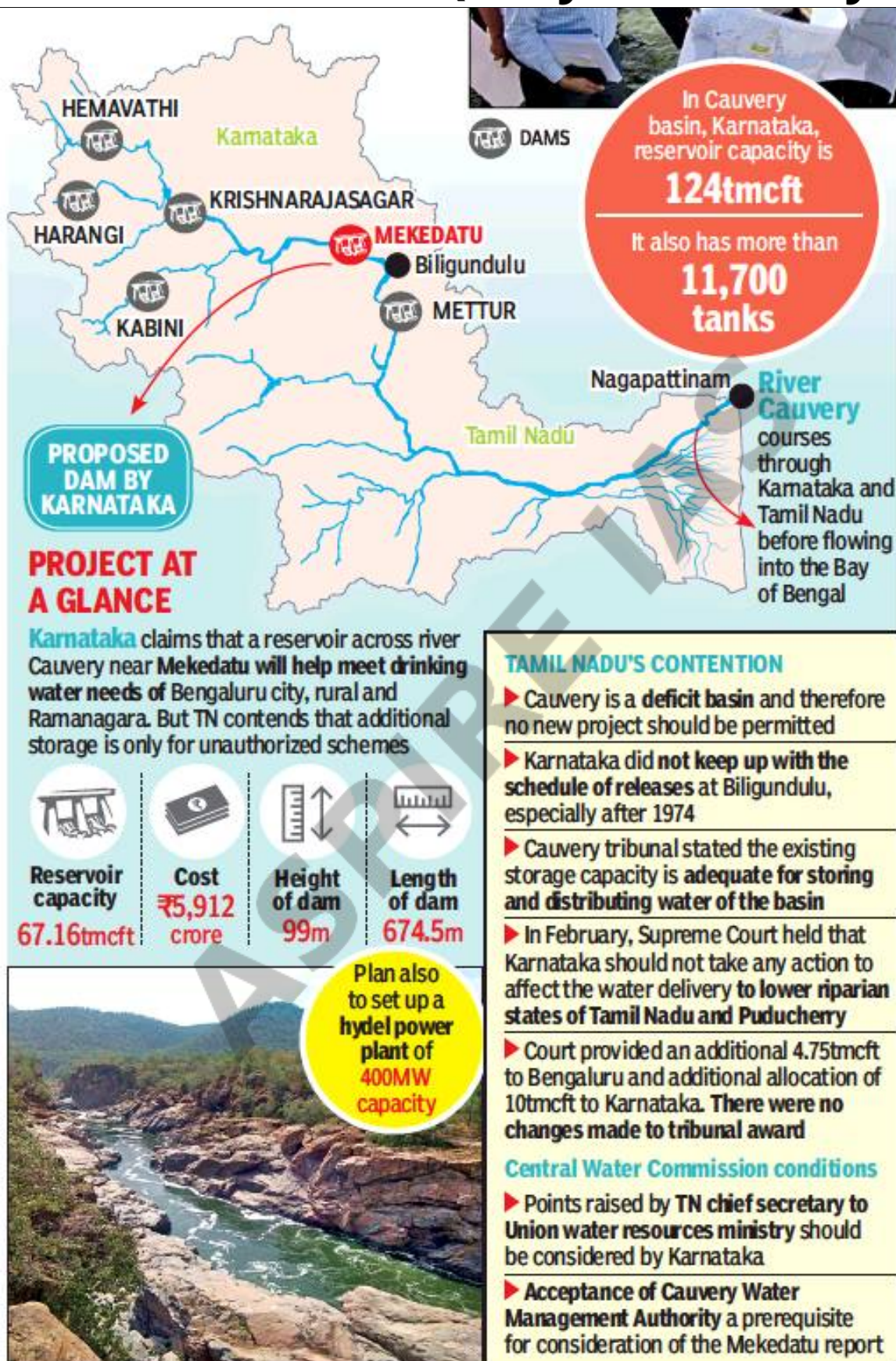
### Landmark Judgements of NGT

- In **2012, POSCO a steelmaker company** signed a MoU with the Odisha government to set up steel project. **NGT suspended order** and this was considered a **radical step** in favour of the local communities and forests.
- In **2013 in Uttarakhand floods** case, the **Alaknanda Hydro Power Co. Ltd.** was ordered to **compensate to the petitioner** – here, the NGT directly relied on the principle of 'polluter pays'.
- In 2015, the NGT ordered that all diesel vehicles over 10 years old will not be permitted to ply in Delhi-NCR.
- In 2017, the **Art of Living Festival** on Yamuna Food Plain was declared violating the environmental norms, the NGT panel imposed a penalty of Rs. 5 Crore.
- The NGT, in 2017, **imposed an interim ban on plastic bags** of less than **50-micron thickness** in Delhi because "they were causing animal deaths, clogging sewers and harming the environment".

### About Mekedatu Project:



## UPSC "PT" DNA (Daily News Analysis)



## UPSC "PT" DNA (Daily News Analysis)

- Mekedatu, meaning goat's leap, is a deep gorge situated at the **confluence of the rivers Cauvery and its tributary Arkavathi**.
- **Ontigondlu** is the proposed reservoir site, situated at Ramanagara district in Karnataka about 100 km away from Bengaluru. It is the midst of the Cauvery Wildlife Sanctuary.
- The Rs. 9,000 crore project aims to store and supply water for drinking purposes for the Bengaluru city. Around 400 megawatts (MW) of power is also proposed to be generated through the project.

### Historical Perspective

- The project was first approved by the Karnataka state government in 2017.
- It received approval from the erstwhile Ministry of Water Resources for the detailed project report and is awaiting approval from the Ministry of Environment, Forest and Climate Change (MoEFCC).
- The approval from MoEFCC is crucial because 63% of the forest area of the Cauvery Wildlife Sanctuary will be submerged.
- 5,051 hectares of forests would be submerged, including 3,181 hectares in the sanctuary and 1,870 hectares in the reserve forest.
- 4.75 thousand million cubic feet of water could be drawn from the reservoir to partially meet the drinking needs of Bengaluru.
- Tamil Nadu has approached the Supreme Court (SC) against the project even if Karnataka has held that it would not affect the flow of water to Tamil Nadu.
- In June 2020, during the Cauvery Water Management Authority's meeting, Tamil Nadu reiterated its opposition to the project.

### Why is Tamil Nadu opposing it?

- Tamil Nadu is opposed to any project being proposed in the upper riparian unless it was approved by the Supreme Court.
- Karnataka has no right to construct any reservoir on an inter-state river without the consent of the lower riparian state i.e. Tamil Nadu in this case.
- The project is against the final order of the Cauvery Water Disputes Tribunal (CWDT) in which the SC held that no state can claim exclusive ownership or assert rights to deprive other states of the waters of inter-state rivers.
- The CWDT and the SC have found that the existing storage facilities available in the Cauvery basin were adequate for storing and distributing water so Karnataka's proposal is ex-facie (on the face of it) untenable and



## UPSC "PT" DNA (Daily News Analysis)

should be rejected outright.

- It has also held that the reservoir is not just for drinking water alone, but to increase the extent of irrigation, which is in clear violation of the Cauvery Water Disputes Award.

### What is the news?

- The **National Green Tribunal (NGT)** has closed proceedings against the **Mekedatu dam** project after finding merit in the Karnataka government's submissions that requisite environmental clearances were pending consideration before the statutory authorities concerned.
- The observations came when the green panel took suo motu cognisance of media reports on allegations of violations of environmental norms in the construction of the dam.
- A Bench headed by the NGT Chairperson Justice Adarsh Kumar Goel said, "We find merit in the submission of learned A-G (Attorney General) for the State of Karnataka that the media report does not mention that the issue of statutory environmental clearances is already pending consideration before the statutory authorities concerned. Even the very same media report has been mentioned by the State of Tamil Nadu in its submission before the Ministry of Jal Shakti..."
- "Accordingly, proceedings before this Tribunal are closed without prejudice to rival contentions of the parties on the subject in proceedings pending before the statutory authority concerned and before the Supreme Court," the Bench said, while observing that the State of Tamil Nadu had raised the issue before the apex court.
- The Karnataka government had contended that the media report had failed to disclose the fact that the process of obtaining necessary clearances was pending before authorities. All issues, including those of environmental, forest and wildlife clearances, were already a subject matter of consideration before the authorities, it had said.
- However, the counsel appearing for the Tamil Nadu government opposed the stand and submitted that the environmental issue be examined by the Tribunal.
- "Further, the same issue has also been raised by the state of Tamil Nadu before the Supreme Court. Thus there is no need for this Tribunal to continue the suo motu proceedings," the NGT said.
- The news report in question had stated that the construction of the dam would have adverse impact on forests and sanctuaries.



## UPSC "PT" DNA (Daily News Analysis)

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Source: TH

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## UPSC "PT" DNA (Daily News Analysis)

### National Green Tribunal

GS-II | 23 April, 2021

## National Green Tribunal

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- The **Chairperson is appointed by the Central Government in consultation with Chief Justice of India (CJI)**.
- A **Selection Committee** shall be formed by **central government** to appoint the Judicial Members and Expert Members.
- There are to be least **10 and maximum 20** full time Judicial members and Expert Members in the tribunal.

### Powers & Jurisdiction of NGT

- The Tribunal has jurisdiction **over all civil cases** involving substantial question relating **to environment** (including enforcement of any legal right relating to environment).
- NGT also has **appellate jurisdiction** to hear appeal as a Court (Tribunal).
- The **Tribunal is not bound by the procedure laid down under the Code of Civil Procedure 1908**, but shall be guided by principles of 'natural justice'.
- While passing any order/decision/ award, it shall **apply the principles of sustainable development, the precautionary principle and the polluter pays principle**.
- NGT by an order, can provide:
  - **relief and compensation** to the victims of **pollution and other**

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- environmental damage** (including accident occurring while handling any hazardous substance),
  - for restitution of property damaged, and
  - for restitution of the environment for such area or areas, as the Tribunal may think fit.
- An order/decision/award of Tribunal is executable as a **decree of a civil court**.
- The NGT Act also provides a procedure for a penalty for non compliance:
  - Imprisonment for a term which may **extend to three years**,
  - Fine which **may extend to ten crore rupees**, and
  - Both fine and imprisonment.
- An **appeal against order/decision/ award of the NGT lies to the Supreme Court**, generally within ninety days from the date of communication.

### The NGT deals with civil cases under the :

1. The Water (Prevention and Control of Pollution) Act, 1974,
2. The Water (Prevention and Control of Pollution) Cess Act, 1977,
3. The Forest (Conservation) Act, 1980,
4. The Air (Prevention and Control of Pollution) Act, 1981,
5. The Environment (Protection) Act, 1986,
6. The Public Liability Insurance Act, 1991 and
7. The Biological Diversity Act, 2002.

### Landmark Judgements of NGT

- In **2012, POSCO a steelmaker company** signed a MoU with the Odisha government to set up steel project. **NGT suspended order** and this was considered a **radical step** in favour of the local communities and forests.
- In **2013 in Uttarakhand floods** case, the **Alaknanda Hydro Power Co. Ltd.** was ordered to **compensate to the petitioner** – here, the NGT directly relied on the principle of 'polluter pays'.
- In 2015, the NGT ordered that all diesel vehicles over 10 years old will not be permitted to ply in Delhi-NCR.
- In 2017, the **Art of Living Festival** on Yamuna Flood Plain was declared violating the environmental norms, the NGT panel imposed a penalty of Rs. 5 Crore.
- The NGT, in 2017, **imposed an interim ban on plastic bags** of less than **50-micron thickness** in Delhi because "they were causing animal deaths, clogging sewers and harming the environment".

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Source: TH

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## UPSC "PT" DNA (Daily News Analysis)

### Leaders' Summit on Climate- India-US Clean Energy Agenda 2030 Partnership

GS-III | 26 April, 2021

## Leaders' Summit on Climate- India-US Clean Energy Agenda 2030 Partnership

### Introduction

- Recently, the Leaders' Summit on Climate was convened by the US President virtually.
- 40 world leaders were invited to the event to underscore the urgency of stronger climate action.

### UN COP 26

- United Nations Climate Change Conference, Conference of the Parties 26 (COP 26) in November 2021 in Glasgow, Scotland.

### India-US Clean Energy Agenda 2030 Partnership:

- It is a **joint climate and clean energy initiative** of India with the US.
- It will demonstrate how the world can align swift climate action with **inclusive and resilient economic development**, taking into account **national circumstances and sustainable development priorities**.
- **Mobilise investments, demonstrate clean technologies** and enable **green collaborations in India** that could also **create templates of sustainable development for other developing countries**.
- **Two Main Tracks** of the Initiative are: **The Strategic Clean Energy Partnership** and **The Climate Action and Finance Mobilization Dialogue**.

### U.S.A's Commitments

- Reduce **US's GreenHouse Gas (GHG) in 50% by the year 2030** and called upon other nations to "**set higher climate ambitions**" that will create **jobs at home, advance innovative technologies** and **help countries vulnerable to the impact of climate change**.
- To **double its public climate financing to developing countries** and **triple public financing for climate adaptation** in developing countries by **2024**.

### India's commitments



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- It submitted a new Nationally Determined Contribution (NDC) target that aims to reduce its GHG emissions by 50-52% below 2005 levels.
- India's ambitious renewable energy target of 450 GW by 2030.
- Despite its development challenges, India has taken many bold steps on clean energy, energy efficiency, afforestation and biodiversity. India is among few countries whose NDCs are 2°C compatible.

### Note:

- The US has rejoined the Paris Agreement.

### China's Commitments:

- Its carbon emissions will peak before 2030 and the country will achieve **carbon neutrality by 2060**.
- Promoted **its green Belt and Road Initiative** and announced efforts to "**strictly control coal-fired power generation projects**" and phase down coal consumption.

### India's Emissions:

- India was already doing its part and that the **country's per capita carbon emissions are 60% lower than the global average**.

### Other initiatives of India

- National Clean Air Programme (NCAP)
- Bharat Stage-VI (BS-VI) emission norms
- UJALA scheme
- National Action Plan on Climate Change (NAPCC)
- The International Solar Alliance and the Coalition for Disaster Resilience Infrastructure.

Source: TH

## UPSC "PT" DNA (Daily News Analysis)

### Global Climate Risk Index 2021

GS-III | 28 April, 2021

## Global Climate Risk Index 2021

### GS-Paper-3: Environment – UPSC PRELIMS – Mains Application

The Global Climate Risk Index analyses to what extent countries and regions have been affected by impacts of weather-related loss events (storms, floods, heat waves etc.). **The report is annually released by Germanwatch**, an environmental think tank and sustainable development lobbyist. The 16th edition of the Global Climate Risk Index was released on January 25, 2021. The Global CRI 2021 displayed data based on human impacts (fatalities) and direct economic losses due to extreme weather events in 2019 and between 2000 and 2019.

**\*\* India was ranked the seventh worst-hit country in 2019 in the Global Climate Risk Index 2021.**

### Global Climate Risk Index

- The GCRI is released annually by the environmental think tank and sustainable development lobbyist Germanwatch.
- It analyses to what extent countries have been affected by the impacts of weather-related loss events (storms, floods, heat waves etc.).
- It pushes for the need to support developing countries in coping with the effects of climate change.

### Highlights of the 2020 year

#### Global prospects

- Mozambique, Zimbabwe and The Bahamas were the worst-affected countries in 2019.
- While hurricane Dorian ravaged The Bahamas; Mozambique, Zimbabwe and Malawi were affected by the single extreme weather event of cyclone Idai.
- Japan and Afghanistan were the other countries that fared worse than India on the Index, while South Sudan, Niger and Bolivia fared better in comparison but still made it to the top 10 worst-affected countries.

### The burden of development

- Eight of the 10 countries most affected between 2000 and 2019 were

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developing countries with low or lower middle income per capita.

- Vulnerable people in developing countries suffered most from extreme weather events like storms, floods and heatwaves, whereas the impact of climate change was visible around the globe.
- Poorer countries are hit hardest because they are more vulnerable to the damaging effects of a hazard and have the lower coping capacity.

### Data about India

- According to the Index floods caused by heavy rain in 2019 took 1,800 lives across 14 states in India and displaced 1.8 million people.
- Overall, the intense monsoon season affected 11.8 million people, with the economic damage estimated to be \$10 billion (Rs.72,900 crore at \$1=INR 72.9).
- A total of eight tropical cyclones meant that 2019 was one of the most active Northern Indian Ocean cyclone seasons on record. Six of them intensified to become "very severe".
- The worst was Cyclone Fani in May 2019 which affected a total of 28 million people, killing nearly 90 people in India and Bangladesh, and causing economic losses of \$8.1 billion (Rs.59,066 crore).

### Tropical Cyclones – One of the Biggest weather-related loss events in 2019

A tropical cyclone is a rapidly rotating storm system characterized by a low-pressure centre, a closed low-level atmospheric circulation, strong winds, and a spiral arrangement of thunderstorms that produce heavy rain and/or squalls.

Know the formation, characteristics and facts related to Tropical Cyclones at the linked article.

In the Climate Risk Index 2021 tropical cyclones led to six countries being listed among the bottom ten:

- Mozambique, Zimbabwe and Malawi were struck by Cyclone Idai
- The Bahamas were hit by Hurricane Dorian
- Japan was hit by Typhoon Haibis
- Various cyclones in India

Source: German Watch

## UPSC "PT" DNA (Daily News Analysis)

### Right to Freedom of Movement- FASTag

GS-II | 29 April, 2021

## Right to Freedom of Movement- FASTag

### GS-Paper-2: Governance– UPSC PRELIMS – Mains Application

**Context:** The Union government told the Bombay High Court that making FASTag mandatory for all vehicles plying on the national highways (NHs) doesn't breach a citizen's fundamental right to freedom of movement in any way.

FASTag ensures seamless traffic movement, cut travel time short, and that all decisions had been taken in accordance with the **Central Motor Vehicles (CMV) Rules**.

**Section 136A of Motor Vehicles Amendment Act 2019** puts the responsibility on the Central Government to make rules for the electronic monitoring and enforcement of road safety.

- Legislating the establishment of robust electronic enforcement for traffic violations will result in reduction in human intervention and the associated corruption.
- A robust electronic enforcement system including speed cameras, closed-circuit televisions cameras, speed guns and such other technology will ensure violations being captured at a greater scale.
- **Provisions** had been made at all toll plazas along national highways **to fit the chip in vehicles** that did not have FASTag.
- In cases where it was not possible to fit vehicles with FASTag on the spot for any reason, the **vehicle was permitted to still ply on highways, on extreme left of the FASTag lanes**. However, such vehicles were **required to pay twice the toll amount**.
- The **double user fees** or penalties imposed on vehicles without FASTag on national highways were also in accordance with the **National Highway Fee (determination of rates and collection) Rules, 2008**.
- Entertaining such petitions would cause "irreparable loss" to the **National Highways Authority of India**.

#### FASTag

- FASTag is an electronic toll collection system that uses Radio Frequency Identification (RFID) technology. **RFID** is the **use of radio waves** to read and

## UPSC "PT" DNA (Daily News Analysis)

capture information stored on a tag attached to an object.

- A tag can be read from up to several feet away and does not need to be within the direct line-of-sight of the reader to be tracked.
- It is a tag fixed on the windscreen of the vehicle that allows automatic deduction of toll without stopping for carrying out the cash transaction.

The Union government told the **Bombay High Court** that making **FASTag mandatory for all vehicles plying on the national highways (NHs)** doesn't breach a citizen's fundamental right to freedom of movement in any way.

- According to the Central Motor Vehicles Rules, FASTag (electronic toll collection system) is mandatory for all vehicles at toll plazas on NHs.
- [Section 136A of Motor Vehicles Amendment Act, 2019 says that the Central Government should make rules for the electronic monitoring and enforcement of road safety.]
- The Centre said that provisions had been made at all toll plazas along national highways to fit the chip in vehicles that did not have FASTag.
- It also said that the double user fees or penalties imposed on vehicles without FASTag on NHs were in accordance with National Highway Fee (determination of rates and collection) Rules, 2008.

### Right to Freedom of Movement

- Article 19 of the Constitution guarantees Right to Freedom of movement.
- It gives every citizen the right to move freely throughout the country. It is protected against only state action and not private individuals.
- It is available only to the citizens and to shareholders of a company but not to foreigners or legal persons.
- **Restrictions** - Only be imposed on two grounds as per the Article 19 of the constitution, namely,
  1. Interests of the general public and
  2. Protection of interests of any scheduled tribe.
- While **Article 19** protects only the right to move inside the country, **Article 21** (Right to life and personal liberty) protects right to move out of the country and right to come back to the country.

Source: TH



## UPSC "PT" DNA (Daily News Analysis)

### Zhurong – Mars rover

GS-III | 29 April, 2021

#### Zhurong – Mars rover

#### GS-Paper-3: S&T-Space – UPSC PRELIMS – Mains Application

Chinese government announced that its **first Mars rover will be named Zhurong after a traditional fire god**. This name fits with the Chinese name for Mars - "Huo Xing" or fire star.

The rover is aboard the Tianwen-1 probe that arrived in Mars orbit in February, 2021 and is due to land in May to look for evidence of life. The top candidate for the landing site on Mars is **Utopia Planitia, a rock-strewn plain where the U.S. lander Viking 2 touched down in 1976**.

**Tianwen-1's Goals** - To analyse and map the Martian surface and geology, look for water ice, study the climate and surface environment. China would become the third country after the former Soviet Union and the United States to put a robot rover on Mars.

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**Atmosphere:** Mars has a thin atmosphere made up mostly of carbon dioxide, nitrogen and argon gases.

Mars has no magnetic field till date, but areas of the Martian crust in the southern hemisphere are highly magnetized, indicating traces of a magnetic field.

**Moons:** Mars has two small moons, **Phobos and Deimos**, that may be captured asteroids.

### Previous Mars Missions:

- The **Soviet Union in 1971** became the first country to carry out a Mars landing, Mars 3.
- The second country to reach Mars's surface is the **United State of America (USA)**. Since 1976, it has achieved 8 successful Mars landings, the latest being the 'InSight' in 2019.
- **European Space Agency** has been able to place their spacecraft in Mars's orbit through the **Mars Express Mission**.
- **India's Mars Orbiter Mission (MOM) or Mangalyaan:** It was launched from the Satish Dhawan Space Centre in Andhra Pradesh by **Indian Space Research Organisation** in November 2013. It was launched on board a PSLV C-25 rocket with aim of studying Martian surface and mineral composition as well as scan its atmosphere for methane (an indicator of life on Mars).

**Why missions:** First, Mars is a planet where life may have evolved in the past. Conditions on early Mars roughly around 4 billion years ago were very similar to that of Earth. It had a thick atmosphere, which enabled the stability of water on the surface of Mars.

Mars is the only planet that humans can visit or inhabit in the long term. Venus and Mercury have extreme temperatures – the average temperature is greater than 400 degree C. All planets in the outer solar system starting with Jupiter are made of gas – not silicates or rocks – and are very cold. Mars is comparatively hospitable in terms of temperature, with an approximate range between 20 degrees C at the Equator to minus 125 degrees C at the poles.

### Perseverance rover

## UPSC "PT" DNA (Daily News Analysis)

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### About:

Launched on **July of 2020**.

It is expected to touch down on Mars at **the Jezero Crater**.

The primary task of Perseverance is **to seek signs of ancient life and collect samples of rock and regolith to possibly return these to Earth**.

1. Perseverance is **fueled by electrical power by using heat of plutonium's radioactive decay**.
2. NASA Perseverance gets **shape memory alloys** to remain steady on surface of Mars.
3. Armed with drills, cameras and lasers, Perseverance is set to explore Mars.

### Why is this mission significant?

1. Perseverance will carry a unique instrument, **MOXIE or Mars Oxygen ISRU Experiment**: which for the first time will manufacture molecular oxygen on Mars using carbon dioxide from the carbon-dioxide-rich atmosphere (**ISRU means In Situ Resource Utilization: or the use of local resources to meet human needs or requirements of the spacecraft**).
2. It will carry **Ingenuity**, the first ever helicopter to fly on Mars. This is the first time NASA will fly a helicopter on another planet or satellite.

### Previous Mars Missions by NASA:

1. NASA has been sending rovers on Mars since 1997 when the Mars Pathfinder Mission was initiated.
2. As the mission turned out to be successful, NASA decided to continue going to Mars to find evidence.
3. Second time, the space organization sent twin rovers, Spirit and Opportunity to Mars in 2003.
4. The third attempt was by sending Curiosity in 2012.

Source: TH

**The Global Climate 2020**

GS-III | 29 April, 2021

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## UPSC "PT" DNA (Daily News Analysis)

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### The Global Climate 2020

#### GS-Paper-3: Environment – UPSC PRELIMS – Mains Application

World Meteorological Organization (WMO) released its annual *State of the Global Climate for 2020* on April 20, 2021. Irrespective of the widespread surmise that lockdowns and shutdowns to curb the novel coronavirus disease (COVID-19) pandemic would lower emissions and reduce the impact on climate, the report has scary findings.

#### According to the report:

Extreme weather combined with COVID-19 in a double blow for millions of people in 2020. However, the pandemic-related economic slowdown failed to put a brake on climate change drivers and accelerating impacts.

#### Key Points

- This annual report is released by the World Meteorological Organization.
- It has found that the lockdowns and shutdowns to curb the Covid-19 pandemic would lower emissions and reduce the impact on climate.
- **Double blow** - According to the report, extreme weather combined with Covid-19 in a double blow for millions of people in 2020.
- However, the pandemic-related economic slowdown failed to put a brake on climate change drivers and accelerating impacts.
- **Temperature** - It reiterates that 2020 was one of the three warmest years on record, despite a cooling La Niña event.
- The global average temperature was about 1.2° Celsius above the pre-industrial (1850-1900) level. The six years since 2015 have been the warmest on record. 2011-2020 was the warmest decade on record.
- The WMO report listed five key indicators of irreversible changes in the global climate - Greenhouse gases, oceans, sea-level rise, the Arctic and the Antarctica.

#### Five Key Indicators

- **Greenhouse Gases (GHGs)** - Despite the economic slowdown due to the pandemic, emission of major GHGs increased in 2019 and 2020. It will be higher in 2021.
- **Oceans** - In 2020, the oceans had the highest heat content on record. Over 80% of the ocean area experienced at least one marine heatwave.

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- The percentage of the ocean that experienced strong marine heat waves (45%) was greater than that which experienced moderate marine heat waves (28%).
- **Sea-level rise** - Since record-taking started in 1993 using the satellite altimeter, sea-level has been rising partly due to the increased melting of the ice sheets in Greenland and Antarctica.
- However, there was a blip in summer of 2020 that recorded a drop in sea level, which is due to the La Niña induced cooling.
- **The Arctic** - The 2020 Arctic sea-ice extent minimum after the summer melt was 3.74 million square kilometre, marking only the second time on record that it shrank to less than 4 million sq km.
- In the Siberian Arctic, temperatures in 2020 were more than 3°C above average, with a record temperature of 38°C in the town of Verkhoyansk.
- **The Antarctica** - The Antarctic sea-ice extent remained close to the long-term average. However, the Antarctic ice sheet has exhibited a strong mass loss trend since the late 1990s.
- This trend accelerated around 2005 due to the increasing flow rates of major glaciers in West Antarctica and the Antarctic Peninsula.



## UPSC "PT" DNA (Daily News Analysis)

by global warming due to greenhouse gas emissions.

As a result, **La Nina** years now are warmer than years with **El Niño** events of the past.

**El Nino** and **La Nina** are the **extreme phases of the El Niño and the Southern Oscillation (ENSO) cycle.**

**ENSO** is a periodic fluctuation in sea surface temperature and the air pressure of the overlying atmosphere across the equatorial Pacific Ocean. It has a major influence on weather and climate patterns such as heavy rains, floods and drought.

**El Niño** has a **warming influence** on global temperatures, whilst **La Nina** has the **opposite effect.**

Source: DTH